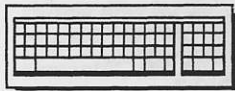


Augmentative Communication News

March 1, 1988 Vol. 1, No. 1

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UPFRONT

Welcome to Augmentative Communication News! I appreciate your support and am looking forward to keeping in close touch with you for many years.

As you leaf through the first issue, notice that ACN is divided into five topic areas:

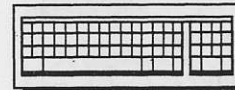
- In **Clinical News** you'll read about clinical issues, practices, and strategies.
- **For Consumers** will stress information of particular interest to individuals who use augmentative techniques and their families.
- In **Equipment** you'll find updates on materials, aids, assistive devices, software and

other tools used in augmentative communication.

- The **University and Research** section will describe what's happening in university programs around the world. You'll also read about ongoing research projects.
- **Governmental** affairs and the activities of professional and consumer organizations that relate to augmentative communication is the focus here.

In this issue, you'll find an article on each topic area. However, in subsequent issues, one section may be omitted from time to time to enable broader coverage of another topic. (continued pg. 2)

1988 - A Good Year for Speech Output?



Developing voice output technologies that sound like human speech is so complicated that governments, military establishments, industrial giants, high-tech companies, and major universities have been working on it since the 1950's. The problem is not yet solved.

The speech synthesis that has been used in portable communication aids represents some of these problems. It's described as difficult to understand, robot-like and decidedly male.

Just before leaving Washington, D.C. and moving to California, I received a videotape from a friend who recently graduated from college. The tape contained a lengthy message prepared using his portable communication aid with text-to-speech output. How devastating to realize that my bright young friend, who is unable to speak because of severe speech-motor problems, had spent hours constructing a message that I was unable to understand. Yes, I realize that contextual cues, a quiet environment, and more experience as his partner would have helped me "understand" the synthesizer. Yes, I know he could benefit from the use of strategies, e.g., using shorter phrases, inserting pauses when constructing a message, and so on. But, how unfair!

Even with these difficulties, those who use speech output find that their conversational control increases. Many also feel that speech increases their opportunities for interaction in the community. (continued pg. 2)

UPFRONT (continued page 1)

Each issue of ACN will, of course, reflect your questions and concerns as I learn about them on the Hotline, at conferences, etc. I am not worried about running out of material . . . that's for sure! I am looking forward to each issue and to hearing from you. Keep in touch!

HOTLINE TIPS

The Hotline number is (408) 649-3050. Feel free to use it often. Here are some guidelines to keep in mind.

1. I look forward to speaking with you. I will try to answer your questions and refer you to others, as well. I'm also interested in what you are doing, and what you're concerned about.

2. Please remember that I live in California. If you happen to live on the East coast, then 9:00 A.M. for you is 6:00 A.M. for me. Please try to call between 10:00 A.M. and 4:00 P.M. (Pacific Time). Thanks!

2. I am **NOT** always home. In addition to ACN, I have a private clinical practice and do consulting work in augmentative communication. Sometimes my work even takes me out of town for a few days.

3. If no one answers the phone, hang up **before** the 4th ring. Then, you won't have to pay for the call. (Note: we have an answering machine that picks up **during** the 4th ring.)

4. If you choose to leave a message, that's fine! I can start thinking about your question. However, please understand that I will not be able to call you back. The Hotline means that I will help you in any way I can by sharing information and resources. However, I simply can not afford to pay for everyone's phone call.

SPEECH OUTPUT - 1988 (cont.)

Intelligibility studies (see reference list) conclude that the most commonly used synthesizers in electronic communication aids are significantly poorer than natural speech and the more expensive, less portable synthesizers (e.g. DecTalk, Digital Equipment). Intelligibility levels of the Echo II (Street Electronics) and Votrax (Votrax, Inc.) at the single word and sentence level ranged from 30 to 80 percent in these studies. Most results were well below the 81 percent intelligibility level necessary if speakers are to be understood. What's the bottom line? *If these synthesizers were alive, we would be treating them in our augmentative clinics!*

**1988 - the year we
turn the corner.**

This year some manufacturers are offering new and improved synthesized and digitized speech. Why? Because better technologies are finally available to them at an affordable cost.

