Basic Assistive Technology

Assistive Technology for Students with Mild Disabilities

ERIC Digest #E529

Author: Michael M. Behrmann

THE ERIC CLEARINGHOUSE ON DISABILITIES AND GIFTED EDUCATION

Technology is bursting into the classroom at all levels, as a tool for teachers to develop, monitor, and provide instructions, and for students to access and engage in learning. P.L. 100-407, The Technology-Related Assistance for Individuals with Disabilities Act of 1988 (Tech Act) was designed to enhance the availability and quality of assistive technology (AT) devices and services to all individuals and their families throughout the United States.

What Are Assistive Technology (AT) Devices? The Tech Act defines AT devices as any item, piece of equipment, or product system (whether acquired off the shelf, modified, or customized) that is used to increase, maintain, or improve functional capabilities of individuals with disabilities. AT devices may be categorized as high technology and low technology. Many low-tech devices can be purchased at a hardware store, selected from a catalog, or fabricated using tools and materials found in home workshops (Franklin, 1991). Examples might be note-taking cassette recorders, pencil grips, NCR paper/copy machine, simple switches, head pointers, picture boards, taped instructions, or workbooks. High-tech devices frequently incorporate some type of computer chip, such as a hand-held calculator or a "talking clock." Examples might be optical character recognition (OCR) calculators, word processors with spelling and grammar checking, word prediction, voice recognition, speech synthesizers, augmentative communication devices, alternative keyboards, or instructional software.

How Can AT Be Applied in Instruction?

Lahm and Morrissette (1994) outlined seven areas of instruction where AT could assist students with mild disabilities. These areas include organization, note taking, writing assistance, productivity, access to reference materials, cognitive assistance, and materials modification. A number of approaches are available to assist students with mild disabilities in these areas of instruction.

Organization: Low-tech solutions include teaching students to organize their

Please see AT on Page 8
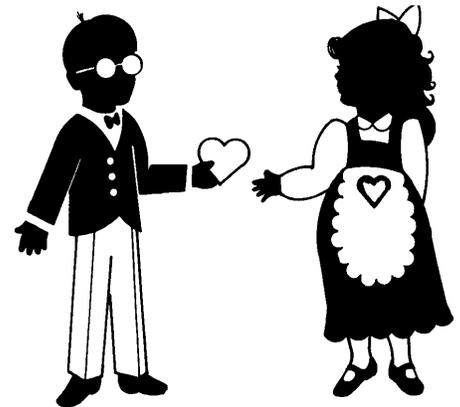
Happy Valentine's Day!

Inside

My Dear Friends,   2/97

Well, it's February, and for those of you who have been following our trek back up north, I bet you're expecting me to tell you how much I hate the cold and the snow..... well it won't happen folks! Sure it's cold, (and snowy, and blowy...) but we are still happy to be here. The air is fresh and crisp, the snow is sparkling white, and the fire inside is cozy and warm! (Although, I must admit that I'm beginning to look forward to the green of spring :-)

There's a good deal of important information contained in this month's issue of *DIRECTIONS*. You'll find articles on how to find information on the Internet; how to help a student make the transition from high school to a life outside of school; how to use Assistive Technologies for children with mild disabilities; along with questions and answers relating to the funding of various assistive and adaptive devices. I think you'll be pleased with what you find.

I'd also like to direct you again to our web site. You can find the feature articles from each past issue of DIRECTIONS, along with funding information, product information, along with a whole lot more. Come visit us at www.dreamms.org! You'll be glad you did!

In closing, I'd like to take a minute to extend a hearty welcome to the new members of our Board of Directors at DREAMMS for Kids. We are truly lucky to have individuals like Pete Rukavena, Nancy Brown and Bill Sandonato join Donna Eno and Chet Hosmer on our board. I know that this coming year is going to be the best yet! Thanks for all that you do!

As always... my kindest personal regards,

Janet

Internet Resources via Netscape for Teachers of Special Needs Students Preparing Transition to Life/Work Programs - Part 2

By Charles Doty, Ph.D., Graduate Voc-Tech Program, Graduate School of Education, Rutgers University

Editor's Note: Part 1 of this article can be found in the January 1997 issue of DIRECTIONS. The complete article can be found at http://www.dreamms.org. All web addresses are available through the online version.

