AT Assessments: The Right Device Is the Best Device

According to Leonard Trujillo Ph.D., an occupational therapist and AT assessment expert who chairs the occupational therapy department at East Carolina University and heads the university’s graduate OT assistive technology certification program, the best assistive technology device for a child is the device that enables a child to achieve at least some degree of independence.

The selection of that AT device, however, is the final step in an AT assessment process that should begin, Dr. Trujillo says, by discovering a child’s highest priority needs. “Children will communicate their needs if they are asked,” he declares. From that point to product selection many individuals are involved in the AT decision-making process, including parents, teachers, school administrators, AT providers and others who comprise a student’s IEP team, plus experts like Dr. Trujillo who provide even-handed AT assessment advice and information to families and schools. Explains Dr. Trujillo, “Every step of the way, despite the various normal complicated agendas and imperatives of all adult participants, there is really only one objective: to find the right device that best meets the needs of a child.”
Leonard Trujillo, Ph.D., OTR/L, Speaks

He spent nearly two decades as a U.S. Air Force occupational therapist, and another dozen before arriving at East Carolina a few years ago and has also been a consultant on AT assessment issues for families and schools in several states. A computer technology adherent since the 1980s, he began using an early laptop while functioning as an OTR “circuit trainer,” providing OT services to American students with disabilities attending U.S. Department of Defense Dependents (DoDDS) schools on USAF bases throughout the United Kingdom.

At first, Dr. Trujillo recalls, “I used the laptop only to track my students’ IEP requirements.” His early interest in computer programming attracted him to the four-color Intel 286 computer, “which was a great machine.” Macintosh, he remembers, offered a product called Stacks that facilitated the programming of flash cards. “I began to develop visual perception training. For kids with handwriting difficulties I created images for them to trace.”

He learned quickly “that technology could make a difference in terms of my own ability to develop tools. But when I let the kids use the computer I recognized immediately that computer use and accessibility enabled them to learn much faster as a treatment modality. Since then I’ve always sought ways to use technology to make people’s lives better.”

His appreciation for assistive technology blossomed after he left the DoDDS UK occupational therapy program and moved to a major stateside USAF medical center. “On staff with me were several optometrists and ophthalmologists specializing in caring for adults with low vision. They distributed a notice stating that they were interested in making contact with anyone in the hospital who could help them develop the tools they needed to work with their patients and would train the appropriate individuals in the use of those tools.”

The tools, Dr. Trujillo says, were low-vision magnifying devices appropriate for older adults with tunnel vision and macular degeneration, among other low-vision issues. The objective was to develop strategies and technologies patients could implement in their daily lives to enable them to travel, to write checks in order to pay their bills as well as to perform other daily tasks.

“I raided the hospital’s x-ray department, gathering up older x-ray films to create templates so that users could perform tasks like reading their electric bill.” The template, he adds, could be laid over the bill to highlight informational items like the user’s name and the amount due.

“Because these patients were unable to drive we created small telescoping devices and special glasses to help navigate the bus system. We even set up a drill press. Optometrists would give me black lenses on which we would place special telescopes.”

By the early 1990s, “I was using computers to find ways to develop AT devices for use by older adults. This type of technology back then...
During that period and afterward, he recalls, “I worked with many clients with severe disabilities, including those with severe arthritis, for whom I developed switches for use in their beds. A switch isn’t that difficult to concoct; I found two contacts and experimented until I discovered the most effective design for an individual’s hand.”

He learned during his career “as I moved from children to adults and back that all of my work with AT could be transitioned for implementation in one form or another by children.” Even in an era of specialization, he insists, “the needs of anyone with disabilities can be met by employing thought and careful consideration about the approach. Flexibility and the willingness to change perceptions and approaches are keys to the AT assessment process, he notes. “I think Einstein said it best, “Insanity is doing the same thing over and over again expecting different results.”

Dr. Trujillo’s relationship with children with disabilities and their families, as well as with AT, has a personal aspect. “I am a parent of children with special needs,” he declares. “My daughter, age 25, has mild cerebral palsy. My son is on the autism spectrum. Without technology I don’t know that either of them would have become as independent as they now are.”

His daughter is employed by a university in South Korea. “She is very independent. Each time I see her I want to film her typing. She uses just two fingers on one hand while the other hand is more functional. Her typing is much faster than mine with nearly 100% accuracy. In the beginning the goal was for her to be able to type with one hand. She said, ‘Dad, my way works better.’ That was one of my first lessons in listening to what a client has to say; he or she will show you what they are able to do as opposed to what they are unable to do.”

His son, a senior in high school, turns 18 this month. “Although each day is a challenge for him he’ll graduate on time and with a regular diploma, not a certificate. He evolved from a child who was non-communicative to one who is in an honors English class and is completing his senior research project.”