Aids Using Digitized Speech

"Digitized" means speech that is recorded in digital (0's and 1's) rather than analog (like a tape recorder) format so that it can be used by computers.

The *AllTalk* uses digitized speech. Adaptive Communication Systems spent years developing (and revising) the *AllTalk*, which is portable, offers four minutes of highly intelligible speech, access to four levels of vocabulary, and costs \$3995. The company is marketing the device this year not only as a personal aid, but also as a clinical tool for assessment and training.

Prentke Romich Co. begins marketing the *IntroTalker* this year, a digitized speech output aid for \$595 that will contain Minspeak software. The user can select from

two qualities of speech output. The *IntroTalker* offers one minute of high quality speech or up to 8 minutes of poorer quality speech (on the upgraded version with more memory capability). The company also is preparing a version for ambulatory individuals . . . the *Walker-Talker*.

Not yet available - ADAMLAB plans to introduce the *HAWK* in 1988. The *HAWK* will look similar to their popular *WOLF* device, but offer 60 seconds of digitized speech.

Here's how digitized speech works. Someone speaks words, phrases, sentences into a microphone that is connected to a computer (e.g., inside a portable communication aid). Certain predetermined characteristics of each speech signal are then stored in the computer. As you might imagine, "lots" of computer memory is required to digitize speech . . . simply said, it takes a lot of 0's and 1's to create human speech! Generally the more characteristics stored, the better quality of speech that results. The speech can then be retrieved in its original form or the words and phrases can be re-combined to form new messages (using the same vocabulary).

Disadvantages? Digitized speech only permits access to a limited number of prestored messages. The vocabulary needs of most individuals far exceed the few minutes of stored digitized speech that is available. Thus, for individuals who can spell, it severely limits access to language. For this reason, Phonic Ear, according to Lee Shough, is closely examining and analyzing the use of digitized speech in the AC market before getting into it.

Advantages? Digitized speech sounds very close to your real voice. Devices that can digitize speech also can record and generate a range of other voices (child, baby, grandpa) and sounds (babbling, crying, taunting, whistling, singing, dog barking, buzzer). These aids may prove to be powerful tools to

facilitate interaction, speech, and language development.

Aids Using Synthesized speech

In contrast to digitized speech, synthesized speech is generated by a computer using a set of mathematical and phonological rules modeled so as to "create" human sounding speech. Because speech is so incredibly complex, these models are imperfect. The quality of speech output will depend on the sophistication of the set of rules in the synthesizer (note: speech algorithms may include not only phonologic, but also syntactic, semantic, and even pragmatic rules). Obviously, lower cost synthesizers, like those in portable communication aids, use less sophisticated speech algorithms.

Disadvantages? The intelligibility of speech produced on portable communication aids is probably the major disadvantage. Another problem is the lack of inflection and other identifying voice characteristics so crucial to human communication. A final difficulty has been the lack of female and children's voices in our portable aids.

Advantages? The flexibility desired by communication aid users is the primary advantage of synthesized speech with a text-to-speech algorithm. This means that any word that can be spelled can be spoken.

Most manufacturers of communication aids have used synthesized speech output in at least some of their products. None, however, has been completely satisfied with the results. Some feel that big changes are in store in 1988 while others are taking a "wait and see" approach.

Zygo president, Larry Weiss, reported that they are not focusing on new speech output this year. Why? Because the company does not feel the time is "now" and is waiting until speech technologies "become more reliable." Zygo is, however, looking at other technologies that will enhance interac-

tion (e.g. double display on the *Lightwriter* and ways to dramatically decrease access time for scanners).

