Assistive Technology Implementation in the Classroom: There Are No Shortcuts to Success

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For children with IEPs, assistive technology is often critical to accessing the curriculum. In school districts throughout the U.S., AT professionals ideally work in close collaboration with teams of teachers, administrators and parents, to facilitate AT implementation in public school classrooms. For the most part, these AT coordinators are highly trained professionals skilled at evaluating students and aiding the AT team in considering AT for students. Many AT coordinators prefer a collaborative, consultative model for AT selection which places the ultimate selection decision in the hands of AT team members but is supported by the technology expertise supplied by the AT professional.

Once the AT is selected, technology implementation in the classroom is the next step and requires that the AT coordinator garner support from the AT team, school administrator and a student’s family. Training is included in this process, follow-up technical support arranged and a system for problem-solving structured so that the technology will remain operational even when the AT coordinator is not present.

For all parties the most important aspect in the research, selection and classroom implementation of AT is a common education
goal, a destination for which the AT coordinator and the classroom professionals – teachers and therapists – can aim and formulate a plan. Role assignments based on the plan are delineated and follow-up dates set.

Each step toward effective classroom implementation is an exercise in consensus-building and support-gathering. There are no shortcuts. This issue examines the role of the AT professional in the selection and implementation of AT in the classroom.

Matthew Press, MHS, OTR/L, ATP Speaks

A trained occupational therapist, Matthew Press is an AT consultant and AT coordinator for Arizona’s Pendergast Elementary School District in the Phoenix area, a district that includes more than 1,360 students with IEPs among a total student population of nearly 11,000 in 13 school sites and two alternative sites. The Pendergast K-8 district consists of 16 self-contained classrooms, each of which features a Smart Board. Resource rooms for students with learning disabilities each house at least one computer.

Mr. Press promotes Joy Zabala’s SETT framework – Student, Environment Task and Tool – with the teachers and therapists he works to help determine their students’ technology needs. Employing the SETT framework, however, requires time, effort and consideration, all of which can be in short supply among hard-pressed, time-starved teachers and therapists. [For more information on SETT, see Joy Zabala’s introduction to the FCTD’s online discussion of SETT at http://www.fctd.info/webboard/displayPerspective.php?id=472]

“There are no shortcuts,” he asserts. “If the team lacks a clear idea about where they want to go curriculum-wise with a student then technology cannot be selected. Once the team teachers analyzes the standards they are working toward, the curricular goals for the year and the academic direction then we can consider technology-related solutions.”

Mr. Press has practiced in the field of occupational therapy for the past ten years and has focused primarily on AT for six of the last seven years. He received his Masters in Health Science from the University of Florida and became credentialed by The Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) in June 2003. He is adjunct faculty, teaching courses in assistive technology at Northern Arizona University, AT Still University, and the University of Florida. He earned a B.S. in occupational therapy from Florida A&M University in 1999.

Supporting our interview with Mr. Press are resources related to aspects of classroom implementation of AT. We also feature members of our Knowledge Network. The members spotlighted this month focus on AT implementation. We invite you to contact these members for further information. Please share this newsletter with other organizations, families and professionals who may benefit from it. We invite you to visit us at http://www.fctd.info. We welcome feedback, new members and all who contribute to our growing knowledge base.
AT Implementation in the Classroom: “Bring It to the Teachers First”

An Interview with Matthew Press, AT Coordinator and Consultant, Pendergast, AZ Elementary School District

Teachers play a pivotal role in the classroom implementation of assistive technology for students with IEPs and in its expansion to general classroom use, says Matthew Press.

“The simplest definition of AT is access to an activity,” Mr. Press declares. “From an education perspective AT provides access to a curriculum.”

In his district, he says, ‘there are ‘pockets of excellence’ in which teachers really understand task analysis, or activity analysis, and can reduce the curriculum to its subcomponents and determine where the access to those subcomponents is breaking down. That is where we have had great AT implementation.”

As an AT coordinator who strives “to get further and better implementation across a broader spectrum I’ve come to realize that I have to bring it to the teacher first. The analogy I use in my relationships with teachers is, ‘If I help solve one of your problems for you then you are more likely to listen to me when I talk about technology-related issues that I’d like to address but that may not be visible to you.’”

No Quick Fixes

Seeing the value of classroom technology, many good teachers, he finds, often hope for a quick technology fix for a student’s instructional problem. “The trouble is, there are no quick fixes for special ed -- or general ed -- students.” Before a solution is developed the team needs to do their homework by analyzing standards, goals and their overall academic direction. “Once this foundation is laid down we can consider technology-related solutions.”