Magellan

There were 8190 results found in Magellan using the term *vocational special needs*. When the Vocational Programs source was investigated the source Workforce Development such as "Kinds of jobs and their availability within the next five to ten years."

Back to Important Sources

One of the sources the students, praised is Pitsco's Launch to Special Education Sources http://ww.pitsco.com/p/specialed.html. This source contains Listservs for Special Education, World Wide Web sites, a listing of newsletters concerning technology for special education, etc. A Listserv is a group of people working in a selected area who communicate via the Internet using e-mail. Using a Listserv is an excellent means to remain up to date in your profession.

Another source that excited the students was EKA Disability Resources on the Internet address http://disability.com/cool.html. [Again, do not type a period after html.] The information from this source includes careers and jobs, cognitive development, commercial links, legal resources, government resources, medicine/health, mobility, non-profit organizations, recreation, university education, visual hearing, etc. The resources listed in EKA was expanded from 9 pages single spaced to 17 pages over a 5 month period. The growth of information is astounding.

Other Recommended Sources

• Special Education Resources address http://www.webcom.com/pleasant/sarah/teach/sped.html for information for visually impaired children;

• ERIC Clearinghouse for Disabilities and Gifted Education address http://www.cec.sped.org/ericec and e-mail address ericec@inet.ed.gov;

• ERIC searches of the literature that may be made using the address http://ericir.syr.edu/ [Note: do not place a period or a semicolon at the end of these addresses.]

Transition from School to Life/Work

Some specific sources that are useful are:

• Employment Resources on the Internet address: http://www.cs.purdue.edu/homes/swlodin/jobs.html for a listing of numerous local, state, national and international job demand;

• The Michigan Center for Career and Technical Education address: http://mccte.educ.msu.edu/ for excellent curriculum materials;

• Center for Occupational Research and Development (CORD) address: http://cord.org for Tech Prep and excellent curriculum packages such as Principles and Technology;

• America's Job Bank address: http://www.gnn.com.gnn/wic/wics/employ.09.html to give students information on job demand throughout the nation;

• New Jersey Jobs address: http://www.njjobs.com/ for those seeking employment in New Jersey;

• School to Work World Wide Web Home Page address: http://www.sna.com/switp/ for searching all aspects of school to work and want to communicate with others who are developing programs;

• Technological Literacy in America address: http://www.tmn.com/Organizations/Iris/ITEA.html for those wanting to incorporate technology and science into curriculum;

• Center on Education and Work address: http://www.excite.com and e-mail cewmail@soemadison.wisc.edu for information on school to work, Tech Prep and coordinated workforce development. Note there is another address for this center: http://www.cew.wisc.edu/;

• Workforce New Jersey Public Information Network address: http://www.wnjpin.state.nj.us/;

• School to Work World Wide Web address: http://www.stw.ed.gov/ a major place to start for developing such programs;

• School to Work Listserv (to subscribe e-mail to listserv@mail.ici.coled.umn.edu;

• School to Work Transition address:

ATFSCP Notes

The Assistive Technology Funding and Systems Change Project

FREQUENTLY ASKED QUESTIONS ON ASSISTIVE TECHNOLOGY
By: Susan Goodman, Esq., November 1996

Q: An evaluation was conducted for my child, and it was recommended that he receive an assistive listening device. We requested that it be put on his Individualized Education Plan (IEP) because he needs it at school. The principal refused to it on his IEP because she said that federal law has changed and it is no longer required. Is this true?

A: Although the Individuals with Disabilities Education Act was supposed to be reauthorized this year (see Update on IDEA Reauthorization, featured in this issue), Congress adjourned without taking action on a new bill. Therefore, no changes in the present law took place. School districts are still required, under current law, to consider assistive technology devices and services when it is determined that the student needs it to benefit from his/her educational program.

Q: I am 25 years-old and have cerebral palsy. I do not have health insurance because I hold a part-time job that does not offer benefits. Will the new insurance law passed by Congress require my employer to provide me with health insurance?