The *WOLF*, designed to address the needs of the lower functioning client and/or those "just getting started," will continue to use the SC01 chip this year. ADAMLAB is working on a self-programmable version, which should be ready by mid-year.

Phonic Ear will continue to use the more sophisticated Votrax technology (chip SC02). They are working on providing text-to-speech capability for their *VOIS* products this year.

Innocomp will also continue to use the SC02 synthesis chip while the company evaluates other, more powerful, speech technologies for use in their *Say-It-All* products.

The biggest changes are being made at Prentke Romich, Inc. and Adaptive Communication Systems, Inc. this year.

Prentke Romich Co. is now offering the Smoothtalker version 3.0 (developed by First Byte) in their *TouchTalker* and *LightTalker*. The Smoothtalker has a male and female voice. This synthesizer is software driven and uses a diphone approach to generating speech.

Adaptive Communication Systems has announced the RealVoice in their *SpeechPac* and *ScanPac*. Guess what!! The first available RealVoice is a female. The male version will also be ready "within the next few months (Gordon, 1988)".

By the way, the RealVoice will ultimately be available as a plug in for any computer with a serial port. Walt Woltosz told me that Words +, Inc. will begin offering it as an option for the *Equalizer* and their other products as soon as it is available.

What are diphones?

Much of the naturalness of speech is attributed not to phonemes, but to transitions be-

tween phonemes. Diphones represent common phoneme transitions rather than individual phonemes. Speech algorithms that take into account transitions between phonemes (in different environments), like those used in the DecTalk (Digital Equipment) result in vastly improved speech quality and intelligibility. (See *Hints* page 8).

A diphone is one kind of transition. Allophones and triphones are others.

An example of diphones used in portable aids can be found in the speech technology developed by Rick Foulds and his colleagues at Tufts University. Here's how it works. In the lab, a speaker records (on audio tape) a long list of words (created by Melanie Fried-Oken (in her former life at Tufts). This recorded list is then digitized (0's and 1's remember.) Then, each diphone is marked, extracted, and stored in a file, called a "diphone library." Next, a sophisticated algorithm (L.P.C.) is used that essentially translates text, using the digitized diphone library, to speech. Thus, the technology can "almost" be thought of as a combination of digitized and synthesized technologies. This technology was adapted by the ACS research and development department for the RealVoice. The hardware and software that made it possible, I am told, is very powerful.

Manufacturers are encouraging everyone to upgrade equipment and are trying to make it as easy and reasonable as possible.

Will 1988 be the year that speech output aids became intelligible? I'm betting on it. To date no intelligibility studies have been completed on the new products. However, a few studies are already underway.

(See page 8 for a list of references and resources used in preparing this article.)





Clinical News

Facilitating the Use of AC in the Classroom

In 1985, the U.S. Department of Education awarded a contract entitled *Implementation Strategies for Improving the Use of Communication Aids in Schools Serving Handicapped Children* to the American Speech-Language-Hearing Association (ASHA). Eleven other professional and consumer organizations, 11 Model Outreach Sites, and an advisory board of AC experts participated in that two year project.

As a result, a series of 5 booklets is now available **Augmentative Communication for Educators, for Administrators, for the Medical Community, for Consumers, and for the General Public**. The series is useful in introducing AAC to teachers, school administrators, physicians, and the general public. The consumer booklet provides basic information and guidelines for families and individuals who use augmentative aids. For more information about the series, contact the National Association for Hearing and Speech Action (301) 897-8682 or your professional organization. These booklets cost \$1 each.

Another product of that project is a book entitled **Augmentative Communication: Implementation Strategies**. It will become available later this spring from the American Speech-Language-Hearing Association. [Call Teresa Zimmer (301) 897-5700 for information] The book contains more than 600 pages of clinical and administrative strategies found to be successful in AC programs. More than 85 professionals are contributors.

Helpful Strategies

During the ASHA Project, participants learned that despite the best of intentions, most programs had difficulty implementing augmentative techniques in the classroom. Six strategies and a few other ideas that deal with some aspect of classroom use are summarized below.