Teachers usually respond to his request for foundation-laying in one of two opposite ways. Some do not realize the process is so cumbersome. “They really believe there is a silver bullet that could allow them to help their student. Their desire and intentions are good, of course, but they are hoping to avoid thinking as deeply about these issues as they would other classroom-related issues.”

Others, however, opt to follow a prescribed process established by his district. “We have a form that we must complete. The form asks teachers to describe the student and the classroom environment in which the appropriate tasks would be performed. The idea is to begin to sketch out a framework in advance.”

The form requests that teachers spend 3-4 minutes examining academic tasks in areas of reading, writing, math and organization. “This is a modified version of the Georgia Project on Assistive Technology (GPAT) (http://www.gpat.org/) AT consideration form. Teachers use that form to highlight the functional and academic problems that might help guide a conversation about AT considerations.”
Unfortunately, he notes, some teachers refuse to complete the form. When that happens, no assistance is obtained. As a result, he explains, accusations are sometimes aimed at him. “I’m told, ‘You’re not helping that student. You’re not doing your job.’”

He replies, by explaining that his role is consultative and emphasizes capacity-building. “I don’t work directly with a student, but rather better equip the teacher to meet the student’s needs through technology. If a teacher doesn’t take a few minutes to complete a form, I have to ask myself the questions, ‘What is this individual going to do after I spend an hour with her giving her ideas?’ Are those ideas going to be implemented?”

What has to be remembered, he emphasizes is “the key to a consultative role is that I provide ideas and accommodations that can aid a student, but the teacher has to implement those recommendations. When we next meet, a review of those implementations assists in determining what worked and what did not.”

His district’s weekly meetings of Child Study Teams at each school ease the process for teachers of struggling students. “If a teacher suspects a disability might exist the first step in the process is to bring the student to a meeting of the Child Study Team.”

Explains Mr. Press: “Sometimes we don’t get the referral form at that point but the teacher returns to the team a couple of weeks later if the student continues to struggle. Meeting notes help us see where we’ve been and where we’re going with the teacher and student. This documentation enables the team to drive the process rather than the ‘consultant’ or ‘coordinator’ who is not school-based. This also allows the team to effectively document roles and responsibilities.”

No Buy-In, No Enforcement
To further smooth the process and increase effectiveness he recommends that AT coordinators build a solid rapport with school building administrators.

“If the administrator believes I’m a part, albeit itinerant, of her team and that when I am in her facility I am a member of her staff, the process works far better than if I’m regarded by an administrator as district staff who visits her campus as one of the schools I’m responsible for. If I don’t get that buy-in from the administrator I certainly won’t get a buy-in from teachers, many of whom follow the administrator’s lead. Without that top-down buy-in there is no enforcement.”

If he can get the support of the administrator who evaluates performance and effectiveness of the classroom staff that Mr. Press is supporting “then we can have a very successful collaboration, which is in the student’s best interest.”

Barriers to Classroom Technology
The barriers to effective classroom technology implementation that Matthew Press encounters regularly are school-site specific and are associated with administrative support. “If the support is there the barrier is less,” he says. The
second barrier he confronts is time: “Time to work with teachers to give them the support they need is a rare and precious commodity.”

There are solutions that can be applied to reducing the time factor, he insists. “In my district we’ve already started PowerPoint training modules, which include very short reviews of specific skills or features; custom tutorials with screen shots of the specific steps and directions involving hardware or software.”

He offers an example. AT staff in different parts of the nation operate under various network infrastructure systems. Each system is unique. Districts must fit their technology into the constraints of their specific system.

Mr. Press’s district utilizes Altiris and the Novell Network (http://www.novell.com/home/index.html). This system allows remote technical assistance from our MIS department and also limits computer users to specific access capabilities based on their needs. This system is important to understand because the software we use and recommend must follow the network specifications to be installed and supported by the district IT staff. Understanding the network infrastructure and requirements allows us to create custom tutorials that follow those Novell Network structural set-ups when launching an application. The instructions from the vendors are typically very good, but are generic to the typical windows operating system installation and thus lack the steps that we need specific to our district. Therefore we go the extra mile to achieve specificity that is geared to the Pendergast requirements.”

Specificity, he explains, “tells the staff exactly what they need to do. The tutorials are posted on our internal intranet and our external internet sites so that teachers can access them from home or during the school day.” Teachers do not feel as if they have to call the AT person for every bit of support, but feel empowered to do more on their own, he notes.

