

Upfront



This issue focuses on the many ways low-cost, digitized speech devices can help individuals with complex communication needs. To illustrate some specific ways that these digitized speech devices can be stretched to their useful limits, we highlight recordable photo albums (RPAs). RPAs are “talking” photo albums that are currently available to the general public. They have a place in the repertoire of the skilled AAC practitioner.

By paying special attention to some innovative ways of using RPAs, we hope to challenge our readers to figure out (and perhaps to share with us) creative ways to use RPAs and other inexpensive digitized speech products now on the commercial market. We encourage practitioners to squeeze as much “bang for the buck” out of these items by building on the creative ideas of others.

Background

Last Christmas, my grandson Aaron serendipitously showed me a photo album book his mom had purchased at a local store and began to play the ten-second messages he had recorded to go with each picture. A light bulb went off in my head.

If a six year old (however outrageously bright) can handle this device so competently, I thought, why couldn't it be used as a simple AAC device, with all types of

individuals with AAC needs? I could think immediately of several obvious ways to use RPAs to enhance or supplement communication. But wait, I thought, what about all the uses I can't think of?

Thus was born the idea of the *AAC Idea Book* for talking photo albums. Aaron's grandfather and I were able to put together a collection of good ideas to maximize the “mileage” each of us could squeeze out of this simple new tool. We convened individuals during the California State University-Northridge (CSUN) Conference on Technology and Persons with

Continued on page 2

Equipment



RPAs and other inexpensive, digitized speech devices

Recordable photo albums (RPAs) are a good example of the many commercially available, low-cost, digitized speech devices that are adaptable to the needs of individuals who use AAC. We know of four or five varieties of RPAs and any number of talking photo or collage frames, recordable devices and the like. [Anybody out there need a talking tire gauge? a talking alarm clock?]

Table I on page 3 lists some of the products clinicians, teachers and

inside this issue

Equipment

Recordable Photo Albums and other inexpensive, digitized speech devices

Clinical News

Using RPAs in creative ways

University & Research

Using RPAs as training tools

On the Web

Sites featuring strategies for using inexpensive, digitized speech devices

AAC-RERC

Virtues of virtuality?

families might find useful, their features, costs and ordering information. The one we are most familiar with is the *Talking Photo Album (TPA)* with four minutes of digitized speech. This inexpensive, easy-to-use device has many potential applications for children and adults with complex communication needs. [See **Clinical News** and **University/Research** for examples.] You can record up to four minutes of speech in any language (10 seconds per page). The 24, four inch by six inch (4" x 6") sleeves allow you to put photos, pictures, copies of pages from books, comics, clippings from magazines or newspapers, artifacts from events/activities, symbols, text, etc.). A flash memory retains the

Continued on page 2

Equipment, Continued from page 1

recordings indefinitely, even when the required AAA batteries run out.

Another variation of the *TPA* enables you to record and retrieve a nine-second message for each of 20 pages for a total of three minutes. Unlike the four-minute *TPA*, this item requires users to key in a number to retrieve the appropriate message, e.g., when the individual wants to speak the message on page 10, they must first push a button to select #10 and then another button to play the message. This makes activation of messages a two-step process, which may be too difficult

and time consuming for some individuals, but can be useful for those learning to sequence. This device also retains recordings, even when the batteries are removed. The album holds up to five inch by seven inch (5" x 7") pictures on "self-adhesive" pages.

The two-minute *TPA* offers 11 recordable 5" x 7" pages in a album of twenty "self-adhesive" pages. This version has a brushed metal cover that can display a special photo.

Three examples of commercial products that offer less than one minute of speech are the: (1) *Voice Recording Photo Collage*,

(2) *Leather Talking Photo Frame* and (3) *Recordable VoiceOver module*. The *Collage* allows recordings of up to 10 seconds for each of five pictures. The *Leather Photo Frame* records up to 20 seconds and can take items 5" x 7" or smaller. The *VoiceOver module* lets you record a 10-second voice message to be attached to the back of a picture frame, photo album, scrapbook, wheelchair, book, etc.

Low-cost, digitized AAC devices

Devices manufactured by the AAC industry are designed to meet the needs of a small market and, as a result, they cost more than products sold in the general marketplace. Even so, the Attainment Company, Adaptation, AbleNet Inc., Crestwood and DTK Enterprises are among the AAC companies offering a range of simple digitized AAC devices costing \$100 US or less.