Daily Set-Up Procedures to Insure Daily Use of Communication Aids

(Marie Capozzi Hinchliffe, Joslyn Hunt, Christine Botti - Pittsburgh, Pennsylvania) aims to insure daily use of equipment in schools and to develop each student's understanding of equipment and responsibility for maintaining it. Each morning students check in with a staff member before going to the classroom. Together, they run through a kind of maintenance check list. Problems are identified and solved on the spot. The authors report that this strategy has significantly increased the time that communication aids are used by students in school. It was also effective in fostering student responsibility for and knowledge about their devices.

Mainstreaming Individuals Who Use Augmentative Aids and Techniques

(Sallie Dashiell - Huntington Beach, California and Judy Manson - Minneapolis, Minnesota) describes procedures for mainstreaming students (whether it be for lunch, a class, or a full day). Steps include identifying appropriate students, selecting mainstreaming environments, preparing the student, teachers, and peers for the change, and measuring the effectiveness of the effort. A case study is described by Hinchliffe, Hunt, and Botti from the Pittsburgh Public Schools.

When a child is mainstreamed, other children in the class need help too. Dolls or puppets (with and without disabilities) can be used to facilitate the understanding, acceptance and enjoyment of a new classmate who uses augmentative techniques. Caroline Musselwhite (Asheville, NC) described "how" in the December, 1987 issue of **Communicating Together**. For additional information, refer to that article or call her at (704) 274-7554.

Increasing success in daily classroom communication is addressed in **Fostering Child-Child Communicative Interaction in the Classroom** (Judith Carlson, Audrey DeSilva, Jodi Glass, Kathleen Lake,

Richard Lytton, and Donna Pensa - East Providence, Rhode Island). The authors state that vocabulary selection that is child-centered rather than curriculum or teacher-centered is critical if interaction with peers is to occur. Also, they suggest the use of topic specific boards. Teaching strategies include positioning the students in groups so that interaction can take place, using some students to facilitate or translate for others, allowing students to have private conversations, using discussion group communication boards with a generic vocabulary, directly teaching students' interactive skills, and promoting the students' self reliance and reliance on each other.

Going to school means being taught a certain curriculum. For those who are severely speech impaired, the development of literacy skills is particularly critical. Without these skills students must rely on others to create their messages. Carol Cohen's (Syracuse, NY) strategy **Developing Writing Skills in the Classroom through the Use of Word Processing** describes a hierarchy - basic keyboarding to simple and more advanced word processing software - using the computer as a tool to teach writing. Andrea Blau's (Riverdale, NY) strategy **The Development of Literacy Skills for Severely Speech- and Writing-Impaired Children** gives ideas about using specially made language boards designed to coincide with the classroom curriculum. **Reading: From Blissymbols to Traditional Orthography** (Kathy Fairly, Nancy Lageer, Gwen Mann and Katy Mann, Toronto, Ontario) provides steps that assist students in making the transition from symbols to words to spelling.

Another idea to insure success in classroom implementation is to provide adequate support to the teacher. It's a good time to get the speech-language pathologist, special educator, and occupational therapist on the team INTO the classroom to help out. This may require moving away from traditional delivery models, but it's worth it.



For Consumers

Resource Centers

Apple Computer, Inc. and IBM, Inc. are supporting the establishment of resource centers in the United States. These large companies are reaching out to the disabled community recognizing that access to technology is often essential if disabled individuals are to benefit from educational and vocational opportunities, to achieve any independence in their daily lives, and in many cases, to be guaranteed basic human rights. IBM and Apple also recognize that the disabled market is a growing one.

