DIRECTIONS

Technology in Special Education

Vol. 4, No 5 **December 1997**

Integrating Technology into the Curriculum

Source: MINDPLAY "Teaching Tools" On-line Newsletter

<http://www.mindplay.com/resource.html>

"In our schools, every classroom in America must be connected to the information superhighway, with computers and good software, and well-trained teachers."

— President Clinton, from his State of the Union Address

As schools across the country purchase new computer hardware and connect to the Internet, it is clearer than ever that technology will be an integral part of education in the 21st century. But how will the new technology be used to meet students' needs and further curriculum objectives?

While funding technology purchases is difficult, many schools are faced with an even greater challenge: integrating the technology into the classroom curriculum. "One of the sobering findings of recent research is that while technology distribution has stunningly improved in schools, using it to improve the learning environment has not."

It's important that administrators, teachers, and technology coordinators work together to develop an integration plan. These plans may exist on many different levels—for an entire district, between a small group of schools, or within a specific program. Communication and planning between these different levels is essential.

We have compiled a number of resources to help you. The following suggestions and templates are designed as a starting point. You may print and copy the planning worksheets for use in your school or use them as a basis for designing your own plans.

Step 1: Research key issues and create a plan for integration.

Form a committee or study group to discuss issues on integrating technology into your school's curriculum. The group should spend time researching examples of how technology has been successfully used in schools. The following questions should be considered:

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Inside

ATA

The Alliance for Technology Access

<http://www.ataccess.com>

The Alliance for Technology Access (ATA) seeks to redefine human potential by making technology a regular part of the lives of people with disabilities. The ATA is accomplishing this by raising public awareness and implementing programs and initiatives that provide access to conventional, assistive and information technologies, related services and resources.

Headquartered in San Rafael, CA, the Alliance for Technology Access is a national network of technology resource centers and technology vendors: 41 community-based technology centers in 27 states and the Virgin Islands, and 60 technology designers and developers.

ATA technology resource centers help children and adults with disabilities, parents, teachers, employers, and others to explore computer systems, adaptive devices and software. Centers directly serve over 100,000 people annually and impact the lives of another 300,000 people by working with teachers and other professionals.

Guiding Principles

The Alliance for Technology Access operates in accordance with the following values:

•People with disabilities have the right to maximum independence and participation in all environments, without barriers. •Technology can be harnessed to diminish or eliminate environmental barriers for people with disabilities. •People with disabilities have the right to control and direct their own choices, and the right to access the information they need in order to make informed decisions according to their goals and interests. •People with disabilities have the right to employ assistive technologies, strategies for implementation, and necessary training support to maximize their independence and productivity.

Services available at ATA resource centers

ATA technology resource centers are non-profit organizations, driven by collaboration among people with disabilities, family members, and professionals in related fields. All Alliance resource centers are accessible to people with disabilities. They are barrier-free, in terms of architecture as well as attitude. Everyone is welcome. No one is turned away. People of all ages, and with any disability, are encouraged to participate.

Guided exploration and consultations: Children or adults with disabilities, their parents or other family members, as well as teachers and other professionals who serve people with disabilities, can make an appointment to visit an ATA center. Staff will listen to your dreams, goals, challenges, questions, and preferences, and will then guide you in trying out a variety of computer products which might interest you. Staff will give you information you will need to make informed choices. They will not sell

DIRECTIONS

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Editor / Publisher
Janet P. Hosmer

Technical Editor
Chester D. Hosmer, Jr.

Administrative Assistant
Kira Boyd

Educational Consultant
Donna M. Eno

BOARD OF DIRECTORS

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DREAMMS FOR KIDS, INC.
273 Ringwood Road
Freeville, NY 13068-9618
VOICE/FAX: 607.539.3027

Greetings@dreamms.org
www.dreamms.org

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Authors - We welcome editorial submissions. Please include name, address and phone. Submission will be returned with self addressed stamped envelope, if desired.

Vendors - We welcome product news. Please include pricing and contact name with press releases.

you any devices. They are there to help you explore as many options as you like. You will then evaluate the software and hardware. Staff will help you to find where you can make purchases, and identify potential funding sources. You can be assured that staff members are constantly updating their knowledge and skills, so that they have the latest information.

If you are interested in a more comprehensive consultation, that can be arranged. For example, some parents of children receiving special education services seek a consultation which will result in the center staff member working collaboratively with the school to arrange for appropriate technology to ensure the full inclusion and participation of the student in the classroom with non-disabled peers.