Attainment Company

Step Pad. 72 seconds of speech. Can record up to a 15-step sequence or list. \$39 US.

One by Four Talker. Four small talkers in one case. 10 seconds of speech in each. Can be wearable, one-message device. \$69 US.

Personal Talker. 10 seconds of speech. Single message device. \$14 US.

One Talker. 8 seconds of speech. Single message. \$10.00 US with keychain \$11 US

MotionPAD. 10 seconds of speech. Single message. Activated by motion. \$39 US

Attainment Company products: (800) 327-4269 or www.attainmentcompany.com

AbleNet, Inc.

BIGmack Communication Aid. 20 seconds of speech. Single message. Colorful. External speaker jack. \$92 US.

Talk Trac Plus and TalkTrac Plus with levels. Wearable. Two loudness settings. 70 seconds of speech. Four messages per level. \$85 and \$99.

One-Step Communicator. 20 seconds of speech. Angled base. Color. Single message. \$100.

AbleNet, Inc. products: (800-322-0956) or www.ablenetinc.com

Upfront, Continued from page 1

Disabilities in March 2002. We gave 15 or so AAC practitioners a *Talking Photo Album (TPA)* like Aaron's, and an example of a write-up for using the album to support individuals with complex communication needs. After a relatively brief period of collaboration and editing, ACI published a slim volume of 21 ideas entitled *AAC Idea Book: Creative Ways To Use Talking Photo Albums*.

Available at www.augcominc.com for \$18 US

This issue spotlights the creative uses of very low-cost, digitized speech devices. The *Equipment* section describes available RPAs and some digitized AAC devices costing \$100 or less. *Clinical News* gives examples from the *AAC Idea Book* and highlights other clinical resources that contain pertinent ideas. *University and Research* illustrates ways practitioners and teachers can use RPAs and the *AAC Idea Book* for preservice and inservice training. *On the Web* gives some AAC web sites that feature creative, low-cost solutions. Finally, the *AAC-RERC* section

focuses on the virtual nature of the Center and its evolution.

I am indebted, as always, to the many creative practitioners who have contributed their ideas to *ACN* and to the *AAC Idea Book*. I also wish to thank Harvey Pressman, known to our grandchildren as "Papa" or "Zayda," for his help on this issue of *ACN*, for his leadership on the *AAC Idea Book* and for the daily laughter, joy and sense of well-being he brings to my life.

*Sarah W. Blackstone,
Ph.D. CCC-SP*

P.S. I am enclosing a flyer announcing *Social Networks: A Communication Inventory for Individuals with Complex Communication Needs and their Communication Partners*.

I think you will find it interesting. 



Table I. Available Talking Photo products for individuals with complex communication needs

Device	Features	Cost S/H extra	Available from	Address/contact information
Talking Photo Album 4 minutes of speech	24 sleeves 10 sec. speech on each page Holds 4" x 6" photos, etc. Batteries included Flash memory Activates by pushing button on each page	\$25 to 29 US (depends on quantity)	Augmentative Communication Inc.	www.augcominc.com 1 Surf Way, #237, Monterey, CA 93940; 831-646-5428 (fax)
		\$29.95 US	The Sharper Image	www.sharperimage.com 800-344-4444 (phone)
		32 English pounds	Liberator Ltd	www.liberator.co.uk/main.htm; Whitegates, Swinstead, Lincs NG33; + 01476 550357 (fax)
		\$29 US	Attainment Company	www.attainment.com. P.O. Box 930160, Verona, WI 53593; 800-942-3865 (fax)
Talking Photo Album 3 minutes of speech	20 "self-adhesive" pages 9 seconds speech on each page Holds 3" x 5"; 4" x 6"; 5" x 7" photos Batteries NOT included Flash memory 2-step activation process Has lock switch	\$50	Brookstone	http://www.brookstone.com; 866-576-7337 (phone)
		variable (discontinuing the item?)	Radio Shack	Available at some of its stores. Not on their website
Talking Photo Albums 2 minutes of speech	Metal cover with photo 20 self-adhesive pages Half of pages are recordable Requires user to select button on side to activate pages	\$39.95	Yahoo Shopping	http://shop.store.yahoo.com/handcolor/talphot.html
		\$49.95	Gadget Bargains.com	www.gadgetbargains.com/talphot.html 888-376-6399 (phone)
Voice Recording Photo Collage	5 pictures on a single frame 10 seconds of speech per picture	\$45	Brookstone	www.brookstone.com 866-576-7337
Leather Talking Photo Frame	1 picture 20 seconds of speech Batteries NOT included Lock feature	\$40	Brookstone	www.brookstone.com 866-576-7337
Recordable Voice-Over Module	10 second message Sticks on or clips-on Batteries included	\$7.95 US each	The Photo Gift Shop	www.dbcreations.com/talking_frames.htm
		\$14.95 Canadian	Talking Presents	www.talkingpresents.com/productpages/voiceover.html

Crestwood Communication Aids, Inc.