A: Unfortunately, no. The new law called The Health Insurance Portability and Accountability Act of 1996 (known as the Kennedy-Kassebaum bill) does not require employers to provide health insurance to employees. The bill addresses the needs of individuals who currently have employer-related health insurance who lose or change their jobs. It does not change the status of the 42 million Americans who are uninsured.

Q: My child qualified for, and has been receiving, SSI cash benefits from the Social Security Administration since 1990. We applied for these benefits prior to 1990, but did not qualify until the law was changed to include my child's disability. The money we receive from SSI is very important to us. Without it, we would be unable to purchase many of the items my child requires. I have heard that my child may no longer be able to receive benefits due to more recent changes in the law. Is that correct, and if so, what should I do?

A: That is correct. The Individual Functional Assessment (IFA) became law in the early 1990's. The IFA allowed many children with severe disabilities who did not meet the more stringent definition of disability used prior to 1990, to receive cash benefits. Prior to 1990, the Social Security Administration used a list of "impairments" to determine eligibility. After 1990, children could qualify if an individual functional assessment (which considered all facets of a child's functional level) to determine what disability were present.

However, as part of the new welfare reform legislation signed by President Clinton, the IFA was repealed. The new law requires that children must have a "medically determinable physical or mental impairment which results in marked and severe functional limitations." The Social Security Administration will write regulations to decide what that means. Children who qualified under the IFA will be reevaluated after this happens. Children who fail to requalify may also lose their Medicaid coverage.

Parents should make sure that they receive good information about: (1) what the requirements are to meet the new definition (when they are notified that their child will be reevaluated); (2) what kind of evidence they need to prove that their child qualified under the new definition; and, (3) where they can obtain legal assistance.

Q: Earlier this year there was a lot of discussion about whether IDEA and the Americans with Disabilities Act (ADA) should be considered "unfunded mandates." Are they considered unfunded mandates?

A: The Unfunded Mandate Reform Act of 1996, passed early in the last Congress, prevents the federal government from passing and enforcing laws that would force states to spend money. IDEA and the ADA were not considered unfunded mandates because the ADA is considered a civil rights law, and IDEA is not a mandate. In other words, states are not required to participate in IDEA unless they want

the federal money that comes through the program.

However, attacks on IDEA are expected to continue and the disability community must be vigilant in protecting it and all disability-related laws.

Q: My 24 year-old daughter has severe disabilities and is living in a house in the community. Her living arrangement, and the services she receives, are funded through Medicaid. Has anything happened to change the law in a way that would affect her?

A: Drastic proposals passed by Congress to repeal to Medicaid and replace it with a block grant to the states were vetoed by President Clinton. However, regardless of what happens at the federal level, states are continuing to move into managed care programs at a fairly rapid pace. When this happens in your state, the services your daughter receives could be affected.

To secure general information on the project, contact: Assistive Technology Funding & Systems Change Project, 1660 L Street, NW, Suite 700, Washington, DC 20036. Tel: (202) 776-0406. FAX: (202) 776-0414. E-mail: atfscp@aol.com. To secure information & individual assistance on AT funding issues, contact: 1-800-827-0093 (voice) 1-800-833-8272 (TDD), or (404) 919-8305 (FAX).