Information and referral services: Alliance centers love networking. They make connections in local communities and across the continent, with technology developers, advocacy resources, funding resources, experienced computer users of all ages with a wide variety of disabilities, parents, teachers, therapists, anyone in your community you might need to know. They are familiar with rights and legal mandates, as well as the most current technology. If you need more information than they can provide, they will know where to refer you.

Telecommunications: The people at Alliance centers use telecommunications as an important tool in their work. They use on line services to learn and to share. They can post a question or problem on line, and in a few short hours, suggestions will appear from all over the country via email. They are competent in using bulletin board systems, on line data bases, search tools, and the World Wide Web. They are aware of the amazing benefits telecommunications can bring to people with disabilities, and they know how to help people to learn to use these new tools.

Technical support services: You can call an Alliance center for help with your computer and assistive technology. Someone will know how to help you as you deal with frustrations or choices, and will know where to refer you for additional help. At the same time, ATA centers are committed to the notion that people with disabilities want to make their own choices and control their own lives.

Product demonstrations: All Alliance centers provide product demonstrations for the public. Computers, adaptive devices, and software can be seen and evaluated on an individual basis or during a workshop. Developers and vendors frequently visit ATA centers to demonstrate the latest products.

Participation in product development and testing: Many centers work collaboratively with hardware and software developers to assure access to people with various disabilities. Centers frequently conduct testing of new devices and software with the goal of universal access in mind.

Public Awareness presentations: All Alliance centers have staff or volunteers available to provide public awareness presentations for parent groups, school groups, teacher groups, organizations, support groups, university classes, and conferences.

Workshops: All Alliance centers provide workshops for parents, teachers, therapists, adult services providers, and others interested in learning more about assistive technology. Many centers also provide training sessions or technology play sessions for children.

User groups: Some Alliance centers support user groups with special interests in common, which meet on a regular basis.

Professional development: Some Alliance centers have staff members with vast experience in providing training for teachers, adult service providers, therapists, and other professionals who wish to increase their knowledge and skills when it comes to assistive technology. You can contact your nearest center to contract for these services.

Open access — Resource day: Many Alliance centers have regular times during the week when anyone can drop in, without an appointment, to become acquainted with the services of the center and the available equipment and software. Call the center to see if they have this service.

Lending library services: Some Alliance centers maintain software and/or hardware lending libraries. Others have adapted toy lending libraries, or video libraries. Please call your local center to see if these services are available.

Newsletters: Alliance centers publish newsletters which can inform you of developments in the technology world and technology news in your local area.

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ATFSCP Notes

The Assistive Technology Funding and Systems Change Project

<http://www.ucpa.org/html/innovative/atfsc_index.html>

Part C: INFANTS AND TODDLERS WITH DISABILITIES ASSISTIVE TECHNOLOGY POLICY
Part III: Elements #4 and #5

CRITICAL ELEMENT #4: Choosing, Adapting, Repairing, Maintaining, and Customizing Assistive Technology Devices for Children

Which agency is responsible for paying for repairs?

States should have policies in place governing responsibility for repairs of assistive technology used by infants and toddlers. While there is no question that the school system is responsible for repairing assistive technology used by school-age, Part B-eligible students, the involvement of other agencies in the provision of Part C services warrants clearly defined responsibilities for each agency. For instance, if an agency other than the school system purchases the technology, it might be preferable for that agency to have a memorandum of understanding with the school system shifting the responsibility to the school system, if for example, the purchasing agency has no in- house assistive technology expertise and the school system does.

How should approved repair vendors be identified?

For repairs requiring more than in-house expertise, the lead agency and the school system should maintain a list of contact persons at the company that makes the equipment, the vendors of the equipment, local repair shops that may be able to fix the equipment, and the state technology center if it is able to perform repairs.

What are the responsibilities of families in maintenance of equipment; getting equipment repaired; and reporting broken equipment, and how will substitute equipment be made available during the repair period?