IBM, Inc. established **The National Support Center for Persons with Disabilities** in 1985. Ten National Easter Seal Society Community Centers are now working in conjunction with the National Support Center. The ten centers will be offering selected IBM products to disabled persons at special prices. The goal is to provide equipment that meets the needs of individuals - not to provide IBM's to everyone. Some Easter Seal Centers are approaching other computer companies to request that they offer a similar discount on their products. For more specific information contact Ed Porter at the National Easter Seal Society [2023 West Ogden Avenue, Chicago, IL 60612 (312) 243-8400, ext. 195] or the center nearest you (see page 6).

Apple Computer's Office of Special Education, in cooperation with the Disabled Children's Computer Group (DCCG) - a consumer-based, community-based resource center - conceived the idea for **The National Special Education Alliance**. The Alliance is attempting to support a growing coalition of community resource centers, professional organizations, and technology vendors working together to maximize the promise of microcomputers. To date, 16-20 centers are part of the alliance. Plans are to expand the alliance to as many as 50 or more centers located throughout the country. For

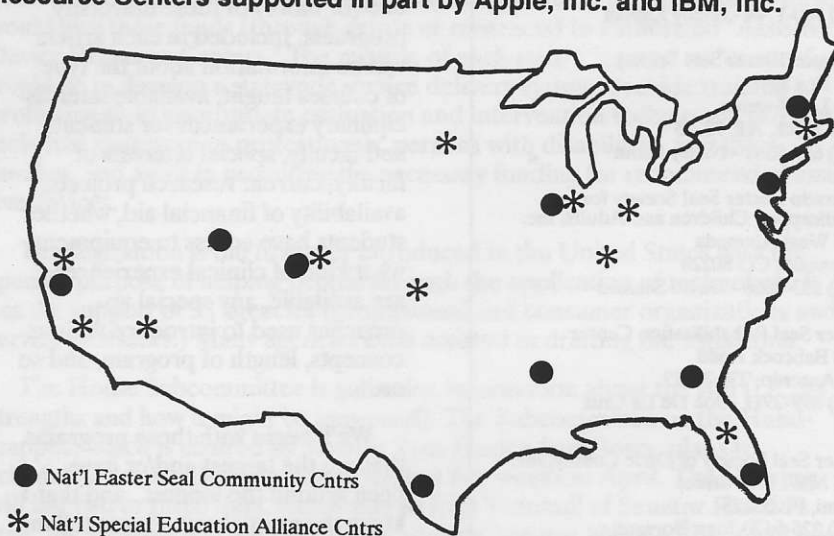
more information about the alliance, contact Ms. Jackie Brand at the Disabled Children's Computer Group [2095 Rose Street, Berkeley, CA 94709 (415) 841-DCCG].

Each center is different, responding to the needs within its own community. For example, some programs tend to focus more on children, while others work primarily with adults. Some programs are located in urban areas. Others serve a more rural population. Some are staffed by professionals, others by parents and volunteers. Some have lots of equipment,

others are just getting started. Some do evaluations, others provide consultations only.

All centers share a common goal, i.e., access to technology. Staff is experienced and recognizes that technology itself does not solve problems. Rather, technology can be a powerful tool with which to solve problems. Center staff can share information about and offer hands-on experience with technology. You'll find the centers stress careful evaluation, training, and the involvement of family members and disabled individuals in all plans.

Resource Centers supported in part by Apple, Inc. and IBM, Inc.



National Special Education Alliance Charter Resource Centers

Children's Hospital Resource Center
1056 East 19th Avenue
Denver, Colorado 80218-1088
(303) 861-6633 - Ann Grady

Communication Assistance Resource Serv.
3201 Marshall Road
Kettering, OH 45429
(513) 298-0803 - Pat Cashdollar

Computer Access Center
2425 16th Street, Room 23
Santa Monica, CA 90405
(213) 450-8827 - Donna Cutton

ComputerCITE
Valencia Community College
215 E. New Hampshire
Orlando, FL 32804
(305) 299-5000 ext. 3291 - Carol Cohen

Disabled Children's Computer Group
2095 Rose Street
Berkeley, CA 94709
(415) 841-3224 - Alice Wershing