In some cases, when creating the materials yourself is not practical, the district can purchase these services through a vendor such as Atomic Learning. Atomic Learning, he says produces 1-2-minute custom videos on specific features within a particular software. The website offers a broad special education library of videos that includes Boardmaker and Classroom Suite. The brevity of the Atomic Learning videos helps teachers avoid sorting through a 20-minute tutorial to find what they need. “Teachers need their information in 30 seconds to one minute,” he notes.

His district is currently investigating development of videos that parallel Atomic Learning’s. “We have SmartBoards (http://www2.smarttech.com/st/en-US/Products/SMART+Boards/) in many of the classes. The SmartBoards have a video recording tool where a trainer can wear a headset mic and record all of his actions that take place on a computer. This is similar to software like Camtasia (http://www.softwarecasa.com/camtasia-studio.html?gclid=CPrczpiA7JgCFQFvGgod8xFm1g), a screen
video capture program for Microsoft Windows. “Instead of doing a print tutorial with screen shots we could do a video tutorial of those same concepts. We’ll probably move in that direction next year.”

“A Very Tech-Progressive District”
Mr. Press is hesitant about emphasizing the barriers to AT implementation that he faces. The fact is, he admits, in this time of scarcity, Pendergast, technologywise, is ahead of the curve.

“We are a very tech-progressive district in both gen ed and special ed,” he declares. “We have an excellent library of AT equipment. When I speak of the barriers I face, acquisition of AT has not been among them.”

The inevitable budget constraints over the next couple of years will likely have an impact, he predicts. “However, the fact that we have a good library of equipment allows us to focus on maximizing its implementation.”

A key to Pendergast’s advantageous technology posture is the district’s special education administrator, Mr. Press says. “He is committed to technology implementation, not just to buying the technology, because he understands the technology and has a high expectation that it will be used.” The special education administrator’s approach and success has helped make administrator training a major initiative for the district next year, Mr. Press states.

The district’s current plan, he explains, is to increase the administrators’ knowledge base “about what successful technology use looks like in different roles, because there will be a different expected usage plan based on the available hardware and software in various rooms.” For instance, he continues, “There might be a different expectation in a resource LD teacher’s classroom or a support service staff room compared to a self-contained classroom and/or a gen ed classroom with inclusion students.” The trainings’ goal, he says, “is to empower our administrators to better know what to look for.”

Teacher Training: What Support Is Needed?
In his district, Mr. Press explains, “teachers and administrators are getting more and more in synch in their approach to technology implementation at the school and district levels. The joint objective,” he states, “is to provide trainings, support and technology information the way teachers need them.”

One of the approaches under consideration, he continues, is the possible integration of classroom technology implementation training into administrator workshops scheduled for two early release days each month. “We have begun to work closely with the administrators to learn what they’re focusing on and how we can integrate technology implementation into what they are doing.”

In other words, he adds, “if the administrators are conducting a workshop for reading then we can include a segment on technology supports for reading. The technology support should adhere to the what-is-the-task-at-hand approach that SETT espouses.” [Ed. note: For more information on the SETT Framework, see the Family Center’s online discussion of SETT at: http://www.fctd.info/webboard/
He hopes to also integrate technology implementation into a second early-release day, which will be devoted to academic services. “Trainings often do not target teachers in self-contained classrooms, our speech pathologists or our resource/LD teachers. The trainings are generally appropriate, with content that everyone needs to hear. But sometimes our special ed staff would be better served by getting information that is more specific to them. Finding the right person who coordinates professional development and getting invited onto that committee has enabled the best use of the little staff development time we have. This collaboration within the district between general ed and special ed departments, coupled with administrative support is what will further make the difference in successful implementation of this successful training model.”

By having technology supports for all Pendergast students, not just those with IEPs, “we will gain much more administrative buy-in as well as buy-in from general teachers who do not have special needs students in their classroom. These students would benefit from some of the same supports that students with disabilities receive.

Such students, he explains, may only require a simple accommodation from technology, like a pencil grip, slant-board, or special paper, foot supports or a fidget toy, which are available for anyone who needs it. “When we support all teachers on the campus, we have better support from the administration and buy-in from the teachers during the professional development times.”

Enhancing AT Training beyond the District: “A Medical Triage for AT Implementation”

To achieve similar results at the federal, state and national levels, Mr. Press recommends an approach learned from a Gayl Bowser-Penny Reed ATIA pre-conference workshop entitled “Troubleshooting AT Implementation Breakdowns.”