While families should be responsible for basic maintenance (e.g., charging batteries), and for reporting broken equipment to the IFSP case manager or service coordinator, families should not be responsible for getting equipment repaired. Repairs should be handled through the IFSP service coordinator. The agency responsible for the provision of the assistive technology should be responsible for providing substitute equipment, which could come from a variety of places, including an equipment bank maintained by the agency, the state's technology center, or the manufacturer of the technology. It may not be possible to provide the same device as a substitute. Therefore, during the development of the child's IFSP, consideration should be given to identifying the steps to be taken if the technology needs repair, how a substitute will be procured, and what other technology options would provide an acceptable substitute to the child's device on a temporary basis.

What are the qualifications and background of professionals and vendors involved in this process?

The qualifications of vendors involved in the process of choosing, adapting, repairing, maintaining, and customizing assistive technology for children may be difficult to determine. In some cases, there may only be one vendor of a particular device, and agency personnel responsible for implementing the IFSP may have no choice but to deal with that vendor, regardless of his or her qualifications.

The qualifications of the agency personnel involved in this process, however, can be defined by state law, or even by OSEP. For instance, a state could require that persons involved in this process be accredited through RESNA or demonstrate the equivalent level of expertise in some other way.

Who coordinates the functions listed above?

The IFSP service coordinator should coordinate these functions with assistance from the assistive technology specialist and the other related service providers. Alternatively, if the multidisciplinary team includes an assistive technology specialist, that person could be delegated the responsibility of coordinating the assistive technology functions, with assistance from the other related service providers.

Are parents sufficiently involved in the entire process?

Parents should certainly be involved in the process of choosing and adapting equipment, and in routine maintenance. They should also be involved in the process of choosing acceptable substitute equipment in the event that the child's device needs to be repaired. However, the parents should not have to be involved in the repair process.

Should equipment be returned when it is no longer in use?

The equipment belongs to the agency that purchased it. If the device is no longer useful to the child, it should be returned to that agency. Alternatively, a centralized equipment bank could be developed. State education agencies should take the lead in organizing equipment banks and equipment loan programs that could be used by Part C providers and school systems throughout the state.

CRITICAL ELEMENT #5: The Coordination or Use of Services or Therapies with Assistive Technology Devices

Who is responsible for overall coordination and integration of assistive technology devices and services into the child's plan?

Coordination and integration are two separate functions. While the IFSP service coordinator is responsible for coordinating the elements of the IFSP, the actual service providers should be responsible for integrating the devices and services into the child's plan and program. Depending on the child's needs and the specific program the child receives, an occupational therapist, physical therapist, speech pathologist, or educator might be the person who plays the primary role in integrating the devices and services into the program. Or, each of the service providers may play an important role in utilizing assistive technology devices and services; in that case, the providers should co-treat or meet regularly to coordinate their efforts, and the service coordinator could be the person responsible for setting up those meetings. While the assistive technology specialist should be available to provide information, training, and assistance to the service providers, the assistive technology specialist probably should not be responsible for the implementation of the plan, since the technology is used to support the child's education, rather than being an end in and of itself.

What are the qualifications of the coordinator?

Part C requires that service coordinators possess knowledge of the nature and scope of services that are available from all service providers that are participating in the early intervention system. However, they are not specifically required to be knowledgeable or experienced in the area of assistive technology. Either service coordinators should become familiar with assistive technology to the extent they are familiar with the nature and scope of other services, or each lead agency should have an identified assistive technology expert who has this knowledge. The specialist must have knowledge of the scope of assistive technology services ranging from seating and positioning to communication.

The service coordinator or assistive technology specialist should also be able to provide information to the family and service providers regarding services available through organizations such as the state technology center and the state's Alliance for Technology Assistance affiliate.

Are parents and other significant individuals in a child's life involved in the entire process from assessment to implementation?

Parents and other individuals who have significant involvement in a child's life must have the opportunity to be involved in the entire process from assessment to implementation and follow up. Parents are important members of the multidisciplinary team and should be part of the decision- making process regarding the appropriate assistive technology for their child. Parent involvement in this process will increase the likelihood that the technology that is selected will be used and will fit comfortably into the lives of the family members.

The opinions expressed herein do not necessarily reflect the position or the policy of the U.S. Department of Education, and no official endorsement by the U.S. Department of Education of the opinions expressed herein should be inferred. §

Ask RJ

RJ Cooper & Associates

<http://www.rjcooper.com>

Those who have been following my work and my columns in the past, may have learned that I am a new daddy, and wondered when I would start her (CJ) on computers. My purpose here is to give you a Piaget-like description of her growth on computer, my reasons for choosing a particular program and input method, and my thoughts as I reflect on what happened and how I handled it. Well, here's the story.

