

Nevada
Assistance
Dual
for those with
Sensory
both hearing
Impairment
and visual impairments
Project

Newsletter

Vol. 11, No. 1

September 2000

Another School Year is Here!

It is hard to believe that another school year is upon us! We would like to welcome you back from your summer activities and take this opportunity to remind you about the project's services.

The new school year is a perfect time to request technical assistance. The project can come to your home or to the program/school setting to work with families and educators to enhance educational opportunities for children who have combined hearing and vision loss. Some examples of consultations include: communication skills, behavior management, instructional strategies, transition, and other topics as requested.

If you need assistance with your child's/student's IEP, the project can provide consultants that can participate on your child's/student's educational team to assist with assessment and planning.

If you need specific information about deafblindness, please contact us to request our most current lending library list. We currently have over 1000 books, manuals, guides, videos, and fact sheets in a variety of areas related to deafblindness.

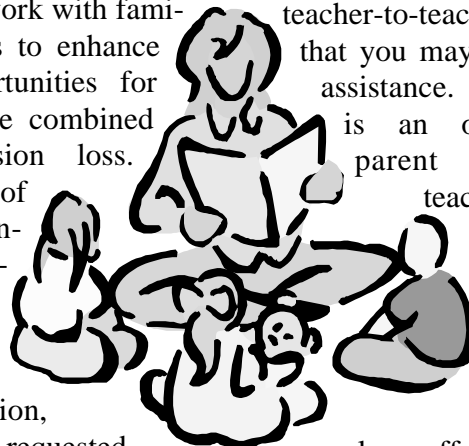
We know that transition can be a stressful event in anyone's life, but particularly stressful in the life of a child who is deafblind. The project can assist family members

or new staff as the child moves into a new program. This might include a variety of changes such as going to a new school, finding job training, participating in community recreation or locating to a new living situation.

If you would like to talk to other parents or teachers for ideas, or support, we have a informal parent-to-parent network list and a teacher-to-teacher network list so that you may find this level of assistance. New to the project is an on-line parent-to-parent and teacher-to-teacher bulletin board. The bulletin boards are located at www.unr.edu/unr/colleges/educ/ndsip.

The project also offers a variety of workshops for professional and family members on topics related to the education of children with dual sensory impairments. Additional relevant workshops sponsored by other agencies are highlighted in this newsletter or other special mailings.

To request our assistance, simply call the project office, or e-mail us at the numbers listed to the left. Assistance must be requested by you. All services are confidential and provided only at the request of families or service providers who have children, birth-21, with combined vision and hearing impairments. Remember, assistance is provided at no cost to families and service providers.



MaryAnn Demchak, Ph.D.
mad@unr.edu
Project Director

Marty Elquist
marty@scs.unr.edu
Project Coordinator
Newsletter Editor

Mailing Address:
Dept. of Curriculum & Instruction
Mail Stop 282
College of Education
University of Nevada, Reno
Reno, NV 89557
(775) 784-6471
(In Reno/Sparks Area)
(877)-621-5042
(Toll-Free in Nevada)
Fax: (775) 327-5220
Website: www.unr.edu/unr/colleges/educ/ndsip

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Who are the Children Involved with the Nevada Dual Sensory Impairment Project?

Each Spring the Nevada Dual Sensory Impairment Project is required to submit a report to the U.S. Department of Education, Office of Special Education concerning the children involved in the project. The information reported to the U.S. Department of Education is that which the project is mandated to collect and includes information regarding age, major cause of deaf-blindness, degree of vision loss and hearing loss, other disabilities that the child might have, how the child is reported by the district or agency under the Individuals with Disability Education Act, where the educational services are provided, and where the child lives. This article provides you with an overview of Nevada's population of children who have impairments in both vision and hearing.