The opinions expressed herein do not necessarily reflect the position or the policy of the U.S. Department of Education, and no official endorsement by the U.S. Department of Education of the opinions expressed herein should be inferred.
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18th Annual Report to Congress
Source: CEC Today, Vol. 3 No. 7
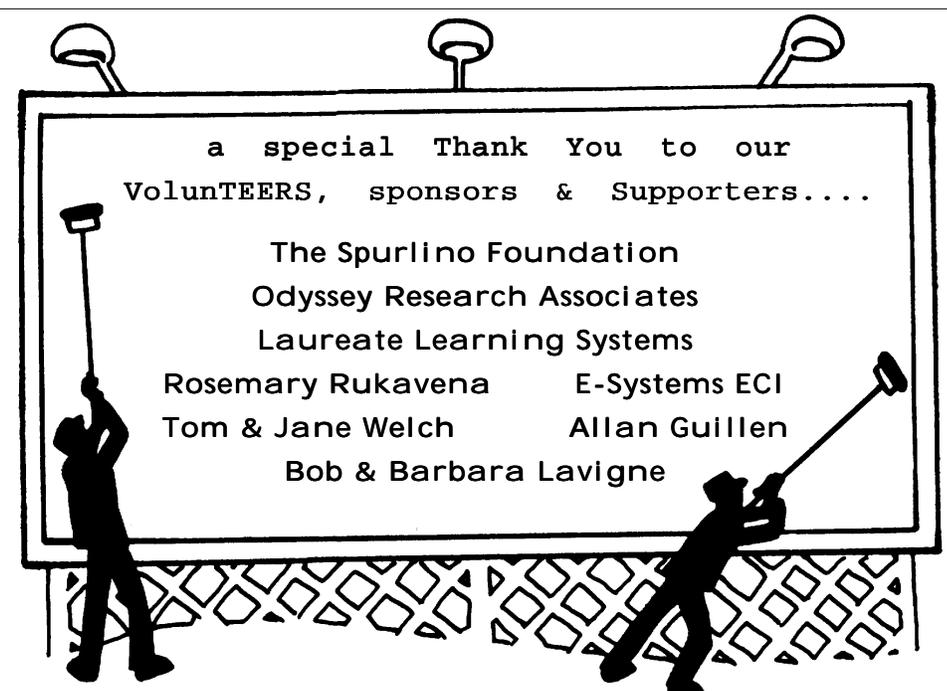Newsletter of The Council for Exceptional Children

The U.S. Department of Education's 18th Annual Report to congress on the Implementation of the Individuals with Disabilities Education Act (IDEA), released in December, stressed the importance of providing a full continuum of services for children with disabilities. "There is no single special education setting that benefits all students. A range of options, tailored to meet the individual needs of all students, continues to be the most effective approach," said the report, which reflects the latest data on the state of special education.

CEC is pleased to see that the 1994 state data on special education supports the need for a full continuum of services. While believing that inclusion is a meaningful goal our schools and communities should pursue, CEC has consistently supported and worked to ensure that schools provide a full continuum of services for all children, youth, and young adults.

"An appropriate education for students with exceptionalities must be based on their individual needs," said Nancy Safer, CEC's Executive Director. "To meet individual needs, it is essential that schools provide a range of educational options and services for students. We are glad to see so many schools providing those options while working to find new, innovative ways to include students with exceptionalities in the general classroom and neighborhood schools."

The 18th Annual Report also provides valuable information on the need for special education teachers—in 1993-94, for the first time, the shortage of qualified special education teachers declined––as well as data on the number of students served, graduation, early intervention, and funding. The 18th Annual Report also focused on the

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Tom & Jane Welch   Allan Guillen
Bob & Barbara Lavigne

Technology & Inclusion

High School: Are You Ready for the Adult World?
Jamie Judd-Wall

Introduction

For the majority of students with disabilities, their public school education ends with graduation following grade twelve. In this month's article we are going to be assistive technology applications for that population. Most of the students with disabilities in this group have mild to moderate disabilities. Public school education is generally extended through age 21 for students with more severe disabilities. The majority of the students leaving the public school system after grade twelve have participated in some type of vocational aptitude assessment during middle or high school. These students may have started taking classes in their preferred field. Some students may have participated in internship programs or on-site vocational education.

For students using assistive technology, the major decisions should have already been made and implemented. The exceptions would be those students who, like my own daughter, develop a disability during the high school years due to an accident, injury or illness.

Implementing Educational Priorities

During the middle school years parents, teachers and students have begun to think about educational priorities. For the first time, students, their families and teachers have had to decide "you will take this class and you won't take that class". There just isn't enough time in the day to do everything!

In the high school years, students will put those priorities into action. Now we will see the fruits of the assistive technology trials and errors that we struggled with during elementary and middle school. If we have met each of the educational and technological benchmarks as the student has moved through the system, we can expect to see students ...

• producing documents using word processing and voice output,

• using augmentative communication devices for communication and class work,

• using alternate input devices like switches, Intellikeys and DiscoverBoard,

• and using environmental controls and mobility equipment.