Yes-No Talker. 18 seconds of speech each area. \$95 US.

Talking Buddy. 20 seconds. Single message. External speaker jack. \$87 US.

Crestwood Communication Aid products: (414) 352-5678.

Adaptivation, Inc.

Chipper. 20 seconds of speech. Single message. External speaker jack. \$85 US

Adaptivation, Inc. products: (800) 723-2783 or www.adaptivation.com

DTK Enterprises, Inc.

Listen to Me. 12 buttons. 10 seconds of speech each. Total of two minutes of speech. Three loudness settings. \$79 US

DTK Enterprises products: (847) 579-1309 or www.listentome.biz



Clinical News



Harvey Pressman, highlights the ideas of some of the brightest minds in AAC and demonstrates that the

Using RPAs in creative ways

We are fortunate to have in our field a core group of individuals who are constantly coming up with new, creative and often inexpensive AAC tools and strategies. Several of these folks have their own web sites and publish their own how-to materials. [See *On The Web*]. Others have published books and how-to manuals. [See Sidebar on page five.] This article highlights ideas that can extend the utility of recordable photo albums (RPAs) as simple digitized speech devices.

The *AAC Idea Book: Creative Ways to Use Talking Photo Albums*, edited by Sarah Blackstone and

whole is often more than the sum of its parts. The ideas for the book are useful for both young and old persons and for individuals with various types of disabilities. They are clustered into three general categories, which are reflected in the sections of the book.

1. Supporting interaction. The first section of the *Idea Book* focuses on ways to support people to communicate more effectively. Each idea describes a set-up for a RPA that enables the album to be used for different purposes, such as: (1) sharing news or setting topics; (2) making a talking scrapbook, (3) enhancing family involvement and

Continued on page 4

Clinical News, Continued from page 3

meaningful communication between school and home, (4) supporting children who are unable to speak during a hospitalization, (5) providing a “sequenced social script” to help individuals extend and maintain their conversations over several turns, (6) supporting independent interactions in a restaurant, (7) expanding social stories and (8) developing an autobiographical record, as illustrated below.

An Autobiographical Record. This RPA set-up can help individuals with ALS capture their personalities and likes and dislikes, using their natural voice prior to losing their capacity for intelligible speech. If recorded by someone else, a RPA can help anyone who has difficulty speaking to communicate with family, friends, caregivers and others about who they are, their past accomplishments, interests and experiences. Sometimes individuals who rely on sophisticated AAC devices can use RPAs to enter new situations and can more easily communicate personal information regarding their past and their interests quickly.

Core of the Idea. The individual selects up to 24 pictures and decides, with support, what comments and observations to make for each picture. For example, initial pages can introduce the person and where he or she lives. Other pages might be devoted to family relationships, past accomplishments and things the individual finds humorous or interesting. (See Table II. Example From *An Autobiographical Record*.)

The RPA can provide new communication partners with a quick “big” picture of an individual and convey some things about the person’s personality, sense of humor, family and view of the world. Finally, this idea can be used as a auxiliary device to supplement conversations at social events or when out in public.

Additional ideas include: (1) pasting a written version of the recorded messages on the page at the bottom of the photos for use in noisy environments, (2) placing “supplemental” photos underneath the visible photos to give individuals more opportunities to

Table II. Example from *An Autobiographical Record* (H. Pressman)

Photo on page	Message on page
Graduation photo of the individual	At the time I graduated from. I intended to be a....
Individual with his family of origin	Before my parents passed on, they provided much of the support I needed.
Person at work	Before I got sick, I was in charge of the Research and Development Department of a large technology company.
Individual in his wheelchair	I have a lot to say, if people have the time and patience to hang in with me.
Photo of Marilyn Monroe	My high school girl friend went on to bigger and better things.

supplement information on the spot, (3) pasting appropriate title information on the front cover. Example: *Where I’ve Been and What I’ve Said: Snapshots from My Life*” by Kathy Lee and (4) leaving some pages blank so the user can customize stories for particular communication partners at the last minute.