In the most recent report, the project identified a total of 85 children, birth through 21 years of age. Although those involved with the project range in age from less than one year to 21 years of age, Figure 1 shows that the majority of children

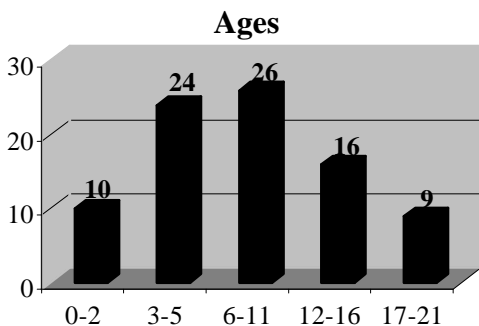


Figure 1

were under 12 years of age. As would be expected, most of the children receive their educational or

early intervention services in the "population centers" of the state (i.e., Reno and Las Vegas). However, numerous children live in the rural areas of Nevada (See Figure 2).

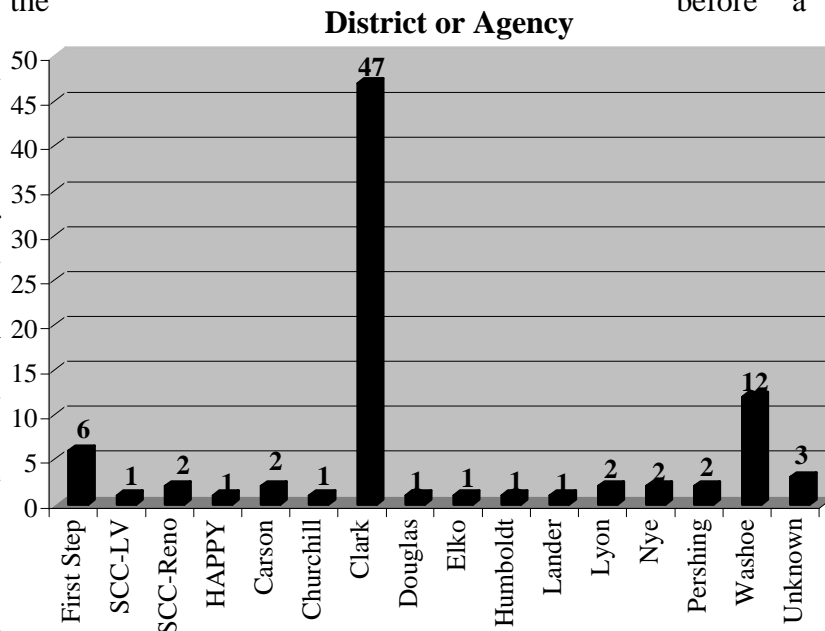


Figure 2

Figure 3 shows that the majority of the children have cortical vision impairment, followed by those children who are legally blind (i.e., visual acuity of 20/200 or less or they have a visual field of less than 20 degrees). A re-

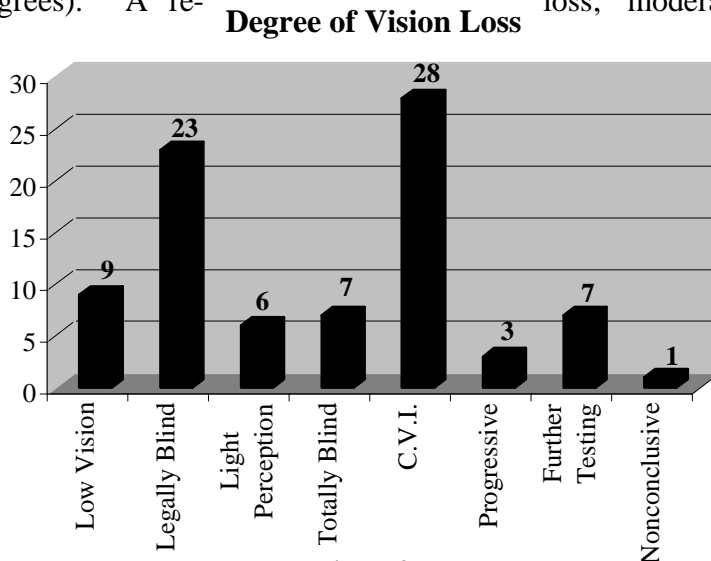


Figure 3

view of the data regarding hearing loss shows three major categories: children who had their hearing tested but the results were nonconclusive, children who needed further testing before a diagnosis was made, and children with a mild hearing impairment (Figure 4, Page 3). The nonconclusive category also includes those children who were reported to be "untestable". The "further testing needed category" includes those children

whose results were atypical in some way, but a precise degree of hearing loss was not identified. The identified degrees of hearing loss are defined as follows: mild hearing loss—a 26-40 decibel loss, moderate hearing loss—a 41-55 decibel loss; moderately severe—56-70 decibel loss; severe loss—71-90 decibel loss; and a profound loss is greater than 90 decibels. Figure 5 (Page 3) shows that 18% of the children diagnosed with various hearing im-