We may also be continuing to expand the student's skills by exploring newer technologies or those technologies whose successful use demands certain academic skills. I have found that these technologies usually fall into three categories; ocular mobility technologies, voice recognition technologies and environmental control technologies.

Ocular Mobility Technologies

I use ocular mobility technologies frequently with students with dyslexia, attention deficit and related disabilities. When students do not make adequate progress with existing dyslexia programs or are unresponsive or erratically responding to medication, there may be an undetected ocular mobility problem. While it is certainly not a scientific survey; of the students with disabilities that I have tested, I have not had a student score in an acceptable range on ocular mobility testing!

As clearly as I can explain it: ocular mobility assessment measures the eyes' physiological management of print - not visual acuity. The testing is conducted using a Visagraph; a set of goggles with infrared sensors that are connected to a computer and specialized program. The process is completely safe. The assessment results in graph and charts of the student's eye movements during the reading process. These movements occur so quickly as to be undetectable without this equipment. The resulting measurements are scored in nine areas: fixations, regressions, span of recognition, duration of fixation, rate with comprehension, reading efficiency, directional attack, and return sweeps. The results can be compared to a normed table to determine the student's status. The information in the graphs and charts is quite amazing. Animated, computerized reports are able to replicate the individual student's eye movements. I have actually had students whose eyes have moved divergently while they read; one eye goes to left while the other eye goes to the right, without affecting the student's visual acuity.

There is a program of remediation for students with ocular mobility difficulties,

Guided Reading. The process fits fairly easily into the average high school schedule. Although ideally it is used for 30-45 minutes daily, it can be used for as little as 15-20 minutes daily with good results. Used fairly extensively with the Job Corps and other vocational programs, this program has a 70-90% success rate.

Voice Recognition Technologies

For the student with productivity issues, I am frequently asked about voice recognition technology. Many people believe that it is a simple matter ... you talk and the computer writes what you say. While voice recognition technology is amazing, it has not quite reached that point.

I believe that students with mild to moderate disabilities should have the opportunity to use voice recognition software to determine if it will have an impact on the quality of their written documents. However, the voice recognition process is one of the more complicated technologies on the market today. It requires that the user, in this case the student, continually attend to the task both visually and auditorily. Like the productivity processes we discussed last month, you cannot just sit the student in front of the computer and expect a solution to the student's writing problems. Just as writing on the computer is different from writing with pencil and paper, the writing process with voice recognition is a completely different composition process. It uses many novel aspects of the meta-cognitive writing process that are not used in either computer composing or pencil and paper composing.

Students must be taught how to compose well-written documents using the voice recognition process. To be a successful voice recognition user, the student must combine many skills to become a sophisticated, self-monitoring worker; able to review and edit their document for meaning as well as form. While it is possible to assign some conventions, operations and functions to various assistive technologies; each additional technology added to the process increases the complexity for the user.

In addition, the training time for the software alone for an individual student can be quite lengthy, making it difficult for large numbers of students to experience voice recognition technology in the typical high school. In the average high school today there are approximately 1,000 students, 10% of whom have mild to moderate disabilities. If the training time each student is just 1 day, it will take 100 days - more than half the school year - just to train the software!

The writing process is one of the most complex meta-cognitive processes an individual can undertake. Becoming a good writer and creating well written documents can be a very time consuming and frustrating process, even for students without disabilities. In the end, parents, professionals and students must realize that there are many ways to create a well written document and just as many ways to create a poorly written document. Voice recognition technology can remove many of the obstacles from the writing process for individuals with disabilities; however, voice recognition technology in and of itself is not going to change the quality of the document .

Environmental Control Technologies

Most readers are probably familiar with basic environmental control technologies like AbleNet's PowerLink or TASH's Ultra 4. No doubt you have had students turn on and off simple appliances like blenders and fans. Today's high end environmental controls take the user giant steps beyond these basic controls.

Sophisticated integrated systems enable users to control their computer, appliances in their home and even their television using the same system that directs their power mobility system. Yet, it is still fairly uncommon to see students in public schools opening the doors to classrooms in their schools, electronically turning pages in a book or independently moving between floors in larger schools. However, when these students move on to vocational placements, college, university or community college programs, they will be expected to perform these and many other tasks independently.