According to Dr. Trujillo, AT has always been a part of his son’s life. “When he was much younger he’d use the mouse, not a keyboard. He refused to use a keyboard. He was OK with an on-screen keyboard, however. Along the way we added software that helps with predictive typing.” Today, Dr. Trujillo adds, “he uses a Pulse pen for taking notes in class. In the spring at the ATIA conference I’ll do a presentation on the use of Pulse pens by children with autism.”

Prior to his arrival at ECU Dr. Trujillo was an associate professor and associate dean at Texas Women’s University’s School of Occupational Therapy in Dallas. He earned his undergraduate degree in occupational therapy from Colorado State University and his Ph.D. in educational administration from Texas A&M University.

Supporting our interview with Dr. Trujillo are resources related to AT assessment. We also feature members of our Knowledge Network.
AT Assessment: “What Do You Want to Do?”

An Interview with Leonard Trujillo Ph.D., OTR/L, Department Chair, Occupational Therapy and Director, OT Assistive Technology Certification Program, College of Allied Health Services, East Carolina University

According to Dr. Trujillo, AT assessment for a child in a school setting “is all about the team and about every member of that team, especially in middle and high school when children have multiple teachers.” Each of a child’s teachers, he adds, “is vital to the success of the AT assessment process and therefore should be involved from beginning to end.”

He continues, “I have found that every teacher responds differently to a child, just as the child responds differently to each teacher, which is why it is so important to track how mutual perceptions and responses regarding a child’s needs fluctuate in a variety of school settings. These fluctuations are grist for the assessment.” Yet the most significant aspect of any AT assessment, he notes, “is how closely team members listen to the child when the child is asked, ‘What do you want to do?’”

Heeding the child’s response, he emphasizes, can spell the difference between a successful and unsuccessful assessment, the right AT device or, in some instances, no AT device at all because you have found the right connection with the child.

“Use the Children’s Method of Communication”

Many AT assessments, he insists, are based on a medical model. “In the medical model the doctor makes a diagnosis and writes a prescription. That’s the model we seem to have adopted in many cases, although we call ours an ‘educational model,’ in which we allow the experts to evaluate the child and tell us what the child’s educational needs are, after which we implement those evaluations.”

A true team approach, he says, can transform the top-down medical model into a child-centered assessment model, but only if the child is an active assessment participant. Often, however, it is not until high school that children are advised – and invited -- to attend assessment meetings. According to Dr. Trujillo, however, “The truth is that the child needs to be involved in the AT assessment process long before a meeting. Without his or her direct input, an assessment can revert to the medical model, which provides little real help for the child.”

He also urges daily child involvement in the
process beyond the assessment and into the implementation and training phases “because that’s when adjustments are made and skills are determined. Trial and error – and adjustment – are crucial parts of the process.”

Nevertheless, a child’s current expressed needs are not engraved in granite, he cautions. “Needs and desires change and evolve,” he comments. “Given that that change and evolution are a permanent ingredient of human nature, we as AT assessors must be sufficiently flexible to ask children, ‘What is it that you want today?’ or ‘What do you expect to learn in this class?’ Using this timely approach requires both time and effort, but it is time and effort well-spent.”

Currently, he notes, “we are learning how beneficial this approach can be for children on the autism spectrum, defying the conventional wisdom which alleges that these children lack the ability to communicate their needs. My response to that claim is, ‘They are not able to communicate because you are trying to make them communicate using your method of communication.’ My advice: Instead, use the children’s method of communication. Stop, listen, observe and learn from the child. The needs will often present themselves, but we need to be patient and give the child a chance to give us insight into their world.”

Input should be expected from everybody on the AT team, he says. “Therefore, every team member also must have a high level of respect for all others on the team. In addition, during the assessment process all team members need to know where their particular expertise and insight is most important and appropriate.” He cites the example of a school aide who transports a child with disabilities between classes. “Sometimes what a child says to an aide during transit can change an IEP – if the team listens to the aide.”

**IEP Team Best Practices: Avoiding a Failure to Communicate**

A school’s IEP team plays a critical role in determining whether a child obtains AT. Therefore, Dr. Trujillo remarks, “best practices dictate that each member of that team – whether parents, teachers, a school district’s AT expert or school principal -- needs to be kept abreast of all changes that are made to a child’s IEP.”

Failure to communicate AT-related changes to teachers, for example, can lead to the following classroom scenario, he says. “A child walks into a classroom with an AT device. Unfortunately, however, the child’s teacher is unaware that the AT has been assigned to the child for use in her class. Result: the teacher takes the equipment away from the child.”

The teacher’s complaint, he asserts, is not unusual: It was not specified in the child’s IEP that the device could be used in “her classroom.” When such a scenario occurs, he adds, parents must intervene. “That’s when parents need to advocate for another IEP meeting to incorporate that special sentence in their child’s IEP specifying that the equipment is approved for use in that teacher’s class.” When the meeting is held, the teacher in question
must attend, he notes.