Disabled Citizens Computer Center
Council for Retarded Citizens
1146 South 3rd Street
Louisville, KY 40203
(502) 584-1239 - Carolyn Keelen

Massachusetts Special Technology Access Center
c/o The Exceptional Parent Foundation
605 Commonwealth Avenue
Boston, MA 02215
(617) 433-5434 - Kathy Huggins

Nevada Computer & Technology Center for the Disabled
819 Las Vegas Boulevard South
Las Vegas, NV 89101
(702) 382-3358 - Greg Allen

Pacer Center, Inc.
4826 Chicago Avenue South
Minneapolis, MN 55417-1055
(612) 827-2966 - Dan Berks

Technical Aids and Assistance for the
Disabled Center
Illinois Children's School & Rehabilitation
Center
1950 West Roosevelt
Chicago, IL 60608
(312) 421-3373 - Ruth Lehman

Technology Resources for Special People
Salina Technology Coalition
3023 Canterbury
Salina, KS 67401
(913) 827-0301 - Dawn Merriman

Easter Seal Community Service Centers

Atlanta Easter Seal Center
2030 Powers Ferry Road, Suite 140
Atlanta, GA 30339
(404) 980-1744 - Shelly Kaplan

Arkansas Easter Seal Society
P.O. Box 5148
2801 Lee Avenue
Little Rock, AR 72225
(501) 663-8331 - Nancy Dunn

Colorado Easter Seal Society for
Handicapped Children and Adults, Inc.
5755 West Alameda
Lakewood, CO 80226
(303) 233-1666 - David Schmitt

Easter Seal Rehabilitation Center
2203 Babcock Road
San Antonio, TX 78229
(512) 699-3911 - Joe De La Cruz

Easter Seal Society of Dade County, Inc.
1475 N.W. 14th Street
Miami, FL 33125
(305) 325-0470 Joan Bornstein

Easter Seal Society of Metropolitan Chicago
Gilchrist-Marchman Center
2345 W. North Avenue
Chicago, IL 60647
(312) 276-4000 - Carol Guffin

Easter Seal Society of New Jersey
1691 Hooper Avenue
Toms River, NJ 08753
(201) 255-6202 - Linda Mayo

Easter Seal Society of Rhode Island
Meeting Street School
667 Waterman Avenue
East Providence, RI 02914
(401) 438-9500 - Dick Lytton

Easter Seal Society of Santa Cruz and
Monterey Counties
621-A Water Street
Santa Cruz, CA 95060
(408) 427-3360 - Roger Wellman

Utah Easter Seal Society
331 South Rio Grande Street, Suite 206
Salt Lake City, UT 84101
(801) 531-0522 - Lynn Jacobsen



University & Research

Once it was difficult to find a university that offered courses in AAC. Thanks to the efforts of many*, an increasing number of university programs now offer a course (or courses) and a clinical practicum experience. Some programs even specialize in AAC, offering programs at the masters, doctoral, and even postdoctoral level.

Each issue of *Augmentative Communication News* will describe one (or more) of these university programs. Included in each article will be information about the type of courses taught, available interdisciplinary experiences for students and faculty, special interests of faculty, current research projects, availability of financial aid, whether students have access to equipment, what kind of clinical experiences are available, any special approaches used to introduce various concepts, length of program, and so on.

We'll begin with those programs that are the largest and/or have been around the longest...and that I know the most about. Please tell me about the programs with which you are familiar.

University of Nebraska-Lincoln The Barkley Memorial Augmentative & Alternative Communication Center (BAAC)

Primary faculty and co-directors

- David Beukelman, Ph.D. - Barkley Professor of Special Education and Communication Disorders
- Pat Mirenda, Ph.D. - Assistant Professor in the Department of Special Education and Communication Disorders.