Many educators are unfamiliar with the range of currently available environmental control technologies. Some states maintain a demonstration center in conjunction with the state's Rehabilitation Department. Many Tech Act projects and ATA centers are sponsoring product expo's like the Abilities Expo in Los Angeles, Atlanta, Tampa and New York and the Southwest Technology Expo in Austin.

If students with disabilities are to leave the public school system with independent living skills equal to their non-handicapped peers, the use of environmental controls must be addressed. As we will discuss next

thoughts or work using flow charting, task analysis, webbing or networking ideas, and outlining. These strategies can be accomplished using graphic organizers to visually assist students in developing and structuring ideas. A high-tech solution might be the outline function of word processing software, which lets students set out major ideas or topics and then add subcategories of information.

Note Taking: A simple approach is for the teacher to provide copies of structured outlines for students to use in filling in information. A high-tech approach might include optical character recognition, which is software that can transform typewritten material into computer-readable text using a scanner.

A teacher's typewritten notes can be duplicated using either NCR paper (carbonless copies) or a copy machine. A slightly more high-tech method is to use microcassette recorders. Or, notes can be read by a voice synthesizer, allowing students with reading difficulty to review the notes much the same as reviewing a tape recording. Recorders are beneficial for students with auditory receptive strength, but they maybe less useful for those needing visual input. Videotaping class sessions may be helpful for visual learners who pick up on images or body language, or for students who are unable to attend class for extended periods of time.

Laptop or notebook computers can provide high-tech note taking for many students with disabilities. An inexpensive alternative to a full-function portable computer is the portable keyboard. The limitations of these keyboards are in formatting information and a screen display limited to four lines of text.

Writing Assistance: Word processing may be the most important application of assistive technology for students with mild disabilities. Many of these students have been identified as needing assistance in the language arts, specifically in writing. Computers and word processing software enable students to put ideas on paper without the barriers imposed by paper and pencil. Writing barriers for students with mild disabilities include mechanics: spelling, grammar and punctuation errors; process: generating ideas, organizing, drafting, editing, and revising; and motivation: clarity and neatness of final copy, reading ability, and interest in writing.

Grammar/spellcheckers, dictionaries, and thesaurus programs assist in the mechanics of writing. Macros, a feature that allows keystrokes to be recorded in a file that can be used over and over, also assist in mechanics. Macros can be used for spelling difficult text, for repetitive strings of words, or for formatting paragraphs and pages. Macros also save time for students who have difficulty with either the cognitive or motor (keyboarding) requirements of writing. Word prediction is assistive software that functions similarly to macros. If a student has difficulty with word recall or spelling and cannot easily use the dictionary or thesaurus feature, then word prediction software offers several choices of words that can be selected.

Teachers can use the editing capabilities of the word processor during the writing process, making electronic suggestions on the student's disk. If the computer is on a network, students can read each other's work and make comments for revision. Painter (1994) indicated that peer feedback was an effective way to assist students in generating and revising text. Computer editing also reduces or eliminates problems such as multiple erasures, torn papers, poor handwriting, and the need to constantly rewrite text that needs only minor modifications. The final copy is neat and legible.

Motivation is often increased through the desktop-publishing and multimedia capabilities of newer computers. A variety of fonts and styles are available, allowing students to customize their writing and highlight important features. Graphic images, drawings, and even video and audio can be added to the project to provide interest or highlight ideas. Multimedia often gives the student the means and the motivation to generate new and more complex ideas.

Productivity: Assistive productivity tools can be hardware-based, software-based, or both. Calculators, for example, can be the credit-card type or software based, which can be popped up and used during word processing. Spreadsheets, databases, and graphics software also offer productivity tools, enabling students to work on math or other subjects that may require calculating, categorizing, grouping, and predicting events. Productivity tools also can be found in small, portable devices called personal digital assistants (PDAs). Newer PDAs can be used as notetaking devices via a small keyboard or graphics-based pen input. Some PDAs can translate words printed with the pen input device to computer-readable text, which can then be edited

with the word processor and transmitted to a full function computer.