2. Supporting comprehension of tasks and activities. The second section of the *AAC Idea Book* has strategies that show how to use a RPA to enable individuals to become more independent in (1) accomplishing daily chores and (2) completing jobs. In addition, Duganne and Glicksman’s unique contribution demonstrates the use of a RPA to instruct personal care assistants to carry out their jobs accurately and in a timely fashion:

How to Assist with Daily Tasks. This RPA set-up enables young adults who are moving to independent living situations for the first time, and anyone who needs assistance with the activities of daily living, to train personal care assistants. Instructions can be recorded in any language and may include both written and spoken directions.

Core of the Idea. Pertinent individuals can work together to develop an illustrated and voiced manual to give precise directions on how to care for personal needs and personal items. Individuals may need several instructional RPAs to explain various aspects of a personal assistant’s job. Table III on

page 5 depicts five sample pages from a RPA titled *Organizing my handbag*. In this example, the individual’s handbag has four zippered compartments. Each is subdivided into slots and zippered pockets. The RPA explains what belongs in each compartment.

Another example is a RPA for *Preparing for Bedtime*. Positioning for sleeping is crucial for those unable to move independently. In this example, each page would explain how to make the individual comfortable in bed. For example, the first page begins with a picture of an empty bed with the covers folded back. Each following photo shows one thing that is important. Example instructions include: (a) *Smooth the bottom sheet so there are no wrinkles or crumbs.* (b) *Place two pillows against the headboard with the satin pillowcase on top.* (c) *When you put me in bed, I need to lie on my back.* (d) *Please put the sheepskin under my feet so my heels are cushioned.* (e) *Give the pillows a tug so they are snug against my shoulders.* (f) *Please bring the covers up to my chin, but leave them loose enough for my hands to move.*

Additional ideas include:

1. Record each message using a voice chosen by the person directing and receiving the services.
2. To prepare each page, use text provided by the individual. If this is not possible, a family member or trusted assistant can collaborate in writing the message.
3. If a personal care assistant is not fluent in English, record instructions in the individual’s native language, using English text on the photo (or vice versa).
4. Take close-up photos of empty items, such as the closet, the handbag, the bed. Then, in subsequent photos, show how items are added one-by-one, or how something is arranged step-by-step. Always include a list of items.
5. If the task is how to give medication, a timetable should be attached and a written version of the spoken message should be included on each photo.
6. Paste “How To _____” titles on the spine of each book.
7. Keep the RPA (or a set of RPAs) in rooms where each activity occurs, such as the kitchen or bedroom, so that instructions are readily available for each task.

This idea is also useful in educational settings to give instructions to aides and substitute teachers so basic care and educational programming are carried out appropriately.

Table III. Example from *Assisting with daily tasks* (M. A. Glicksman & J. Duganne)- *Organizing my handbag*

Photo	Instruction
Photo of items in compartment 1	Section 1 holds my check book and billfold with sales receipts and ATM receipts placed in the slot on the back side.
Photo of items in compartment 2	Section 2 holds my sunglasses, sun screen and comb. The Velcro pocket on the side holds my medication, a pill crusher and my timetable for taking the medications.
Photo of items in compartment 3	Section 3 holds any loose change.
Photo of items in compartment 4	Section 4 holds two sets of allen wrenches for adjusting my headrest. Keys are snapped onto the attached key ring.
Photo of specific items needs for college with a checklist	These are the items I need for going to my college course. Don't forget to pack all my textbooks, assignments, cup holder and personal items.

3. Supporting the development of literacy skills. This section of the *AAC Idea Book* contains strategies for using RPAs that highlight literacy skills development, such as ways to:

- (1) enable children to read to peers, parents and friends,
- (2) encourage independent reading,
- (3) adapt books for various ages and skill levels,
- (4) encourage personalized “talking” books,
- (5) integrate RPA’s into the curriculum,
- (6) use the RPA as a support for writing,
- (7) incorporate the album into a rich literacy learning activity (Our Field Trip Report) and
- (8) give children something to do while in the car or waiting for appointments.

Instead of including an example of one of these many useful applications, we shall tell you how a wonderful book *Michelle Finds a Voice* can be used with recordable photo albums.