After making software and hardware for children with special needs for the past 13 years, I decided to try my daughter, CJ, when she was only 4 months old, on some of my software. The results were spectacular. After only 3 days, she 'got' it. I will tell you that, at first, I was chomping at the bit to see how early I could get her on the computer, and if she would understand. But within a few weeks of her birth I realized that I would 'know' when the time was right. After all, I've trusted my instincts in a) getting into this niche business; b) knowing what kids will do and want with software; c) being able to 'place' myself inside their heads when I'm working hands-on and trying to make a little miracle happen (at least, that's what my wife calls them <G>). So I waited, and waited, Many times I would 'second guess' myself and *almost* put her on. But I waited. 2 months went by, and all of a sudden I was not in such a rush.

But at 4 months, 1 week, I had a Magic Arm, a Big Red, my Children's Switch Progressions cause/effect software on a running Windows machine. She was fed, changed, and

in her tall, secure swing chair. Nothing else was going on, and the moment just seemed right.

I had noticed lately, that she was able to flail her right arm quite nicely, not really targeting anything but she seemed to have voluntary and consistent control over it. So I placed Big Red under her right arm, approximately where her hand would land when flailing. I put on the software. I had recorded some lively music into the software, and if she hit the switch, it would play for 20 seconds. If she did not, my voice on the software would prompt/reprompt her every 10 seconds.

The first day, she definitely attended to the visual, full-screen animation, and the music. But she was very inconsistent at hitting the switch. Sometimes she would, and other times several minutes might pass before her next activation. But the third day...ah, the third day, boom, she 'got' it. The key was increasing the reprompt time to 60 seconds, so that she was not getting every-10-second 'reinforcement' (my voice). How was she to know that daddy saying "Do it now" was a prompt versus the reinforcement? So, by making that reprompt happen only infrequently, and *nothing* at all happening if she did not do anything, she quickly learned to hit that switch to get things going again. Anyone that has viewed my videotape of her doing this, *at 4 months, 1 week old*, has no doubt that CJ is doing it on purpose, at the right times. Her average time, after the reinforcement stops, to get it going again was 5 seconds (between 3-60, obviously with the peak at 5; I also added some data collection to the software at this time).

What was even more revealing was what CJ was doing *while* the reinforcement was taking place, during the 20 seconds of music and animation. She was listening, attending, and she was *not hitting the switch*, I mean practically not at all. When I first designed the Switch Progressions, in 1986 on an Apple IIe, I was tackling the job of creating something that might teach scanning prerequisites, and appropriate computer interaction. I knew that knowing when to hit the switch was very important, but I also knew that in order to scan with a switch, one had to know how to *wait*, also. So I developed the cycle, within the software, of <hit, release, wait>. We all do that whenever we click the mouse, or even type a key. Well, over 10 years later, I was revisiting that same thinking with CJ. It was beautiful. People ask me all the time "Where do you go after cause/effect?" For switch users, it's <hit, release, wait>.

I was so proud. I look at that video now and think "Was she ever that

small?" Even now, when I show the tape, I'm still proud. I wonder what Piaget would have thought, or how his research would have been different if he had computers. Do you think he might have experimented like this?

I also started using my Early & Advanced Switch Games (no, this is not an infomercial for my software; it's just that my software happened to be most accessible and seemed, to me, to be best suited for the task). She loved the Balloons, with lots of popping balloons and bubbles, and loud, obvious but short, music clips. I also used, successfully, some Laureate software (1-800-562-6801). Once again, she would activate the switch within a short time of the reinforcement stopping.

Now, about this time, my wife and I were starting to need a break, at times, during the day. (Gosh, I don't know how those of you with more than one do it! I admire you, I must say. What patience!) So, when CJ was on the computer, she was totally occupied. This was the only activity that would grab her attention so completely. I guess she felt such a strong sense of control? Who knows? But it was very easy to leave her completely alone with the setup. For how long at a time, you ask? I'm almost ashamed to say it now, but up to 1 hour! Of course, we would come back in to interact with her all throughout that hour. At times, I would act as a big windup toy, and when she made the music happen, I would dance silly dances, and then freeze when the music stopped. She was able to move her attention back and forth between me and the monitor, at will. When I was dancing, she would look at me. When I froze, she immediately moved her gaze back to the computer, and sure enough, whacked on that switch. Oh, it was a sight. We were so excited at times, interacting with her like this, that we were giddy with delight!