Census continued on page 3

Degree of Hearing Loss

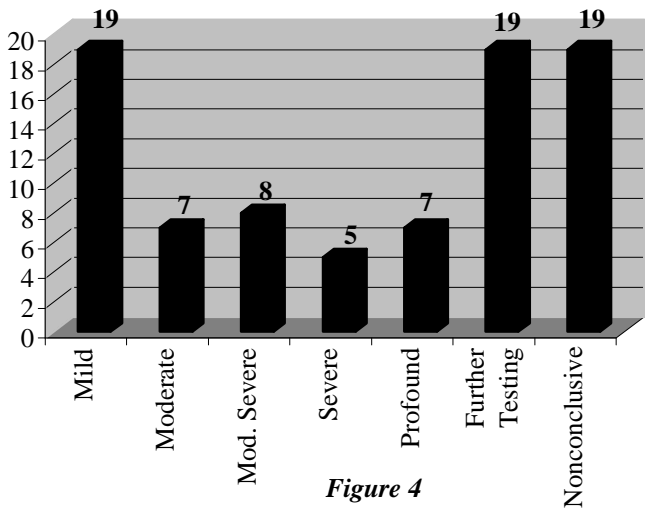


Figure 4

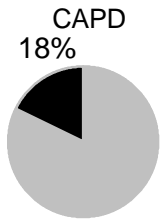


Figure 5

pairments also have a Central Auditory Processing Disorder.

Figure 6 shows that there are a wide variety of causes of deaf-

blindness. Heredity/Chromosomal Syndromes & Disorders include Down, Dandy Walker, Trisomy 13, Usher, Refsum's, Goldenhar, Fraser, Wolf-Hirschhorn, and many more. Examples of Pre-Natal/Congenital Complications include, but are not limited to rubella, syphilis, toxoplasmosis, cytomegalovirus (CMV) and fetal alcohol

Cause of Deafblindness

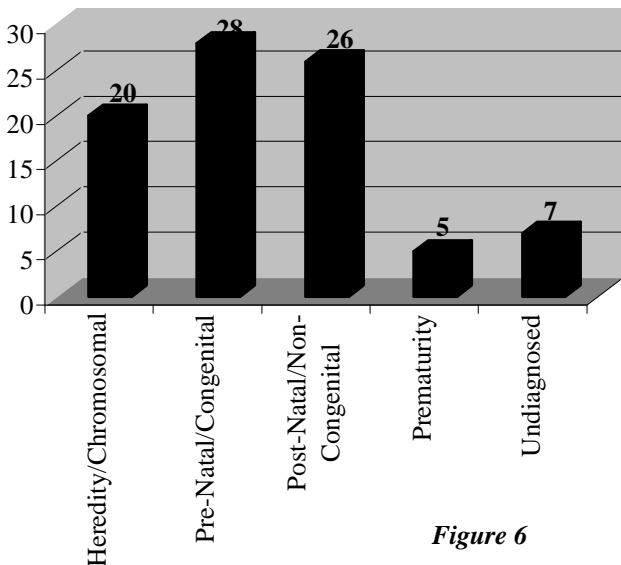


Figure 6

syndrome. Post-Natal Congenital Complications include asphyxia, encephalitis, infections, meningitis, severe head injury and stroke, just to name a few. For five of the children, complications of prematurity was the sole known cause of their disabilities. Another seven children had no determination of etiology.