Fortunately, Dr. Trujillo witnesses the opposite classroom scenario as well. "There are teachers who see a child using AT in their class and exclaim, 'That is cool! I like the way you’re using that device.’" In such a positive environment, he explains, "other kids in the class will want to use the device, or they’ll ask the child to demonstrate the device and then ask how the equipment helps."

He advises parents, teachers, principals and other IEP members to keep an open mind about AT even in those instances where budget constraints are especially acute and impact most educational decisions. "I am certainly and continuously aware of the financial imperatives of schools in this very difficult economic environment," he says, "but AT not only impacts a school’s bottom line, it also impacts the futures of young people who desperately need these devices as equalizers to help them keep up with their fellow students in inclusion classes."

**Preparing for an IEP Meeting**

According to Dr. Trujillo, the top priority in IEP meeting preparation is the determination of the meeting’s objective. "An IEP meeting is not about AT," he says, "the meeting is about targeting education areas in which the team, including parents, wants the child to achieve success."

"I know many AT providers who become so focused on what they do for specific categories of children that at the IEP meeting they fail to listen to a teacher who offers a different strategy which incorporates new elements but that still meets the child’s needs. A strategy that achieves the same desired result in providing a ‘least intrusive’ – as opposed to ‘least restrictive’ – environment is a strategy that is viable and should be paid attention to."

Team members, he says, “don’t need to come to the IEP meeting with only one solution. Instead, they come with an end goal in mind and some possible paths to reach that goal.”

**IEP Team Best Practices: the Parental Role**

Dr. Trujillo believes that the parental role at an IEP meeting should not consist of a request or a demand that their child be assigned a specific hardware or software AT device. Instead, he says, parents should make it known to IEP team members that the device can assist the child in communicating specific needs.

He urges parent team members to be present for a child’s trial and error experience during the AT evaluation stage. "I certainly acknowledge that parents’ work days are longer than ever, but their presence can be very beneficial."

For example, he adds, “If there is a device that is proving to be effective for a child and the parents, who are witnessing the device’s effectiveness first hand, insist that this is the device they want and need, then the parents’ wishes should be listened to."

Sometimes, however, parents advocate for a device that is not yet in general use. “Often
this is a device parents have seen and read about on the web while conducting their research. In those instances we have to help parents understand that the product information they have cited is part of a manufacturer’s online marketing strategy aimed at influencing consumers’ device selection decisions. In such cases I advise parents to consider other options that will be at least as effective for their child as the equipment they’ve read about on a product website."

"I am a strong advocate for parents," he declares. "I want to make certain they get all that they can for their children." Nevertheless, he cautions, "the parental goal should not be to get all that they think they are entitled to; their goal should be to get the equipment that works best for the child."

**AT and Access to the General Curriculum**

Dr. Trujillo advises parents to request technology with the potential to facilitate their child’s access to the general curriculum.

"Today’s new specialized technologies will become commonplace everyday tools for us in the near future. The time frame encompassing early development and introduction of technologies that allow us to communicate, interface with our environment and implement in classrooms and the equipment’s ubiquity becomes ever more compressed." As a result, he continues, more and more individuals who might have been reluctant technology adopters just a few years ago are increasingly willing to incorporate new technologies into their daily routines. For example, he says, “five years ago many aging adults were less likely to use a cell phone, now it’s commonplace to see older adults not only using cellphones for voice communication but also for texting!"

The same willingness to adopt and adapt is taking hold in classrooms among teachers and students. "I know of an instance in which a teacher needed an AlphaSmart battery-operated word processing keyboard for one child. The child received and used the device. However, as the semester proceeded, other students in the class saw how easy the AlphaSmart was to operate and wanted one. The teacher wrote a successful grant proposal that enabled her to acquire AlphaSmarts for all her students. That’s how fast the unusual and the specialized can become commonplace and universal, thereby providing learning opportunities for the entire class."

Teachers, not just the digital natives but also veteran digital immigrant teachers, perceive the new technologies’ ease of use and benefits, he says. “Teachers are no longer blackboard bound. Instead, they are often PowerPoint presenters. Lectures can be recorded when permissible. Media can be captured in multiple ways. This information can then be reviewed, transformed and shared. Options for use exist that until recently were unimaginable in the education realm."

For instance, he continues, “a teacher of children with communication challenges can set up a Big Mack button with a recorded sound of an animal to accompany the singing of ‘Old MacDonald Had a Farm,’ and a child is able to hit the button when his turn comes
around. Without skipping a beat the button emits a ‘quack, quack’ to match the song’s lyrics. The child is instantly included in a social exchange. As a bonus the child is envied by classmates for his device."