* David Beukelman, Stephen Calculator, Carol Cohen, Charlie Diggs, George Karlan, Arlene Kraat, Lyle Lloyd, Richard Luftig, Judy Montgomery, Shirley McNaughton, Caroline Musselwhite, Mary Ann Ronski, Howard Shane, Barbara Sonies, Elaine Trefler, Gregg Vanderheiden, Kathryn Yorkston, and David Yoder, among others.

Participants in program

- Barkley Memorial AAC Center
- Department of Special Education and Communication Disorders
- Graduate College at the University of Nebraska - Lincoln.

Facility

The BAAC is located in a modern building, which it shares with the Department of Special Education and Communication Disorders, the media center, and a computer support group. Within the building is the BAAC Demonstration Center that contains a display of equipment, materials, and software.

Clinical Affiliates

Students have opportunities to observe, conduct research and carry out clinical practicum experiences in 5 clinical centers: a public preschool, the Lincoln public schools, an adult rehabilitation center, the regional center for handicapped children in Omaha, and the university program for disabled students.

Program description

The goal of the program is the preparation (and continuing education) of professional personnel intending to provide clinical services to individuals in need of augmentative communication interventions and those interested in research education in AAC.

The academic program consists of an introductory course, an advanced seminar, and a technical laboratory in AAC (each is 3 credit hours for 16 weeks). Instructional materials via video film are emphasized. In addition, practicum experiences in affiliated clinical centers are offered.

At the masters level, students in the communication disorders program may select a special AAC emphasis. Doctoral students focusing on AAC must select an additional content area (i.e., adult neurogenic, multihandicapping conditions, child language, public policy).

Funding

Stipends are available.

Areas of interest and research

Dr. Mirenda's major interests are in the area of children and adults with developmental disabilities, multiple handicaps, and autism. Dr. Beukelman's interests include motor speech disorders, speaking rate control and other factors that influence speech intelligibility. Both are dedicated to carrying out good research in AAC.

I recently met some of the 8 doctoral students during a visit to the BAAC. They are working hard and having fun. Among the current research topics being investigated by faculty and graduate students are:

- Intelligibility and attitude studies of the new generation of speech synthesizers.
- Communication requirements of the academically mainstreamed student
- Electronically augmented systems of reading and writing for students with physical disabilities
- Linguistic competence and performance in learners with severe disabilities
- Optical scanning of text to support AAC applications
- Vocabulary use studies of normal and AAC communicators
- Developing communication skills in pre-intentional learners
- Motor control requirements of AAC access
- The influence of tools and informants on vocabulary selection
- AAC applications in aphasia

The graduate students who are conducting these exciting studies are: Kate Franklin, Kathy Garrett, Teresa Iacono, Deanna Low, Jackie McGinnis, Pat Rydell, and Robert Wolverton.

For more information about the program write David Beukelman or Pat Mirenda at the Barkley Memorial Center, University of Nebraska, Lincoln, NE 68588-0731.



Update on the TECH Bills

The Technology to Educate Children with Handicaps (TECH(4) Act, Bill #S.1586) was introduced in the Senate last August by Senator John Kerry from Massachusetts. Companion legislation, Bill #H.R. 3602, was introduced on December 8th in the House of Representatives by Representative Mayor Owens from New York. Eleven senators and 18 representatives are now co-sponsoring the bills.

We need more co-sponsors . . . This legislation would, in effect, make monies available so that each state could develop a service delivery plan and system to help handicapped people through the use of assistive technology. Augmentative communication services would figure prominently because of the array of assistive technologies used. The legislation specifically addresses children, but states could opt to include adult services in their plan. As written now (if the bills are passed and when monies become available), appropriated funds would go to the governor of participating states. The governor, in turn, would give these funds (through grants or contracts) to authorized "Assistive Device Resource Centers." The mission of each state's "center" or "centers" would be to develop a statewide service delivery system, provide training to professionals in appropriate evaluation and intervention techniques, provide technical assistance to professionals, persons with disabilities, and their families, and assist in procuring the necessary funding for recommended assistive devices.