Access to Reference Materials: Many students with mild disabilities have difficulty gathering and synthesizing information for their academic work. In this arena, telecommunications and multimedia are providing new learning tools for the students.

A computer and a modem can transport students beyond their physical environment to access electronic information. This is particularly appropriate for individuals who are easily distracted when going to new and busy environments such as the library. Telecommunications networks offer access to the information superhighway. Students can establish "CompuPals" with other students, which often motivates them to generate more text and thus gain more experience in writing. Students can also access electronic encyclopedias, library references, and online publications. However, these experiences should be structured, because the information highway is complex and it is easy to get distracted or lost as opportunities are explored.

Multimedia-based tools are another way in which information can be made accessible to students. Multimedia's use of text, speech, graphics, pictures, audio, and video in reference-based software is especially effective in meeting the heterogeneous learning needs of students with mild disabilities.

Cognitive Assistance: A vast array of application program software is available for instructing students through tutorials, drill and practice, problem-solving, and simulations. Many of the assistive technologies described previously can be combined with instructional programs to develop and improve cognitive and problem-solving skills.

Multimedia CD-ROM - based application programs offer another tool for assisted reading. Similar to talking word processors, CD-based books include high-interest stories that use the power of multimedia to motivate students to read. These books read each page of the story, highlighting the words as they are read. Additional clicks of the mouse result in pronunciation of syllables and a definition of the word. When the student clicks on a picture, a label appears. A verbal pronunciation of the label is offered when the student clicks the mouse again. These books are available in both English and Spanish, so students can read in their native language while being exposed to a second language.

Materials Modification: Special educators are familiar with the need to create instructional materials or customize materials to meet the varied needs of students with disabilities. Today there are powerful multimedia authoring and presentation tools that educators can use to develop and modify computer-based instructional materials for students with mild disabilities, providing a learning tool that these students can access and use to balance their weak areas of learning with their strong areas.

Authoring software allows teachers and students to develop instructional software that can incorporate video, pictures, animation, and text into hypermedia-based instruction. Multimedia authoring software is very easy to learn and use. In fact, authoring software packages are even available for young children. For example, if the objective is to teach map reading, an image of a local map can be scanned in and specific locations can be made into buttons that the students can click on, causing a short video clip playing of the familiar location. A set of questions might be asked using both text and synthesized speech to have students give directions on how to get the location shown on the video. Students could then write directions (or draw their own map). Digitized pictures of landmarks could also be incorporated into the directions. These directions, along with the images, could then be printed for use in completing the assignment. Without the ability to author and incorporate multimedia easily into instructional software, such computer-based training would be impossible because of the need to incorporate the shared learning concepts inherent in local environments into the assisted-learning process. Such instruction can make learning more efficient and certainly more real for students for whom abstract learning and generalization may be difficult.

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http://www.ncrel.org/sdrs/areas/sw0cont.html;

• School to Work Outreach Project address: http://www.ici.coled.umn.edu/schooltowork/.

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K-12 Computer Networking. (1995, Fall) The ERIC Review, 4(1). The materials in this are in the public domain and may be reproduced and disseminated. [For information on The ERIC Review call ACCESS ERIC toll free at 1-800-LET-ERIC. [ERIC Web pages may be found on Internet address http://www.aspensys.com/eric2/welcome.html]

Special choices: Special education software selected for Jr. high-adult. (1996). Cambridge Development Laboratory, Inc., 86 West St., Waltham, MA 02154, 1-800-637-0047. §

state of services for students with disabilities and from diverse cultures in the inner cities.

For a free copy of the complete article found in *CEC Today*, contact DREAMMS for Kids at (607) 539-3027 or at reprints@dreamms.org.

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T&I Continued from Page 7

month, many adult service providing agencies will not provide equipment unless the student is able to demonstrate mastery ("skills in evidence" is the terminology used here). Where better to learn these skills than at school?

Conclusion

As we come to the end of our series on assistive technology in education with this article and next month's article, I hope that you have been able to see aspects of your program in each of the ages and technologies we have discussed. Each school and center that I visit has strengths in meeting certain of the educational and technological benchmarks. As parents and professionals work together to see abilities instead of disabilities, we can make real the goal of an inclusive system of services for all children, youths and adults.