His recent consulting experiences with local schools, he says, have revealed a dramatic increase in the number of technology-proficient teachers at all levels of experience who appreciate such innovations and know how to best implement them.

"Education professionals are becoming less and less fearful of technology in classrooms. Technology continues to advance for everyone, not just those with disabilities; which is something that we in education need to remind ourselves of occasionally."

There are private schools in the ECU geographic area, he says, that offer a stark contrast in their use of technology. In one school, every student is equipped with a laptop. The second private school, however, has computers only in the computer lab. No teacher in the second school has a computer in a classroom. "The teachers in the second school have made it clear that they do not want email, for example, intruding in their classroom. They say, 'I don't want to have a computer near me that enables the principal to email me.' In the first school, email and other forms of electronic communication are regarded as normal vehicles for discourse and learning in an educational setting. As we become more open toward those new or evolving technologies, the fear of them evaporates."

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**The Checkbox Dilemma: To Check or Not to Check Is Not the Question**

IDEA mandates AT consideration by IEP teams for every student with an IEP. For some IEP teams, however, such mandatory consideration sometimes consists only of marking a checkbox.

"The checkbox is a reality," Dr. Trujillo declares. "I've worked in overseas Department of Defense schools as well with public schools in Texas, North Carolina, Tennessee, Wisconsin and Delaware. I've dealt with this issue at every stop. In each of those jurisdictions there is an IEP form with a box that asks, ‘Has AT been considered for this child?’ Yes or no. And, ‘Does this child require AT or Special Services?’ Again, yes or no are the only possible responses. Administrators ask, 'As soon as you check yes for AT or Special Services, does that open the door for the child to receive every conceivable special needs service?'

"Rather than ask the question, 'Does this child need AT?' there ought to be a box that instead asks, 'Has every need been addressed?' That's the real question, the only question that matters."

He recommends that when IDEA is next revamped that a revision of the checkbox format be considered.

"AT is but one modality that can be utilized," he remarks, "[and] it is one that has a monetary stigma attached to it. Therefore, some administrators remain leery of its use. I've been told, 'AT isn't needed.' I then ask, 'How
do you define AT?’ I always revert to the most basic definition of AT: any device or strategy that enables an individual to be independent. If there is continued resistance, I say, ‘Then I guess we can’t use pen or paper here.” The most common retort to that is, ‘That’s ridiculous.’ My reply is, ‘That’s just as ridiculous as asserting that AT should not be considered. After all, the rolling pin or the pearl ink or the Pulse pen and other similar devices are forms of AT, but these devices have become ubiquitous and we no longer regard them as different or exotic.”

The real issue, he stresses, “is not technology per se. The real issue, and the real question is, Have the child’s needs been fully addressed?”

**Circumventing the Checkbox Dilemma: Bureaucratic Jiu-Jitsu**

“Occasionally, in the few schools whose administrations have made it clear that they opposed any AT recommendations, teachers and I have had to check the box that said that no AT was to be incorporated even though AT was certainly needed,” Dr. Trujillo recalls. “Nevertheless, we found a way around that dilemma; we wrote IEP goals that were very specific about strategies calling for the use of AT devices. Teachers at those schools understood that if they wrote a strategy which included AT requirements then that strategy would be incorporated.”

He acknowledges that there should be appreciation for the bureaucratic realities that are endemic to individual schools and districts. “Don’t work against the bureaucracy,” he warns teachers and parents. “Work with the system’s imperatives to obtain what’s best for the child and the child’s family.”

His long military career, he admits, provided him with plentiful opportunities to learn the ways of some of the world’s largest and most complex bureaucracies. “I was loaned by the Air Force to the Army for nine years. I taught at the Academy of Health Sciences which is housed at Fort Sam Houston, an Army facility in San Antonio. The Academy offered a junior college-level course for OT assistants that I taught. I was an Air Force occupational therapist training Army and Air Force and, eventually, Navy OTAs. I had to understand the Air Force bureaucracy, live in an Army bureaucracy and teach Navy students. I had to know the regulations for all three services and the bureaucracies of all – because that was the only way for me to get things accomplished.”

He came to ECU specifically for the AT program, he says. “I didn’t have to explain my background. In fact, the university was seeking individuals with backgrounds similar to mine. In order to come to ECU, I left an administrative position as the associate dean at Texas Women’s University. When I came here I pledged that I’d let go of administrative duties. But it wasn’t long after I arrived that I became department chair.

“Understanding and working efficiently within bureaucracies has its bonuses, as well as its curses, but the experience has certainly proven to be beneficial. Part of my job, in fact, is offering help and advice to teachers who would prefer not to have such an intimate relationship with their respective bureaucracies. Accepting my advice and help does not make administrators of classroom teachers
but it can provide them with another level of understanding that they can utilize on behalf of their students."