Figures 7, 8, 9, 10, & 11 show that the majority of children have other disabilities in addition to sensory impairments. Because children can actually have several disabilities, the numbers for these figures are shown as the percentage of children who have the identified impairment on top of the dual sensory impairment. For example, the typical child involved with the Nevada Dual Sensory Impairment Project has physical impairments, cognitive impairments and has complex health care needs. The majority of

the "other" category (Figure 11) is made up of children who have speech & language impairments.

specified in Part B of the Individual with Disabilities Education Act, represented in Nevada is multi-disabled (see Figure 12, page 4). In this figure the total number is 75 because Part B is only used for those children between ages three and twenty-one.

Figures 13, 14 and 15 (page 4) show the setting of educational services by age group. The majority of children ages birth through two years of age receive their educational services via home based early intervention. Most children ages three through five received their education in an early childhood special education setting followed by a specialized school environment. The children in the project ages six through twenty-one received their services mostly in a public specialized school followed by a specialized class. An examination of the children's living setting (Figure 16, page 4) shows that the overwhelming majority of them live with their birth or adoptive parents.

Physical Impairments

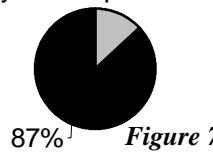


Figure 7

Cognitive Impairments

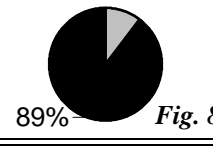


Fig. 8

Behavioral Disorder

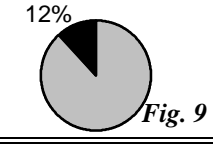


Fig. 9

Complex Health Care Needs

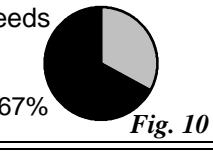


Fig. 10

Other Impairments

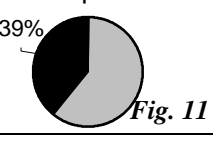


Fig. 11

Why refer children to the project?

The purpose of the project is to enhance the educational services provided to children, birth through 21 years of age, who have impairments in both vision and hearing. The services provided by the project include:

- ⇒ assistance in identification of individuals with dual sensory impairment,
- ⇒ provision of on-site technical

- assistance (e.g., consultants, inservice workshops, program review) to families as well as educational & early intervention providers,
- ⇒ maintenance of a lending library,
- ⇒ quarterly newsletter,
- ⇒ parent access to a parent-to-parent network,
- ⇒ teacher access to a teacher-to-teacher network,
- ⇒ a yearly parent conference.

Technical assistance is provided throughout Nevada in the child's home, school, or early intervention agency. All technical assistance is provided at no cost to families, school districts, early intervention agencies, and others who provide services to children with dual sensory impairments.

Referrals to the project can be made by parents as well as educational, medical, and social service agencies. If you would like to refer someone to the project, please call (775) 784-6471 for a referral packet.