There is a consistent moral here, that even holds true today, and that is she could not be 'rushed' to learn. My training in Psychology and Special Ed. always pushes me to want to push my 'students', but such was not possible. CJ was perfectly content to stay at this cause/effect level, right up to the present moment. She still enjoys this simple activity more than anything else on the computer. Of course, she is using different input methods now (Magic Touchscreen on her computer, and spacebar on mine), but she still LOVES her original software and activity.

So, once again, I was in a holding pattern, waiting for the next 'window of opportunity' for advancement. 5 months...6...7...8...

At about 9 months, I set up her own Mac workstation, on a rolling cart, with the monitor at 4" from floor level (and everything else out of her reach. I used a 15" screen but a 17" Magic Touchscreen, to shield the controls from her explorative fingers). I put her on my Point To Pictures (PTP; sorry...mine again <g>), where she can actually choose what she wants to do, play with bubbles, read a book with me, and many other things I would normally do with her. After a few days, I believed she 'got' it and was starting to make purposeful choices. I thought I could tell because she was using her pointer finger, and pointing directly to the pictures, which were not full-screen. She would also show anticipation by looking at the bubbles right after she 'chose' them. Once again, looking at the video, I thought that anyone could tell these were not 'coincidences'. After working with thousands of kids with special needs, I certainly thought I could tell purposeful

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Conferences & Events

Date: March 5-8, 1998
5th Annual Training Seminar and Conference Society for Cognitive Rehabilitation, Wilkes Barre, PA.
Contact: 717-826-3872; Fax: 717-826-3898; E-mail: KrisCog@ aol.com

Date: March 11-14, 1998
Learning Disabilities Association of America, 35th Annual International Conference, Washington, DC.
Contact: 412-341-1515

Date: March 17 -21, 1998
Technology and Persons with Disabilities. California State University, Los Angeles, CA.
Contact: 818-677-2578

Date: May 3 - 6, 1998
Designing for the 21st Century, An International Conference on Universal Design. Hofstra University, Long Island, NY.
Contact: Adaptive Environments, 617-695-1225

INTEGRATING Continued from page 1

•What do we know about the potential of technology?

•How much technology is currently in schools?

•What do we know about the implementation of technology?

•What do we know about effective teacher training and technology?

•What do we know about using technology with special needs students?

•What do we know about initiating and institutionalizing change in schools?

•What do we need to know to be able to plan for the future?

•What types of pitfalls should we be watching for?

A list of journal articles and other resources has been compiled to help answer these questions.

The committee will also work to create an overall Integration Plan for the school. The plan will consist of four phases: Selection, Acquisition, Implementation, and Integration.

Phase 1 Selecting

Planning
Locating
Reviewing
Deciding

Phase 2 Acquisition

Previewing
Evaluating
Purchasing

Phase 3 Implementation

Organizing
Teacher Training
Student Training

Phase 4 Integration

Linking
Managing
Assessing
Extending

Step 2: Examine the array of instructional technologies for the purpose of creating toolkits.

Committee members should identify the current technologies that the school has and identify areas for expansion. A list of Instructional Technologies Commonly Found in Schools has been compiled for your reference.

With the input of teachers, the group can develop an Electronic Toolbox. This toolkit would include all of the software or other technologies that teachers would need for professional productivity including: creating information, communicating information, managing information, and specialized or miscellaneous tools. A sample template is provided to help you start planning an Electronic Toolbox. A detailed example is also provided listing possible programs to use.

Teachers can also work to develop Instructional Productivity Toolkits that support their teaching. The teacher can specify the major objectives for each curriculum area and identify software or other tools that meet these objectives. A sample template is provided to help you start planning an Electronic Toolbox. A detailed example is also provided listing a few possible programs to use. Teachers may also wish to use this form for planning software and adaptive technologies that correlate to a student's IEP.

(1) Burder, I. (1993, October.) Technology in the U.S.A. Electronic Learning, 20-28

This article is found in "Teaching Tools" at the MINDPLAY website at www.mindplay.com and was adapted from the presentation "Integrating Technology into the Curriculum: How to Avoid Making it a Do-It-Yourself Project" by Dave Edyburn and Jim Gardner. It was originally presented at the 1997 CEC Conference, Salt Lake City, UT; April 12, 1997. For additional information, contact: Dave Edyburn, edyburn@csd.uwm.edu or Jim Gardner, jgardner@uoknor.edu.