**Best Practices in Mediation: “I’m There as the Child’s Advocate”**

Dr. Trujillo is often asked to mediate between parents and school systems regarding the selection of appropriate AT. Usually his role is that of an outside expert who is asked to help resolve a disagreement between parents who desire what they perceive to be a multi-purpose device that will address a child’s disabilities now and into the future and a school system leaning toward a more timely and current solution.

From his perspective, he says, “the best strategy is to let the parent know I’m there as their child’s advocate, that the only stake I have in the selection process is my wish for their child’s success.”

With his perspective in mind, he adds, “I identify the pros and cons of a variety of devices, making sure to demonstrate the advantages and disadvantages of each device and then clearly move toward the best solution possible.”

As for AT providers, Dr. Trujillo advises them to offer parents and institutions multiple functional options. “Not all these provider options may offer the perfect solution but presenting a range of options allows both sides to see the plusses and the minuses of devices while aiding them in arriving jointly at the most appropriate choice.”

Selecting AT, he explains, “is about helping a student resolve or overcome a problem in the immediate present, not in the future.” A recent encounter with parents and school administrators typifies his challenge as a mediator, he says. “The parents found a high-cost ‘do-all’ device. My job was to help the parents understand that their child may change once he acquires the ability provided by the device. I urged the parents to determine their child’s specific current need instead of paying a lot of money for a single device that purports to meet all the child’s needs in perpetuity.

“When I saw that the child already had the ability to perform the task he wanted to perform without that expensive device the parents were amazed. To show the parents that I was listening closely to their wishes I stated that their desired device was an excellent piece of equipment but that there might be other and more appropriate devices that were less cumbersome for the child to use. I told them that I was very appreciative of the effort they had put into their search, the result of which provided us with a strong starting point for our investigation into which device would be most effective for their child.” This approach, he insists, “not only diffuses potential frustration and anger on the part of the parents, it also results in a better device selection that’s most advantageous.”

For purposes of illustration in discussions with parents and administrators, he says he often compares the evolution of a child’s needs, and the technology required to meet those
needs, to training wheels. “I ask them if they’d continue to ride a bicycle fitted with training wheels even though training wheels are no longer needed. I say, ‘You put the training wheels on, learned balance and how to navigate. You took the wheels off and developed confidence and moved on. Then you grew and went from a bike with 18-inch wheels to a bike with 27-inch wheels. As you grow and evolve you use the skills you learned earlier but now can apply those rules in different settings to meet different needs.’”

He reminds parents and school administrators about how rapidly consumers graduate from one generation of cellphone or computer to the next. “Within months of a cellphone or computer purchase we are lusting for the next big thing. Why should our preferences for AT devices be any different?”

**AT at ECU: A Hands-On Program with a Deep Foundation**

Independence, Dr. Trujillo’s goal for all who use AT, “is not achieved by the AT users and their families alone; often it’s the result of the efforts of others to make the arrangements enabling an individual with disabilities to move forward. Our mission at ECU is to teach others how to make those arrangements.”

The ECU Occupational Therapy department chaired by Dr. Trujillo features a special education section and a large AT lab. “The lab is fully equipped, with a full range of software and hardware that individuals from the community can try out prior to purchasing their equipment. Parents and K-12-age children are frequent users of the lab for hands-on training.”

The online graduate AT certification program he directs covers the fundamentals of various AT devices as well as device competency. Students learn how to conduct AT assessments and discuss funding issues.

The program, he says, is grounded in a foundational course designed to help students examine the full range of models for decision-making about AT devices and strategies that can serve as a background for assessments. “We also investigate AT devices that can be utilized by multiple populations for solutions in a variety of problem areas.”

The program, he continues, focuses on teaching AT implementation, an area, he alleges, where AT providers sometimes come up short. “Individuals with disabilities and their caregivers, need to be taught to use a device in a variety of settings so that the device becomes fully integrated into their lives.”

In addition, “we examine the workings of the assessment concept – including decision-making processes -- and analyze the impact of assessments on those with disabilities.” He says that his curriculum highlights the role of the individual with disabilities and his or her needs, not the AT device, as the focal point of assessments.

An entire course, he notes, is dedicated to helping new providers understand that concept as well. “Some providers prefer to announce to a family or a school district, ‘Here’s the one device that will solve your problems’
– and walk out.” Leaving users to figure out how to use a device, he says, “is not an effective approach for providers. This is one area where AT providers should improve. It ought to be their responsibility to make sure AT users and their families understand the capabilities of the device, its operation and, ultimately, to become comfortable with the device and skilled in its operation.”

Despite its online setting, the program, Dr. Trujillo points out, provides students with the opportunity to develop a hands-on relationship with AT equipment.