Educational Setting 3-5

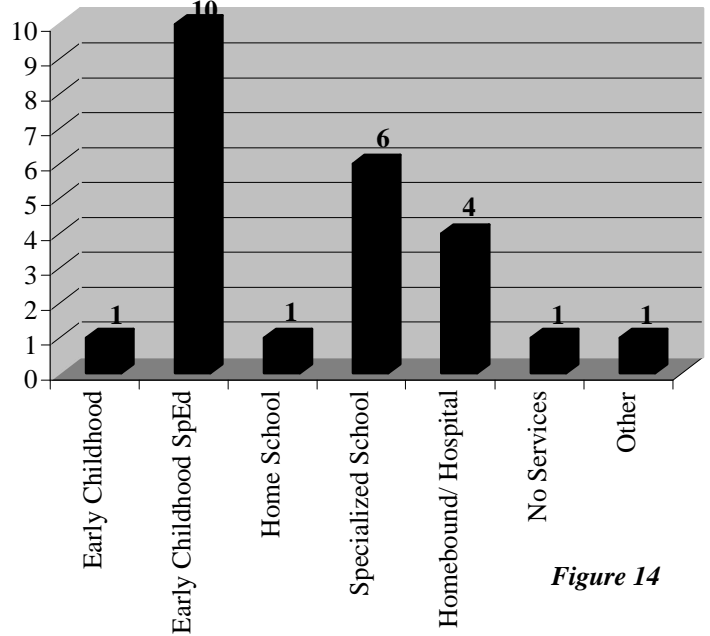


Figure 14

Part B Disability Category

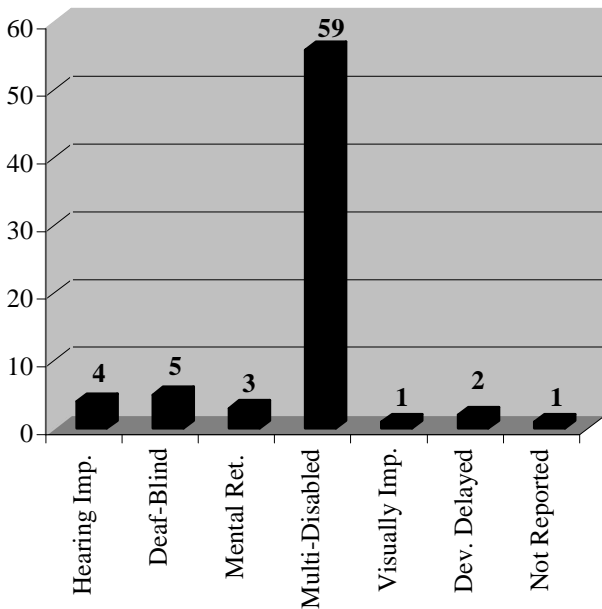


Figure 12

Educational Setting 6-21

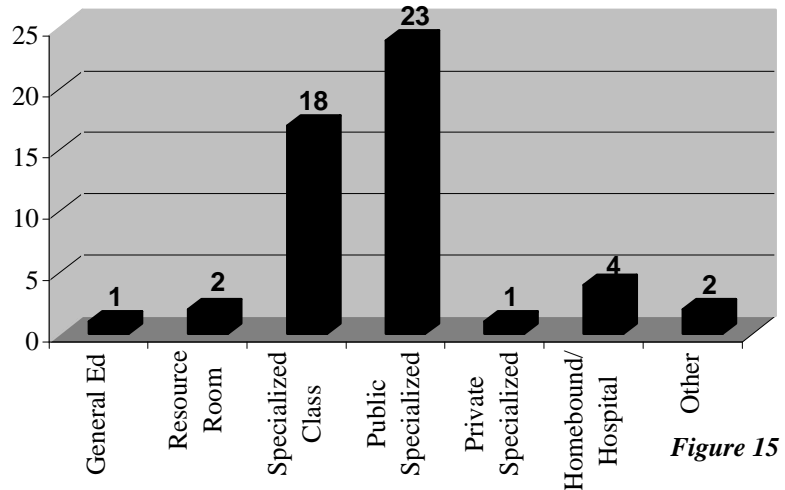


Figure 15

Educational Setting 0-2

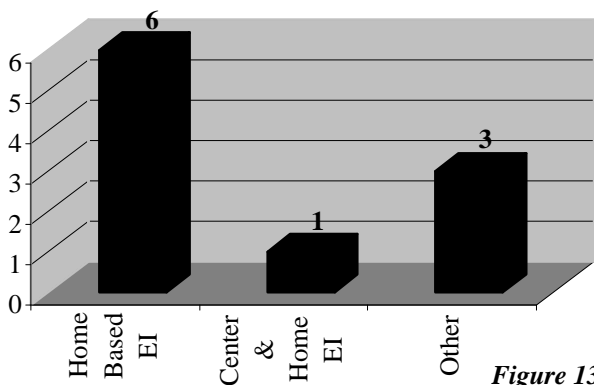


Figure 13

Living Setting

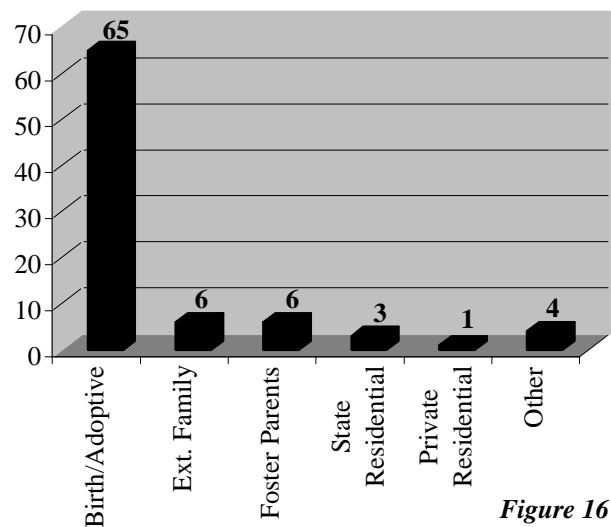


Figure 16

Computers in our Classrooms: Part 1

Wendy L. Buckley, M.Ed, Computer Teacher/Specialist, Perkins School for the Blind, Deafblind Program

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This is a two part series on Computers in the Classroom. This part focuses on Input Methods. The second part (due in our December edition) will focus on output methods.

Emphasis on technology in schools has made computers available to children in educational programs throughout the country. Books are brought to life on the screen, and children explore the world from their desktops via the World Wide Web. With modifications of hardware and software, teachers of children who are deafblind can take advantage of this exciting technology to enhance communication development, educational activities, and leisure time.

A child's physical, sensory, and cognitive abilities play important roles in determining appropriate computer activities. Although all three areas overlap, computer input and output methods are primarily determined by physical and sensory abilities; selection of educational software programs is determined by a child's cognitive abilities and educational objectives.

This article presents an overview of computer modifications, adaptive equipment, and selected software programs used with children in the Deafblind Program at Perkins School for the Blind. Many other modifications and software programs are available that are appropriate for deafblind children. The

examples and ideas presented here can be applied to a variety of other types of computer equipment and programs. For additional information, see the resources listed at the end of the article.

Input Methods

Most computer systems use a keyboard and/or mouse for input to the computer. These devices present a barrier for many deafblind children because of visual or physical limitations. The following suggestions address how to work with a standard keyboard or mouse as well as alternatives to these devices.

Using a Mouse or Mouse Replacement

The use of a standard mouse requires good visual and motor skills. Children who are deafblind may be able to use a standard mouse with some modifications or they may need an alternative device.