About MINDPLAY

Since its founding in 1986, MINDPLAY has focused on special needs children. They were the first company to design child-centered curriculum software. Their approach encourages every child to learn in his or her own way. They were also the first to capture student performance, providing you with a tool for independent study with documented results.

Their motto is "the more you play, the more you learn". This grew from the belief that learning is the fun part of computer software. Their

approach combines the best of technology with proven teaching strategies. They believe that students must be actively engaged in a lesson to learn it.

MINDPLAY products foster individualized instruction of skills. Their unique Challenge Upgrade™ feature allows you to custom-fit the software to the student's abilities, accommodating multiple skill levels within a single piece of software. This allows time to spend with your students, rather than continually learning new software.

They designed MINDPLAY software to be part of the Teacher's Toolbox: materials that complement and supplement your lesson plans. They are completely restructuring the materials that accompany their software. With the help of primary and middle school regular and special needs teachers, they prepared goals and objectives to help you with individual and class educational plans.

They are also turning their web site into an on-line teacher's resource. You'll find everything from individual case studies, timely articles and teacher 'chat sessions' to shareware and demo versions of software for you to try.

Call or e-mail them about your experiences using technology in the classroom. They promise to share the information on-line with dedicated teachers and parents like yourself. And let them know what you think about their new look! For more information or a free catalog call 1-800-221-7911. §

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interaction from random activity.

But, looking back, and seeing what I see now, she is still only 'getting' the connection between pointing to a picture and understanding that she will get that thing the picture represents (she's 14 months now). At 8-9 months, what she was doing with her pointer finger was exploring by touch. Yes, that's what I now believe. I think she may have been, to some extent, copying modeled behavior (us pointing to pictures in books), but she seemed to explore things by touching (naturally) and she seemed to use her pointer fingers to do so. What I'm telling you is that I think babies teach themselves to point by naturally touching their world with their pointer fingers first. We reinforce that, model it by pointing to things and pictures, without touching, most of the time, and it becomes symbolic (pictures) rather than actual (which it still hasn't for CJ; I'll let you know when it has).

I think that when she was 9 months, she might have been actually expecting tactile feedback by touching the different pictures on the screen. This theory of mine is further supported by the fact that she *quickly* lost interest in PTP (boo hoo <g>), even though she was getting, alleged, high motivational rewards (bubbles, dance, tickle, hug). No matter what pictures I put up there, and only 2 at a time, she did not stay motivated with this computer activity for more than 2-3 minutes. And yet, she still could spend 15-30 minutes on Children's Switch Progressions or Early & Advanced Switch Games.

At 11 months old, she started becoming curious about the trackball daddy was always messing with. She started swatting at it, and vigorously rolling the ball around. I had been hoping that soon after starting her on the Magic Touchscreen, CJ would be able to tackle mainstream titles, like Just Grandma & Me. When her understanding of discrete symbolic objects on the screen failed, and she showed interest in SAM-Trackball (Switch-Adapted Mouse device - Trackball), I hoped she would quickly learn the relationship between rolling the ball and moving a cursor. Then, using Biggy, my BIG cursor utility, she could then point and click within mainstream software. WRONG! She spent less and less time with PTP and J&M Trainer, as you'll see.

She was not that interested in the large trackball buttons, just the ball. So I thought the time was right to start her on my Joystick (& Mouse) Trainer (J&M Trainer; this story cannot be told with telling you what my 'tools' were, right?). My SAM-Trackball has a large, 2" ball, very easy for her to roll.. This software starts with *very* obvious mouse feedback, with no demands at all placed upon her. She simply moves the ball (she sort of fiddled with it) and big bold visual and auditory effects give her feedback on her actions. I moved her to the second activity (there are 8 altogether) in which SAM controls a LARGE bus to pick up passengers. I believed she would understand the relationship with moving the ball (in SAM) and the bus movement on-screen soon after. Then I can move up the progression I have set up on the software. At 14 months, she has not mastered this relationship.

But she was able to make that transition, at 9 months, from the

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switch to the Magic Touchscreen very easily. At least that was consistent. And her response time decreased to a consistent 1-2 seconds, once the music stops.