Sheila Hollins and Sarah Barnett developed a wordless picture book entitled *Michelle Finds a Voice*. It is easily used with RPAs to develop literacy skills by creating stories that highlight feelings about being unable to speak and using AAC techniques. In the book, Michelle is

an adolescent girl with cerebral palsy who is unable to speak, and so cannot communicate what she is thinking and feeling to the people around her. Michelle feels isolated and unhappy. Similarly, her supporters and caregivers are frustrated in their attempts to understand or recognize her needs. *Michelle Finds a Voice* illustrates how Michelle and her communication partners overcome these difficulties. Various solutions are explored, including the use of signing, symbol charts and electronic communication.

Each reader can make up his or her own interpretation because the story is told through pictures alone. (Written text at the end of the book provides one possible narrative.) Copies of the pictures may be inserted into a RPA, challenging professionals to think about ways to facilitate literacy skills and to foster discussions with emotional content with an individual, or a group of individuals with complex communication needs.

References

- To order both the 4-minute Talking Photo Album and *AAC Idea Book: Creative Ways to use Talking Photo Albums* (\$45 US) or the TPA (\$29 US) or *AAC Idea Book* (\$18 US), contact Augmentative Communication Inc. at www.augcominc.com
- Also being distributed for \$29 (TPA) and \$19 (*AAC Idea Book*) by the Attainment Company www.attainmentcompany.com
- UK subscribers please inquire about ordering TPAs and *AAC Idea Books* from Liberator, Ltd. www.liberator.co.uk/main.htm
- To order *Michelle Finds a Voice*, £10.00, contact Communication Matters. www.communicationmatters.org.uk/index.html



Resources that focus on low-tech solutions in the schools

Simple, low-cost, digitized speech technologies represent a small niche in the repertoire clinicians use to address the needs of individuals who rely on AAC. Other resources that focus on low-cost assistive technology solutions, with an emphasis on education include:

Low Tech Assistive Devices: A Handbook for the School Setting by Lynn Stoller. This how-to book with step-by-step directions and detailed illustrations shows how to fabricate frequently requested low-tech assistive devices. The book includes sections on materials and how to work with them and a resource directory of commercial supplies. \$45 US from Therapro, 225 Arlington Street, Framingham, MA 01702; (800) 257-5376. www.theraproducts.com

Recipes for Success is a resource guide to hundreds of practical applications for using assistive technology. Each recipe gives a detailed list of materials needed, step-by-step instructions and numerous activity and equipment variations for adapting an activity. The 180 activity-packed pages are in a three-ring binder. \$39 US from Adaptivation, P.O. Box 930161, Verona, WI 53593; (800) 327-4269. www.adaptivation.com

Book of Possibilities is available in elementary and secondary school editions. Each book features a general information section about simple technology and how to use it, and gives detailed, easy-to-use ways to include students with disabilities in a variety of educational activities. \$28 US from AbleNet, Inc. 1081 Tenth Ave SE, Minneapolis, MN 55414; (800) 322-0956. www.ablenetinc.com

Emergent Literacy Success: Merging Technology and whol Language for Students with Disabilities by Pati King-DeBaun and Caroline Musselwhite. This comprehensive book is a compilation of current theory and practical applications of strategies to support and empower students in their quest for literacy. \$49 US from Don Johnston Inc., 26799 West Commerce Drive, Volo, IL 60073; (800) 999-4660. www.donjohnston.com



University & Research



Using recordable photo albums (RPAs) as training tools

Challenging professionals and future professionals to develop ideas similar to the ideas that Musselwhite, Locke, King-DeBaun, Burkhart, Costello and other creative practitioners submitted for the *AAC Idea Book: Creative Ways to Use Talking Photo Albums* can lead to important “teaching moments” and learning opportunities during workshops and in classrooms.

For example, I used a recordable photo album and the *AAC Idea Book* during two in-service workshops I taught this October in Winnipeg, Canada. I asked each participant to generate some ideas similar to those in the *AAC Idea Book* after a brief demonstration of a RPA. I then asked participants, in teams of two, to compare notes and identify the other person’s idea they liked the best. A number of new ideas flowed from the group discussion that followed. Best of all, however, from a training perspective, was that participants had become active learners and were thinking about how they could vary the ideas presented rather than merely absorbing other people’s ideas.