Promoting mouse skill development. If it is physically possible for the child to use a mouse, design activities that encourage development of this skill. A drawing program, for example, may provide an enjoyable and rewarding activity that a child can use to learn control of the mouse. Popular drawing programs such as Kid Pix (Broderbund) and Kid Works Deluxe (Knowledge Adventure) add an auditory component to the drawing activity and provide a wide array of colors and drawing features.

Mouse placement. Placing the mouse on something such as a box brings it closer to the screen and makes it easier for the child to see the direct relationship between the movement of the mouse and the

movement of the pointer on the screen. Placing the mouse on a slanted surface such as an empty three-ring binder helps reinforce the concept that pushing the mouse up or down moves the screen pointer up or down.

Pointer enlargement.

Enlargement of the pointer will help the child locate and follow it on the screen. The size of the pointer can be increased through the mouse control panel in Windows. For Macintosh computers, mouse control panels such as Biggy (R.J. Cooper) can be added to the system software. There are also other settings that can be used to enhance mouse visibility. For example, in Windows you can set the mouse to leave a "trail" as it moves across the screen for easier tracking and to show the location of the pointer when you hit the control key

Tactile or visual mouse cues.

A tactile "reminder" such as a small fuzzy piece of velcro on the mouse button helps the child locate the button and reminds him where to press. On a mouse with two buttons, the Velcro pad or a colored dot helps the child discriminate between the two buttons.

Tracking speed. Mouse tracking speed and double-click settings can be controlled using the mouse control panel in existing system software. A very slow setting prevents the pointer from moving too quickly across the screen.

Trackballs. A trackball is a mouse alternative that looks like a mouse turned upside down. The ball is rolled within its socket to move the pointer. This requires less arm movement than moving a mouse around,

Computers continued on page 6

making it easier for a child with limited motor abilities to use. Some trackballs such as Penny & Giles rollerball Light and Penny & Giles Trackball Plus (Don Johnston) and SAM-Trackball (R.J. Cooper), have utility programs that allow for control of cursor speed and other functions.