At 12 months, I decided to let her play around with a keyboard. I used the IntelliKeys alternative keyboard with the keyboard activity within Edmark's Bailey's Book House (1-800-426-0856; yea, someone *else's* software!). I set up IntelliKeys with a special overlay that I include when I sell one (I find the packaged overlays too busy for her). She seemed to know to press on the letters...well, at least she does seem to press on the squares with the letters on them, rather than the empty space between the letters. And she did enjoy herself. I think she was just treating the entire IntelliKeys as a single toy, and just, once again, exploring by touch, using her pointer, the different shapes. I also tried IntelliTalk with her, so that pressing any key would have the computer speak that key, and display it in a "HUGE" size (it could never be HUGE enough for me, though <g>).

I stopped PTP, J&M Trainer, and IntelliKeys completely at 11-12 months. Her first birthday was coming up, fall was approaching and the conference season was soon to be upon me, which is a tremendous drag on my time. I did continue with the cause/effect as she still loved that, and I recorded many new songs into it, and that kept her attention.

But at about this time, 11-12 months, a new competitor for her attention, and *affection* came onto the scene. Actually, he was there all along, but she had never shown an interest in him. Can you guess? He's big...purple...fluffy...ah, you've got it...BARNEY! She was infatuated with him...overnight! <G> And it's only increased with time. Just today she could not stop her crying (no known reason...clean diaper? Check. Fed? Check. Rested? Check.) But put Barney on, and presto, she smiles and cuddles. Go figure. I was *never* a Barney fan, but I'm hooked now. What choreography. What variety. What lessons! All great. I must give more to public television at the next fundraising drive.

Our TV is right next to her workstation, and most times that I would try to get her onto the computer, she would quickly wander to the TV. Only 12 months old now, and I had already lost the TV battle. Yikes!

Well, she's 14 months now, and still loves the cause/effect stuff, as I've said. But yesterday, I set her down with PTP again for the first time in a while, and she did quite nicely. Much more directed pointing, and she was able to find the bubbles when mommy asked her, and she showed some anticipation when she chose dance, by looking at me and extending her arms, knowing we would stand up and dance to some 'hot' salsa tunes. She enjoyed the bubbles more than before. All in all, I was encouraged, but not enough to repeat this daily.

She still has not progressed anymore with the trackball. I'll wait awhile on that and get back to you.

Oh, one more thing that she does do now. She can't get enough of *daddy's* computer. One day, I was working in my office, a room away from the living room, and she wandered in. I was working on a new version of RadSounds, my cause/effect title for 'early' functioning teenagers. What better way to test things than to put her on it. I am using a really cool, ergonomic keyboard from Kinesis (206-402-8100), called The Essential MPC. My PT told me to use only keyboard, at appropriate height, for both my Mac and PC on my desk. Before I was using a pullout keyboard tray for my Mac keyboard, so I was constantly changing position and neither my Mac keyboard or my PC keyboard were positioned healthfully (is that a word?). So I bought a Black Box keyboard/monitor switch (412-746-5500) and now can switch back and forth between operating, and seeing, my Mac and my PC.

Now the Kinesis keyboard is very strange. Visit their web page for a picture <www.kinesis-ergo.com>. The space is not a bar; it is a vertical key, normal width, but triple height, and it is not easy to spot. But it only took CJ a few moments to find it and be able to use it consistently. Now, it's almost impossible to keep her out of my office and off of RadSounds. She's hooked.

So, I'll continue on with PTP, probably try some more J&M Trainer, attempt some more IntelliKeys soon, battle it out over *my* keyboard, and compete with that purple dinosaur. What a trip, eh?

In telling you this story, my motive was to inform and entertain you. Others that I have shown the video to, or told parts of this story, or visited my Baby web pages <www.rjcooper.com/babies>, have expressed interest in my 'baseline data' and intend to use it as a guideline with older children that are still functioning, cognitively, at CJ's level. I can't wait until she's old enough to tell her that she's helped, probably, many others to 'grow' with her. I sure hope you enjoyed this 'voyage'. Please write <rj@rjcooper.com> and let me know if you would like an update within the next year.

Thanks for listening to a proud daddy! §

ATA continued from page 3

Outreach activities: Every Alliance center conducts activities designed to improve access to assistive technology for people who are generally underserved, because of geographical, language, cultural, or financial barriers.