In preparing this article, we interviewed Kelly Fonner, Caroline Musselwhite, Tracy Kovach and Carolann Cormier to gather additional suggestions for utilizing RPAs in hands-on training activities.

1. Kelly Fonner reported leading a four-hour session on TPAs at the 2002 Closing The Gap Conference. First, she used RPAs to demonstrate ways people

who rely on AAC can move beyond a stilted “labeling and requesting” approach using simple technology. She showed participants how to use RPAs to extend and elongate descriptions, sequence stories, retell stories for different purposes, build vocabulary, and more. Kelly endorses the use of the *AAC Idea Book* as a springboard for group brainstorming.

2. Caroline Musselwhite uses RPAs in her training sessions to help teachers and practitioners learn important skills. For example, she uses RPAs as “idea generation springboards” to encourage more creative thinking about alternative uses of tools. She also has participants develop “social scripts” using RPAs to support people with autism and to expand the use of AAC techniques in social situations. Another activity she conducts is to brainstorm ways to establish “topic setters” using RPAs so communication partners are more likely to understand “borderline intelligible speech.” Finally, she supports “hands-on” uses of RPAs in training situations. She asks participants to report back to the whole group from smaller teams during problem solving tasks by “talking a bunch of ideas into the photo book” and then playing them back to the whole group. She feels this encourages small groups to think more broadly about “all the ways you can use” a piece of equipment.

3. Carolann Cormier asks groups to visualize a wide variety of uses for RPAs in different settings. She starts by distributing albums, with each album set up in a different way, to spawn thinking about useful ideas, including (1) reading a story for younger individuals as well as adults living in groups homes, thus allowing them “to have stories they enjoy read to them independently as many times as they want;” (2) adapting stories for older individuals by using sports magazines, the newspaper, or other magazines of interest. She suggests cutting out key pictures and having text appropriate to the individual’s reading skill and interest level; (3) having children record their own stories in the albums, so they can read them to others; (4) using RPAs as a simple communication device and (5) sequencing the steps in jobs for individuals who need pictures, as well as verbal cues.

4. Tracy Kovach currently uses TPAs to provide a “quick and easy” way for staff to engage with children and help children develop their social interaction skills. She also see lots of possibilities for using TPAs in her Talking with Technology (TWT) AAC summer camp in Empire, Colorado. She believes RPAs might be useful as part of the camp photography program, as a communication mechanism from parents (instructions for care), as a way to communicate with parents about experiences at camp and as personal diaries for campers.

She envisions a useful role for RPAs in the summer course that prepares graduate students to serve as camp counselors. Next summer she plans to ask each student to visit the family of a camper to “get up to speed” about the family’s hopes and dreams, the camper’s likes and dislikes, the camper’s care needs *etc.* She foresees the graduate students using photos and other artifacts to construct a “Getting to Know You” talking photo book for each camper prior to the beginning of camp. The RPA will thus serve as a way to structure one of the graduate student’s assignments.

References

Cormier, C. (July 2001). The Many Uses of Recordable Photo Albums. *ConnSense Bulletin*. www.connsensebulletin.com/books.html

Resources

Carolann Cormier, Assistive Technology Coordinator Capitol Region Education Council, Plainville High School, Room 109, 47 Robert Holcomb Way, Plainville, CT 06062. (806) 747-2112. cmcormier@aol.com

Kelly Fonner, Aim High Technology Training, 1508 Dodge Street, Lower Level, Lake Geneva, WI 53147. (262) 249-9269. kfonner@earthlink.net

Tracy Kovach, The Children’s Hospital, 1056 E 19th Avenue, Box 030, Denver, CO 80218. (303) 861-6024. kovach.tracy@tchden.org

Caroline Musselwhite, 916 West Castill Drive, Litchfield Park, AZ 85340. (623) 935-4656. carmussel@mindspring.com





Pushing forward the research and engineering agenda in AAC has never been easy. AAC is still a relatively “thin” field and its “leading lights” are necessarily scattered far and wide among a handful of institutions, none of which can afford to have more than one or two AAC experts on the payroll. So, when NIDRR funded its first “virtual” Rehabilitation Engineering and Research Center (RERC) in 1998, it was perhaps not surprising that the funded proposal was in the area of AAC. Headquartered at Duke, the Center was intentionally set up to tie together leading AAC researchers, practitioners and “consumers” who were widely-scattered across the USA. The AAC-RERC attempts to exploit newly available technological to foster collaboration and collegial exchange, without regard to distance.