Joysticks. A Joystick mouse allows the child to control the pointer by moving the joystick in the desired direction. A foam covering can be added for those with limited grasp abilities. SAM-Joystick (R.J. Cooper) and Penny & Giles Joystick (Don Johnston) have a tracking speed that is considerably slower than a traditional mouse and the buttons can be set to perform specific functions such as click, double-click, and lock-button-down for drag.

Touch screens. A touch screen allows a child to interact directly with the computer program by using his or her finger to point to objects on the screen as a replacement for mouse actions. Examples of touch screens include Touch Window (Edmark), which attaches to a monitor with velcro, and Troll Touch, monitors with built-in touch screens.

Hot spots. A hot spot is an active location on the screen where the user might "point and click" resulting in action within the program. For example, in an interactive storybook, children can click on characters or objects resulting in animation, music or sounds. Once identified, the hot spot can be accessed through an alternative keyboard or with a switch. ClickIt! (IntelliTools) and Discover:Switch (Don Johnston) are examples of software programs used to create hot spots.

Keyboard Adaptations and Alternatives

Standard computer keyboards present a challenge for many children. The letters and keys are small and contain numerous characters, and the keys are highly sensitive. For children with good motor skills and cognitive ability, learning keyboarding skills is a reasonable goal. Many children who are deafblind, however, will need a keyboard alternative.

Keyboard labels. Keyboard labels are stickers that can be placed directly on the keys. Zoom Caps (Don Johnston) are available in large print with high contrast.

Keypuards. Keypuards (Don Johnston, TASH) have corresponding holes for each key and are used to prevent unwanted key presses. They are usually made from plexiglass and attach to standard keyboards with heavy duty Velcro. A keyguard also makes it possible for children with limited motor abilities to use keys such as shift and control which require two fingers, by providing a latch for each of these keys.

Slant boards. A slant board can be used to position the keyboard at a different angle or bring it closer to the screen. They are good for children with motor difficulties who use a head- or mouth-stick and may fatigue quickly if the keyboard is

flat on the table. They are also useful for children with limited vision who do not have touch typing skills and may tire easily or lose their place because they constantly have to shift their focus from the screen to find letters on the keyboard. A slant board can be constructed from lightweight plywood or TriWall, a heavy-weight triple layer corrugated cardboard.

Expanded or membrane keyboards. Expanded or membrane keyboards can have keys of any size printed on overlays. Each overlay may consist of letters, numbers, words, phrases, pictures or combinations thereof, customized for each child to specific software programs. Individual keys may perform multiple-step functions such as printing, saving, or moving to a different file or program. IntelliKeys (IntelliTools) comes with a standard set of overlays. Custom overlays can be created using Overlay Maker (IntelliTools). Other expanded keyboards include Discover:Board and Key Largo (Don Johnston).

On-screen keyboards. On-screen keyboards work well for children with low vision who do not have keyboarding skills because they allow the child to keep his or her head upright and focused on the screen, eliminating the need to look from the screen to the keyboard to search for letters. OnScreen (R.J. Cooper) uses standard alphanumeric keyboard characters. Discover:Screen (Don Johnston) lets the user design different keyboards containing letters, words, phrases, and pictures.

Word-prediction programs. Word-prediction programs are useful for children with limited physical abilities, poor spelling, or slow typing skills. The program attempts to guess each word as the child types

The Active Learning Approach:

Educational Approach Facilitating the Development & Learning in Children with Multiple Disabilities

October 16-18, 2000

Radisson Hotel
Sacramento, CA

Presenter: Dr. Lilli Nielson

Attention Service Providers & Family Members!!

Sponsored by the Infant Development Association of California with the co-sponsor support of the Lowenfeld-Akeson Symposium of the Blind Babies Foundation, California School for the Blind, and The Northern California Association for Education and Rehabilitation of the Blind and Visually Impaired.

Registration Info: (916) 453-8801

Computers continued from page 6

the beginning of a word and presents the guesses in a numbered list. The child then selects the correct word from the list and the word prediction program transfers the word into the application. This reduces the number of keystrokes required to enter text and provides correctly spelled words. Co:Writer (Don Johnston) is one word-prediction software program.