“We feel we’re unique in that we provide an AT kit for student at-home use,” he notes. The kit, he continues, comes to the student in a box containing AT equipment, valued at $2,500, ranging from switches to AAC devices to an Alpha Smart to fliers and software. “Don Johnston has been generous in allowing us to include Solo ([http://www.donjohnston.com/resources/solo_resources.html](http://www.donjohnston.com/resources/solo_resources.html)) Literacy Suite resources so that our students can install them and practice with them. They must agree to uninstall them once the course is completed, but this way they get direct hands on use of full-fledged software.”

Students utilize the kit’s content to create a mini-lab in their homes. The lab teaches them how to connect the devices to their computer, use switches and set up X10 environmental switches.

In addition to receiving hands-on device experience, students are expected to master established competencies established by Dr. Trujillo and his staff. Students acquire detailed knowledge of each device via training kiosks they are required to develop. These kiosks, he explains, “are developed through PowerPoint which visually walks a user through the connection and operation process.”

Students, he adds, are also required to devise strategies and then demonstrate those strategies via an instructional video. “Some students have asked if they can utilize YouTube for their demos instead of PowerPoint and the door is now open to that approach.”

Currently, he says, “We’re examining the feasibility of transitioning the program from the graduate category to a continuing education program. Our program is already 100% online but moving to an online workshop environment ought to result in an increased enrollment and be less costly than the current model. Many of our students have used our program as part of their specialty study.”

**AT’s Importance to Children and Families: “All It Takes Is One Smile”**

When asked about AT’s importance to families of children with disabilities, Dr. Trujillo replies, “All it takes is one smile from a child whom AT has connected to the world.”

As an OT, he declares, “independence is my goal for my clients. AT is a hugely important part of the independence equation. I often reflect on my early OT training which occurred at a Veterans Administration hospital populated by patients who had recently arrived from Vietnam where they had been badly wounded. They were being sustained and kept alive, that was all.”
“Some of these patients communicated only by blinking. I recall bringing in an old clock equipped with a button. I replaced the numbers on the clock with letters. The idea was for the user to turn the dial. When the hand settled on the appropriate letter the patient would press the button and the letter would blink. For awhile this was their only way to communicate.

“Finding ways for people to communicate, to tell their story, to eat a meal independently, to express their needs, all these are critically important goals for anyone with disabilities, especially children – and their families.”

The Family Center on Technology and Disability will be shortly releasing its 2011 Assistive and Instructional Technology Resources CD-ROM!

To clear our remaining inventory of current CD’s, we are offering free bulk shipments of the information-rich disk to schools, parent groups, advocacy organizations, and disability conference organizers. The astute among you will note that bulk copies of the CD have always been free (thanks to the Office of Special Education Programs, U.S. Department of Education), but we thought it would make a better promo this way :-)

Let us know if you would like to have some! fctd@aed.org

RESOURCES

ARTICLES

Consumer Tips for Evaluating Assistive Technology Products
By Marshall Raskind, Ph.D.
Great Schools (2010)
Dr. Raskind has produced a primer for those seeking effective and appropriate AT tools. As an initial step in the selection process Dr. Raskind recommends narrowing the search to key factors: a child’s particular needs; the specific tasks the child must accomplish; the AT tools that address the child’s challenges; and the settings in which the technology will be used. Once those factors have been identified, decision makers can focus on the quality, usability and reliability of specific AT tools. The tips Dr. Raskind offers spotlight the importance of device portability, ease of use, compatible technologies and access to technical support. He strongly urges hands-on experimentation with the desired AT prior to purchase.

Educational Uses for the Livescribe Pulse Smartpen
MSU Billings (2010)
This is a comprehensive catalog of educational uses for the Livescribe Pulse Smartpen by students, teachers, parents, and administrators. The article provides a capsule description of each potential use.
http://www.msubillings.edu/summerinstitute/presentations/Educational_Uses_for_the_Livescribe_Pulse_Smartpen.pdf
team, she points out, should determine who attends the AT assessment, the time required for the assessment and the types of AT that ought to be included in the process. She advises IEP team members and others involved in administering the assessment that AT devices should be tested in environments similar to those in which the equipment will be employed by the child. Otherwise, she cautions, a device that works efficiently during a trial may not perform adequately in real-world use.

http://www.brighthub.com/education/special/articles/74055.aspx

Documenting Assistive Technology in the IEP
Georgia Assistive Technology Project (2009)
This fact sheet provides information on the documentation mandated via IDEA for IEP teams considering the incorporation of AT devices and services within a child’s IEP. AT, the fact sheet states, may be addressed in one or more components of the IEP. The need for AT may be addressed in the present levels of performance, in the listing of special education and related services and in the annual goals, benchmarks and objectives. AT may also be addressed in the supplementary aids and services section, in the modifications required for participation in statewide and district-wide assessments and in the modifications and supports required for school personnel. AT, the authors conclude, must always be addressed in the consideration of special factors component of the IEP.