The evolution of the virtual characteristics of the AAC-RERC addresses questions related to the impediments and facilitators of distance collaboration in research and engineering. What hurdles had to be overcome? What strategies were used to overcome them? What distance collaboration vehicles have proven most useful? Have there been unanticipated advantages? What have these researchers learned about how to collaborate more effectively across many miles?

To shed light on these questions, I interviewed a number of AAC-RERC partners, asking them to comment anonymously on the trials and benefits of distance collabora-

tion. Responses suggest that, after some early growing pains attendant on most enterprises of this nature (virtual or not), the partners have progressively figured out ways to restructure the Center to accommodate the wide variety of interests, perspectives and goals each brought to the table.

One key early action was to establish a consensus of mission, which enabled the partners to place their individual projects into a broader conceptual scheme. Another decisive adaptation involved the establishment of a “distributed management team,” which had to work out its own strategies for collaborative management over large distances. Also important was the initiation of a monthly virtual report at which one site presented its research progress during a conference call using a web-based PowerPoint presentation and received constructive feedback from colleagues. In fact, there has been a growing number of ways in which partners are now benefiting from the “added value” of distance collaboration. Among the most significant are:

1. *The use of virtual tools to enable more “consumer driven” research models.* The travails of travel create extra obstacles to consumer participation, collaboration and leadership in AAC research and engineering initiatives. Programs at Penn State, Temple and Nebraska are leading the way in demonstrating how Internet tools (largely freeware) and other technology innovations can be utilized to make it easier and more likely that consumers are more deeply and meaningfully involved in designing and implementing, as well as being participants in the research underway within the AAC-RERC.

2. *The exploitation of the benefits of distance collaboration to promote technology transfer.* Because the AAC-RERC consists of institutions on both coasts and in states in-between, the number of potential contacts with technology transfer partners is

significant. Individual partners have exploited this natural advantage to spread the number and breadth of both private sector and public sector technology transfer connections.

3. *The extension of distance collaboration benefits to professional training.* The virtual nature of the AAC-RERC has facilitated a number of unprecedented opportunities for training collaborations, such as: (a) cross-institutional training of doctoral candidates (e.g., an AAC doctoral seminar jointly and simultaneously conducted at Penn State University and the University of Nebraska); (b) virtual visiting professorships (e.g., a Duke engineer making virtual presentations to classes at Temple, the University of Buffalo and Penn State); (c) collegial interchanges among doctoral candidates at participating institutions.

4. *The natural dissemination advantages of scattered sites and the Internet.* RERC partners have taken advantage of their unique situation to utilize a myriad of dissemination outlets, including an AAC consumer list serv (ACOLUG), a consumer AAC publication (*Alternatively Speaking*) edited by a consumer/partner, opportunities for cross-institutional presentations at national and international conferences (USSAAC, ASHA, CSUN, RESNA, ISAAC, ATIA), the publication of a large number of peer-reviewed articles by cross-institutional authors and webcasts hosted by the Kornreich Center in New York and featuring AAC-RERC partners.

5. *The development of increasingly sophisticated conjoint research models.* In an area where some of the best research brains in the country are distributed across long distances, a virtual research center has the potential to facilitate collaborations of significant benefit to the field. An early collaboration between partners long known to each other at the University of Nebraska and Penn State has helped set a pattern for collaborations between less familiar partners, including Temple and Penn State, the University at Buffalo and Temple, Duke University and the University at Buffalo, Duke University and the University of North Carolina-Chapel Hill, and so on. Several of these laboratories have made effective use of newly available distance collaboration tools (usually freeware), such as Groove and VNC.

Continued on page 8

The virtual model has opened the doors of a single RERC to a larger number of established researchers than can exist at any single institution. This has enabled a single RERC to make significant impacts in a wide variety of areas, including employment, literacy, access to AAC and mainstream technologies, attitudes/perceptions about AAC technology and device performance parameters. Joint research projects under the AAC-RERC umbrella have also spawned additional projects supported by other funders.

Looking back on the serendipitous spin-offs and productive “collaboratories” the virtual RERC has engendered, it is too easy to conclude that it was all in the cards. In fact, it took some considerable problem-solving, as well as team and community building to reach this point. The RERC has proved almost as inventive in using virtual tools to navigate these inevitable bumps in the road as it has in using virtual tools to solidify and advance its research and engineering agendas.