References

AbleNet, 1081 10th Ave NE, Minneapolis, MN 55414 (800) 322-0956

Abilities Expo, sponsored by Expocon Associates, Box 915, Fairfield, CT 06430 (203) 256-4700

Southwest Technology Expo, sponsored by Technology and Inclusion, Box 150878, Austin, TX 78715, (512) 280-7235

TASH, Unit 1 No 19 Station St, Ajax, ON L1S 3H2 CANADA (800) 463-5685

Visagraph & Guided Reading software produced by Taylor & Associates, 200-2 E. 2nd St., Huntington Station, NY, 11746

Next Month: The last in our series: Post-Secondary Education and the Transition into Adult Services §

AT Continued from Page 9

computer-based process writing with learning disabled students under two conditions of instruction: Peer collaborative process model and nonpeer collaborative process model. Unpublished doctoral dissertation, George Mason University, Fairfax, VA.

Additional Resources

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Johnson, L.J., Pugach, M.C., & Devlin S. (1990). Professional collaboration. TEACHING Exceptional Children, 22, 9-11.

U.S. Congress, Office of Technology Assessment. (1988). Power on! New tools for teaching and learning (OTA-SET-379). Washington, DC: U.S. Government Printing Office.

Electronic Resources

Digests published by the ERIC Clearinghouse on Disabilities and GiftedEducation are available for downloading or online reading on the AskERIC Virtual Library <ericir.syr.edu>.

The following Internet sites provide additional information on assistive technology for students with disabilities:

Gopher sites

gopher sjuvm.stjohns.edu, St. John's University, Electronic Rehabilitation Resource Center

gopher hawking.u.washington.edu, University of Washington

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THE DREAM GOES ON!
From Vision to Reality

October 16   19, 1997
Sheraton World Resort
Orlando, Florida

Talk is Cheap!

Hastings-on-Hudson, NY—The *Cheap Talk* series of communicators, manufactured by Enabling Devices/ Toys for Special Children, Inc., are a range of simple, economical, portable voice-output communication aids that allow the user to access a number of phrases recorded by any speaking person. Four to eight messages, activated by pressing brightly colored 2" squares, can be up to 5-seconds each and re-recorded at will. These devices have been designed to be used for early speech development or remedial work with older individuals. They can be used for training before more complex communicators are introduced.

The *Cheap Talk* units foster social interaction and inclusion, as well as allowing for choice-making and the completion of some academic tasks. The simplicity of the devices is a positive advantage in encouraging family members, aids, therapists and teachers to use *Cheap Talk*.

Enabling Devices
385 Warburton Ave
Hastings-on-Hudson, NY 10706
800-832-8697

Adaptive TV Control

Shreve, OH—APT Technology, Inc. announces the introduction of *TV-EZ Control*, an easy to use, economical, adaptive switch-operated, infrared remote control for the TV. The *TV-EZ Control* may be used by itself or integrated into an environmental control system and may be located on a shelf, mounted on a bed, or mounted on a wheelchair. It is designed to be operated effectively by persons who are unable to push buttons on a commercial remote control. It also provides a choice of two smoothly operating scanning styles with adjustable scan rate and audio prompt volume.

APT Technology, Inc.
8765 Township Road, #513
Shreve, OH 44676
330-567-2001

Needs First: AugCom System Search Tool

Poughkeepsie, NY—George Adams Consulting introduces a new computer software program designed to facilitate one's efforts in finding the most appropriate augmentative communication system. *Needs First: AugCom System Search Tool* is an interactive database which includes approximately 100 commercially available augmentative communication systems, both dedicated augcom units and computer-based systems (augcom software). Each system has been categorized according to 48 distinguishing features within four areas of consideration: access, selection, size, and price.

Needs First provides digitized photographs of the augcom systems and vendor contact information. Users can browse the systems identified on the screen or can print out the search summary reports. Windows or Mac.

George Adams Consulting
49 Overbrook Drive
Poughkeepsie, NY 12603
914-452-1850

DREAMMS for Kids, Inc.
Assistive Technology Solutions
273 Ringwood Road
Freeville, NY 13068-9618