Special projects and initiatives: Alliance centers have a great deal in common. They are also unique, in that they engage in projects based on local needs. Often, projects are focused on inclusion of students with disabilities in typical classrooms, curriculum adaptation, transition from school to work, worksite accommodation, and outreach to underserved groups of people

Please contact the Alliance for Technology Access for further information. Their email address is atainfo@ataccess.org. Alliance for Technology Access, 2175 East Francisco Blvd., Suite L, San Rafael, CA 94939, (415) 455-4575. §

America's Telability Media

More than 1,000 mass media resources that serve persons with disabilities appear in the third edition of America's Telability Media, published by the National Telability Media Center. Charlie Winston, director, has added more than 230 new periodicals and broadcast producers to the 1997-98 edition, which contains nearly 260 pages of contact information and reference data for each entry. The new directory offers 850 periodicals, 80 broadcast producers, 20 newspaper columnists, 46 newspapers for the blind and 12 professional media organizations. The book is a valuable reference guide for families, consumers with disabilities, libraries, the public relations industry and rehabilitation professionals.

"America's Telability Media identifies media resources that improve the quantity and quality of information that flows into the disability community," Winston said. He added, "Timely access to news and advertising is as important to consumers with disabilities as it is to other citizens." Media highlights for this year include an announcement to establish a national disability news service, growth in radio, the launching of several new magazines and the rapid expansion of the "Newsline for the Blind" newspaper reading service.

America's Telability Media may be purchased for $30 per copy, available in print or on disk in ASCII format. Check or money order should be sent to P.O. Box 1488 Columbia, MO 65205, or further inquiries can be made by telephoning 573-445-7656. §

New Speech-Output Communication Device

Prentke Romich Company (PRC) has introduced its newest speech-output communication device, *Vanguard™*. By combining its *Unity*® vocabulary program with dynamic screen technology, PRC has produced the *first* communication device to offer both powerful language and the advantages of a dynamic display.

Vanguard gives *simultaneous* access to the words people use all day, every day, as well as to those words that are needed in specific situations - without having to navigate through a lot of pages. Utilizing both Minspeak icons and single-meaning pictures, most words can be selected with only two activations.

Vanguard comes loaded with thousands of words, as well as songs, books, and activities so that it can be a productive tool quickly without the need for extensive programming. Adding new words or activities can be accomplished in minutes.

Vanguard comes with both synthesized and digitized speech and can be accessed by touch, headpointing, or switch-activated scanning. Built-in infrared capabilities provide independent control of appliances such as a TV or VCR, as well as wireless computer access.

Prentke-Romich Company, 1022 Heyl Rd., Wooster, OH 44691, 800-262-1984, <www.prentrom.com>.

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ADHD AIDS

Enabling Devices, a division of Toys for Special Children, inc., has designed two versatile behavioral modification aids for treatment of Attention Deficit Hyperactivity Disorder (ADHD).

SEATSPIus is a 3-in-One system for ADHD behavioral training. As a Reward-Cost Training System, it provides instantaneous feedback which reinforces appropriate behavior. As the child sits on the switch, a light moves around the circle on the attached feedback box. At the completion of the circle, a light is added to a reward column. If the child moves out of his seat, an alarm sounds and a point is subtracted from the reward column. Once all the lights in the reward column are lit up, *SEATSPIus* can automatically turn on a reward TV, Stereo, toy, etc. As an aid for teaching focusing skills, *SEATSPIus* lets a child press a button to manually activate the circle of lights. As the child successfully performs this task, more and more lights are added to the reward column, thus reinforcing the behavior. As a "Time-Out" timing device for managing oppositional behavior, *SEATSPIus* will announce the end of the "time-out" period.

SEATS gives instantaneous, consistent feedback to the child who exhibits "out of seat" behavior. Easy to use, the child simply sits on a pressure-sensitive switch that is attached to the *SEATS* feedback box. When the child moves out of the seat, a light on the box turns on and an alarm sounds, indicating the non-appropriate behavior. *SEATS* provides the child with an on-the-spot connection between non-compliant behavior and the loss of a reinforcer. Includes procedures for establishing a token-based Reward-Cost *SEATS* Program. Can also be used as a Bed Alarm Device that sounds if a patient leaves the bed.

Enabling Devices, 385 Warburton Ave., Hastings-on-Hudson, NY 10706, 800-832-8697, customer_support@enablingdevices.com, www.enablingdevices.com.

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