This legislation is the first ever introduced in the United States with the specific purpose of helping people through the application of technology. It has the support of 32 agencies (professional and consumer organizations and service providers.) Many agencies even assisted in drafting the legislation.

The House Subcommittee is gathering information about the Bill (i.e., its strengths and how it might be improved). The Subcommittee on the Handicapped, which is chaired by Senator Tom Harkin from Iowa, plans to schedule a Senate Hearing during the last few weeks in April. The Hearing will last two or three days. According to Rud Turnbull of Senator Harkin's staff, the Hearing will not specifically address Senator Kerry's Bill. It will take a much broader look at issues involved in delivering technology to persons with disabilities. Topics will include a discussion of existing and potential service delivery systems in the states, consideration of financial concerns, a review of current Federal government involvement (Medicare, Internal Revenue Codes, etc.), and consideration of various solution options. After the Hearing, Senator Harkin, as chairman of the committee, may or may not support Bill # S.1586. Mr. Turnbull told me that the committee's decision to take a "broad scope approach to technology and disabilities" was not playing politics to "kill" the Kerry Bill. WE'LL SEE. If the committee does support it, then it could be voted on and passed in the Senate prior to the Summer Recess. In that case, monies could be available in the Fall of 1988. Other possible scenarios are that an alternative or amended Bill be brought to the Senate, or that no action occur.

TAKE ACTION NOW. . . to support the TECH Bills.

Write your Senators and your state Representative RIGHT NOW! Remember that most senators and congressmen know nothing about these Bills. Tell them why S.#1586 and H.R.#3602 are important. Ask them to be co-sponsors. You might also offer to help by providing them with information about the needs and relevant activities in your state.

Speech Output - 1988 (continued)

Hints

The Institute on Technology at the Communication Enhancement Clinic (Children's Hospital 300 Longwood Ave-Fegan, Boston, MA 02115) has made the DecTalk portable. Total cost for the Dec plus conversion is \$3000. If you are interested in this high quality text-to-speech synthesizer, contact Alan Field (617) 735-7870 or Howard Shane (617) 735-6466.

Resources & References

Pam Anderson - Penrose Hospital, Colorado Springs, CO (303) 630-5204

Bob Ceci - Innocomp, Solom, OH (216) 248-6206

Richard Foulds - The Dupont Institute, Wilmington, DE (302) 651-6830

Melanie Fried-Oken - Rehabilitation Institute of Oregon, Portland, OR (503) 885-6285

David Gordon - Adaptive Communication Systems, Pittsburgh, PA (412) 264-2288

Teresa Iacono & Pam Mathy-Laikko - University of Nebraska-Lincoln (see article Page 6-7) and Meyers Rehabilitation Center (Omaha) NE (402) 559-5756.

Michael Palen, Adaptive Communication Systems, Redwood City, CA (415) 593-5606



NEWS ITEM

The National Institute for Disability and Rehabilitation Research recently awarded grants for National Rehabilitation Engineering Centers (REC's). The mission of two RECs relate directly to augmentative communication.

The University of Delaware, in collaboration with the A.I. Dupont Institute in Wilmington, Delaware was awarded the Rehabilitation Engineering Center for Augmentative Communication. The project director is Richard Foulds who can provide more information at (302) 651-6830.

The Trace Research and Development Center at the University of Wisconsin-Madison was awarded grant for the Rehabilitation Engineering Center on Access to Computers and Electronic Equipment. The project director is Gregg Vanderheiden who can be reached at (608) 262-6966.

A major goal of the RECs is information dissemination. Future ACN issues will describe research projects being carried out at the RECs.

Barry Romich - Prentke Romich Company, Wooster, OH (800) 642-8255

Howard Shane - Communication Enhancement Clinic, Boston, MA (617) 735-6466

Lee Shough - Phonic Ear, Inc., Mill Valley, CA (415) 383-4000

Greg Turner - ADAMLAB, Wayne, MI (313) 467-1415

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