Switches. Children with physical limitations may not have sufficient motor control to access a mouse or If the child is able to produce a reliable motor movement, he or she may use a switch (Don Johnston, Ablenet, TASH) as a substitute. One of the most commonly used switches looks like a large button, which the child presses to activate. Other switches are available with a variety of specifications to meet different fine and gross motor abilities. Software programs used to help children learn the concept of cause and effect generally require switch input for interaction with the program. Switches are also utilized in scanning, an input method for children who are unable to use direct selection. A switch interface is required to connect a switch to the computer.



Our New & Improved Website is Up and Running!

www.unr.edu/unr/colleges/educ/ndsip

- Parent-to-Parent Bulletin Board
- Teacher-to-Teacher Bulletin Board
- Referral Form with on-line submission
- Fact Sheets
- Usher Syndrome information & Screening forms
- Deafblind links page
- Past Editions of our Newsletter



The National Institute on Deafness and Other Communication Disorders (NIDCD) is pleased to announce the addition of a special section for parents on the NIDCD web site

Check out NIDCD's New Parents Section

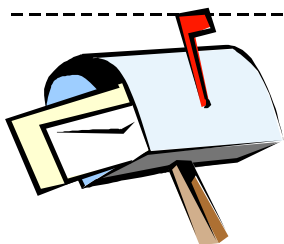
The parent's section offers new fact sheets:

- Communication Options for Children who are Deaf or hard of hearing
- Speech & Language: Developmental Milestones
- Otitis Media: Facts for Parents

Each fact sheet includes a listing of organizations where parents may find additional information.

The parents' section also includes a new fact sheet from WISE EARS!, a national health education campaign to prevent noise-induced hearing loss, sponsored by NIDCD and the National Institute for Occupational Safety and Health (NIOSH).

www.nih.gov/nidcd



I enjoy your newsletter, and I know someone who would benefit from receiving future issues. I have entered their address below.

I've moved! Please send future issues of your newsletter to my new address below.

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Return to: MaryAnn Demchak, Ph.D. Department of Curriculum & Instruction/282
University of Nevada, Reno Reno, NV 89557

New Lending Library Resources

Books

Stokes, J. (1999). Hearing impaired infants: Support in the first eighteen months. London: Whurr.

This book has two aims. First, to convey what professionals do, the language they use, what influences their decision-making and some of the ramifications of hearing impairment. Second, to convey to professionals what it is like to discover that your child has a hearing impairment and to show what can be learned from parents about the experience of living with a child who does not hear well.

Brown, T. (1984). Someone special, just like you. New York: Henry Holt and Company.

This book is intended for preschoolers, hoping to help them to accept and to become more comfortable with the children with disabilities they will meet, as these children are increasingly assimilated into the everyday classroom.

Guides

Burroughs, A. & Talmadge, A. (1999). Learning through play with homemade toys: Activities to Share with families. Tucson, AZ: ASDB Statewide Early Childhood.

This book includes information on vision and hearing development, deaf-blind considerations, how to adapt toys, modifications for multi-handicapped children, concept development and creating a play environment. Each toy page lists: skill developed, materials needed, instructions for making the toy, concepts and language associated with the use of the toy, and a touch cue or object cue that can be used for a child who is deafblind.

Videos

The Use of Assistive Technology with Children and Young Adults who are Deafblind

Session One—Overview of Assistive Technology Related to Vision Loss (2000)(2:00)--Jim Carreon

Session Two—Overview of Assistive Technology Related to Vision Loss (2000)(2:00)--Jim Carreon

Session Three—Overview of FM Amplification Systems and the Microlink FM Amplification System (2000)(2:00)—Diane Belben & Charles Kuratko

Session Four—Special Adaptations of Assistive Technology for Children who are Deafblind (2000)(2:00)—Megan Jones

Session Five—Special Adaptations of Assistive Technology for Children who are Deafblind (2000)(2:00)—Megan Jones

The objective of this five day training series is to provide an overview of assistive technology to use with children and young adults, birth through twenty-one, who have both a hearing and vision loss. The training was broadcast from San Francisco State University, June 5-9, 2000.

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