http://www.otap-oregon.org/Documents/Documenting%20Assistive%20Technology%20in%20the%20IEP.pdf

Assessments with Assistive Technology
By Sharon Ambwere
Bright Hub (June 2010)
An inadequate AT assessment can leave a child with the wrong AT device or no device at all, Ms. Ambwere warns. She briefly delineates what constitutes a good AT assessment and emphasizes that IEP team members should be present as an AT assessment proceeds. The IEP team, she points out, should determine who attends the AT assessment, the time required for the assessment and the types of AT that ought to be included in the process. She advises IEP team members and others involved in administering the assessment that AT devices should be tested in environments similar to those in which the equipment will be employed by the child. Otherwise, she cautions, a device that works efficiently during a trial may not perform adequately in real-world use.

http://www.brighthub.com/education/special/articles/74055.aspx

What Is an Assistive Technology Assessment?
TechACCESS of Rhode island (2008)
The authors define AT, describe an AT assessment, indicate when an assessment is needed, inform parents about who should perform an AT evaluation or assessment and who can best assist a family in acquiring the right AT equipment.

http://www.techaccess-ri.org/techassess.html

General Curriculum Projects: Parent and Teacher Resources
University of North Carolina, Charlotte (2008)
The project has compiled general curriculum-related resources designed for teachers who are instructing students with significant cognitive disabilities. The list of resources includes curricula for students with autism. Resources focus on early literacy and reading as well as resources for science and information on alternate educational assessments. The creation of these parent/teacher resources is the product of a series of studies aimed at developing evidence-based practices for assessing and teaching academic content aligned with grade-level standards.

http://education.uncc.edu/access/parent-tips.htm

Assessments with Assistive Technology
By Sharon Ambwere
Bright Hub (June 2010)
An inadequate AT assessment can leave a child with the wrong AT device or no device at all, Ms. Ambwere warns. She briefly delineates what constitutes a good AT assessment and emphasizes that IEP team members should be present as an AT assessment proceeds. The IEP team, she points out, should determine who attends the AT assessment, the time required for the assessment and the types of AT that ought to be included in the process. She advises IEP team members and others involved in administering the assessment that AT devices should be tested in environments similar to those in which the equipment will be employed by the child. Otherwise, she cautions, a device that works efficiently during a trial may not perform adequately in real-world use.

http://www.brighthub.com/education/special/articles/74055.aspx

Documenting Assistive Technology in the IEP
Georgia Assistive Technology Project (2009)
This fact sheet provides information on the documentation mandated via IDEA for IEP teams considering the incorporation of AT devices and services within a child’s IEP. AT, the fact sheet states, may be addressed in one or more components of the IEP. The need for AT may be addressed in the present levels of performance, in the listing of special education and related services and in the annual goals, benchmarks and objectives. AT may also be addressed in the supplementary aids and services section, in the modifications required for participation in statewide and district-wide assessments and in the modifications and supports required for school personnel. AT, the authors conclude, must always be addressed in the consideration of special factors component of the IEP.

http://www.otap-oregon.org/Documents/Documenting%20Assistive%20Technology%20in%20the%20IEP.pdf

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http://www.techaccess-ri.org/techassess.html
ASSESSMENT TOOLS
The Communication Matrix
Oregon Health and Science University
The Communication Matrix is an assessment tool designed to pinpoint how a child currently communicates and to provide a framework for determining logical communication goals. The matrix was designed initially for speech-language pathologists and educators to document the communication skills of children with severe or multiple disabilities, including children with sensory, motor and cognitive impairments. The current, free version is available online for parents.

Users must register and provide information on each child entered. Once that information is provided, the Communication Matrix generates a graphic representation of 80 areas of communication and a determination of a child’s potential ability. The matrix can be employed by parents to develop a logical order of communication goals for discussion with their child’s speech/language pathologist in order to establish goal achievement priorities.


WIKIS
Simmons Assistive Technology Showcase
Simmons College (2008)
In Massachusetts at a statewide Council for Exceptional Children Conference, Simmons College showcased individuals and schools that successfully implemented AT strategies. Simmons then shared this information via this wiki. The wiki includes information on topics that include alternate assessment, creating social stories with Comic Life (http://comiclife.

Assistive Technology and the IEP
Family Center of Technology and Disability (2007)
This resource can be found on the Family Center’s website under “fact sheets.” Designed primarily for parents, it features a “where to start” section, followed by questions for parents to consider as they prepare for and participate in an IEP meeting. The fact sheet familiarizes families with the law governing AT consideration, and provides questions to be addressed in the AT assessment process. It also provides advice for parents who disagree with a school’s decision on including AT in their child’s IEP.