Conducting research activities among distant institutions under one “virtual roof” is now being tried by other, newer RERCs in Georgia, Buffalo and elsewhere. Drawing on the experiences and problem-solving strategies pioneered by the AAC-RERC, they too are learning to navigate the sometimes difficult schools in order to promote expanded clinical and research benefits and to reap the added value inherent in virtual connections.



For additional information about virtual tools, visit the AAC-RERC Website at: www.aac-rerc.com

[The AAC-RERC section is partially funded by the National Institute on Disability and Rehabilitation Research of the Department of Education under grant number H133E9 0026. The opinions are those of the grantee and do not necessarily reflect those of the U.S. Department of Education. This article was published December 2002.]

On the Web



Sites featuring ways to use inexpensive devices and strategies

Below we list a number of web sites that feature strategies and/or tools that are relatively low-cost. In addition, these sites can lead to other sites with additional information:

1. Caroline Musselwhite's site <http://aacintervention.com> features many ideas that are adaptable for use with low-cost, digitized speech devices, including *Singing to Learn and Poetry Power* CDs; activity ideas: presentation resources and handouts; teacher resources; books, etc.
2. Judy Sweeny's *Onion Mountain Technology Catalog* <http://www.onionmountaintech.com> carries many relevant products, such as a Talking Calculator with Clock; Multi-Channel Digital Recorder; Speaking Homework Wiz; a 2 Channel Digital Recorder; Red Light Note-Taking Pen, etc.
3. Pati King-DeBaun's site, *Creative Communicating* <http://www.creative-comm.com> has products based upon hands-on learning experiences for special educators, therapists, parents, students, including teacher resource manuals, videos, puppets, software programs, adaptive equipment, workshops and on-line courses. Pati's focus is on building early language, communication and emergent literacy skills.
4. Linda Burkhart <http://www.Lburkhart.com> has low-tech and no-tech ideas posted on her site. She includes comprehensive and up-to-date links to other sites that can provide useful ideas and pictures relevant to the use of digitized speech devices, such as:

AAC Intervention <http://aacintervention.com> tips and strategies for using AAC with children.

Assistive Technology Training Online <http://at-training.com/registered/default.asp> provides simple, free online training for assistive technology.

Barkley Augmentative and Alternative Communication <http://aac.unl.edu> includes AAC device programming tutorials, frequently used vocabulary lists for different age groups and a plethora of AAC-related information.

do2learn.com <http://www.do2learn.com/> has free printable picture symbols and charts for visual schedules and steps within tasks.

Finding Pictures Online <http://www.lburkhart.com/pics.htm> helps find pictures for communication displays and educational materials.

IntelliTools Activity Exchange <http://www.intellitools.com/shareyouractivities.html> is for IntelliTools users to share activities they've made with *IntelliTalk*, *Overlay Maker*, *ClickIt!*, or *IntelliPics*.

Kid's Domain Downloads <http://www.kidsdomain.com/down/index.html> features Shareware and Freeware for kids.

Let's Play Project <http://cosmos.ot.buffalo.edu/letsplay/AT/at.html> provides info about young children and play.

Mac Access Passport <http://www.apple.com/education/k12/disability/map.html> is a database of hard-to-find products that help people with disability use a Macintosh.

Mayer-Johnson Co. Setups to Share <http://www.mayer-johnson.com/sharing/index.html> has Boardmaker and Speaking Dynamically Boards to download.



Augmentative Communication News (ISSN #0897-9278) is published bi-monthly. Copyright 2002 by Augmentative Communication, Inc., One Surf Way, Suite 237, Monterey, CA 93940. Reproduce only with written consent.

Author: Sarah W. Blackstone
Technical Editor: Carole Krezman
Managing Editor: Harvey Pressman
One Year Subscription: Personal check US & Canada = \$50 US;

Overseas = \$62 U.S.
Institutions, libraries, schools, hospitals, etc.: US/Canada \$75 US;
Overseas = \$88 US

Single issue rate = \$10. Special rates for consumers and full-time students.

Periodicals Postage rate paid at Monterey, CA. POSTMASTER send address changes to **Augmentative Communication, Inc.** 1 Surf Way, Suite 237, Monterey, CA 93940. Telephone: (831) 649-3050. FAX: (831) 646-5428. www.augcominc.com; e-mail: sarahblack@aol.com