Assistive Technology: A Framework for Consideration and Assessment
Virginia Department of Education (2008)
This document is utilized by Virginia school districts as a framework for the development of AT operating guidelines tailored to local resources and service delivery models and used in conjunction with federal and state regulations. This document does not replace federal or state regulations, but is designed to assist IEP teams in planning and implementing AT services to students with disabilities. Included in this AT document are definitions, laws, consideration guidelines and a process for assessment. Professionals in other states may find the information of use as well.

com/), using augmentative and alternative communication across the curriculum and best practices for universal design. The wiki provides photographs, handouts and other resources to replicate the AT strategies and implementation techniques showcased by Simmons.
http://simmonsatshowcase.wikispaces.com/

KNOWLEDGE NETWORK MEMBERS

Assistive Technology Exchange Center (ATEC)
A comprehensive assistive technology resource center affiliated with Goodwill of Orange County (CA), ATEC offers consultation and assessment services. These services, plus equipment trials, loans and reuse opportunities, are aimed at aiding families in the selection and use of the most effective and appropriate AT devices. The 7,000-square foot ATEC facility in Santa Ana houses two speech-language pathologists, two technology specialists, a rehab engineer and an occupational therapist with more than 1,000 AT devices at their disposal. For more information, contact:
Assistive Technology Exchange Center
1601 East St. Andrew Place
Santa Ana, CA 92705
Phone: (714) 361-6200; (714) 543-1873
Fax: (714) 361-6220
Contact: Gregory Mathes
Email: atec@ocgoodwill.org
http://www.atec-oc.org/

San Diego Assistive Technology Center (SDATC)
SDATC offers hands-on exploration of a range of adapted computer hardware/software, environmental control access and AAC devices. SDATC services include full AAC assessments, language assessments, advocacy assistance, follow-up support, individual lab appointments and consultation, an open lab, a software lending library, AT training and workshops and presentations. For further information, contact:
San Diego Assistive Technology Center
UCP of San Diego County
8525 Gibbs Drive; #100
San Diego, CA 92123
Phone: (858) 571-7803  Fax: (858) 571-0919
Email: sdatc@ucpsd.org
http://www.ucp.org/ucp_localsrv.cfm/45/15975/15976/1229

Resource Center for Persons with Disabilities (RCPD)
Housed at Michigan State University, RCPD maintains an AT center that is available to MSU students and employees with disabilities. The center contains several workstations offering the latest in voice and Braille output, screen enlargement, voice input and OCR reading equipment. RCPD provides the following services to MSU and the surrounding community:
• Disability-related information and referrals
• Population identification
• Disability documentation
• Needs assessments
• Facilitation of reasonable accommodation
• Disability-related technical assistance
• Advocacy and training.

For additional information, contact:
Resource Center for Persons with Disabilities
Michigan State University
120 Bessey Hall
East Lansing, MI 48824
Phone: (517) 884-7273; (517) 355-1293 (TTY)
Contact: contact Michael Hudson, Director
Email: mjh@msu.edu
http://www.rcpd.msu.edu/

Communication and Assistive Device Laboratory (CADL)
Affiliated with the State University of New York (SUNY) at Buffalo, CADL performs research and development in three interrelated areas of AAC research: social interaction, discourse comprehension and technology development. In each of these areas CADL researchers have sought to determine the nature of constraints imposed by augmentative communication technologies on social communication, how participants adapt to these restrictions and the methods to overcome such limitations.

In recent years, CADL has been a partner in the Rehabilitation Engineering Research Center on Communication Enhancement (AAC-RERC). The goal of the partnership’s R&D activities is the establishment of benchmarks and methods/tools to test the performance capabilities of humans interacting with augmentative communication systems. For the consumer, the partnership aims to develop tools that will compare device performance. For the clinician, the partnership plans to provide information and tools to determine the technical performance characteristics of devices. Each of these services will ultimately aid parents and professionals during the AT assessment process in determining the most effective technology for a child’s use.

For further information, contact:
Communication & Assistive Device Laboratory SUNY Buffalo
122 Cary Hall
Buffalo, NY 14214
Phone: (716) 829-2797 x633
Contact: Jeffery Higginbotham Ph.D., Director
Email: ubceac@buffalo.edu
http://cdswebserver.med.buffalo.edu/drupal/?q=node/69

Special Education Parent’s Advocacy Link (SEPAL)
SEPAL is a private consulting firm that advocates on behalf of parents of children with disabilities who attend public schools in Missouri and Kansas. SEPAL advocates are parents of children with disabilities and are experienced at determining whether children with disabilities receive the services to which they are entitled under an IEP, including AT. SEPAL advocates attend IEP meetings with parents to help them through the IEP process.

For additional information, contact:
Special Education Parent’s Advocacy Link
P.O. Box 16
Strasburg, MO 64090
Phone: (816) 680-0070
Email: kcspecialed@hotmail.com
http://www.specialeducationrights.com/