“Penny and Gayl presented a very logical way to begin looking at the reasons behind AT implementation breakdowns.” Mr. Press recalls. It was really logical, like when you take your sick child to the doctor’s office. “The doctor asks whether the child’s runny nose is yellow or green, whether she’s running a temperature, what her energy level is, plus questions about the child’s caloric consumption and fluid intake. As parents, we know she is sick, but not whether the illness is bacterial or viral or something really pathological that may need further medical intervention beyond medication or rest.” Their workshop was like triage for AT implementation!

Mr. Press learned from Bowser and Reed, “We know something doesn’t work but we don’t take the time to ask, ‘Why isn’t it working?’ Is it lack of administrative support or because the batteries on the device ran out and the teacher did not know who to call.”

The recourse based on those two situations is very different, but the common symptom is that technology is not being used, he notes. “The point is, you can learn about the technol-
ogy and how it works, how to acquire it and how to train staff but if you can’t pinpoint the underlying problems you cannot move forward to provide a remedy for the implementation breakdown.”

A strong resource for AT teams, he says, is a new publication entitled The Assistive Technology Trainer’s Manual by Reed, Bowser and Maryse Kaplan. The manual will soon be available for download via the National Assistive Technology in Education Network (NATE) website (http://natenetwork.buffalo.edu/index.htm) currently under construction. In the manual, Mr. Press says, the authors bring to light information that is essential to successful training.

Mr. Press summarizes: “Training has to produce more for attendees than a feel-good moment. It should not resemble a 90-minute timeshare presentation. The presenter makes you feel great. You’re a winner for being there. But in a couple of days when you are reviewing the content of the workshop, you should not be asking yourself, ‘What just happened?’”

Advice to Professionals: Focus on the Child

As families seek to secure AT for a child, Mr. Press’s best advice is gleaned from Tom Nurse, a past member of Family Network on Disabilities in Florida (http://www.fndfl.org/). “Seven years ago Tom and his daughter held a seminar to teach AT professionals how to help families advocate for technology without being adversarial.”

According to Mr. Press, “Most families, when they see the technology they want, they pursue its acquisition with a passion. I can’t blame a family for going after what it wants, as I know I would for my children – but there’s an effective process for achieving that.”

From Tom Nurse he learned the following: Do your homework and, like an attorney, do not ask a question for which you don’t know the answer. Says Mr. Press, “As an educator who went to school for six years to earn my Masters in Occupational Therapy, I’m trained. I possess knowledge and expertise in my field. All professionals have that same feeling. We would not tell a medical doctor how to do his job. So when a parent tells us, ‘I want this!’ the visceral reaction of most team members is, ‘Who do you think you are? You are the expert on the child. You’re not an expert on the educational system or on technology. How dare you come here and tell us what your child needs? That’s my job.’ This response is certainly not right but it is a visceral reaction.” Our job as professionals is to not feel challenged by the parents’ suggestion, but rather to welcome the information as the beginning of a conversation about potential solutions.

Parents visit vendor websites and are understandably enthralled when they see something that looks like it may work for their child, he asserts. “However, many times they may be unaware that there may be several other devices with the same features – or even more features – that might be more effective.” Mr. Press’s advice to the team is to remain focused on the student’s needs and bring it back to the SETT framework. “What do you want the child
to get out of her education one year, three years, five years from now? What are the barriers to achieving those goals?"

He encourages parents to bring ideas about various tools and information on the tools' features to the team. “If parents come to the AT team with a solution, and announce that ‘My child needs X’ then it invokes that visceral protective, territorial reaction from some teams.” It is more effective, he advises, if parents come to the meeting and say, ‘You are doing a great job educating my son, and we have made some real progress, but I’m concerned about where we’re going now. You are the experts in this field so please help me understand where we should go from here and how we’re going to get there so that I can help support my child at home.’ That approach typically elicits a positive response from the team.”

"I Have the Principal’s Ear"

At a recent industry workshop, he recalls, "We had one parent in the room. Other members of the training told her, ‘You really need to advocate for your child.’ She replied, ‘I have the principal’s ear.’ I said, ‘Tell me more about what that means.’ She said, ‘I can meet with this principal any time I need to in order to talk about what my son needs.’ I asked, ‘But who’s the person who works with your child?’ She replied, ‘The teacher.’ I asked, ‘Do you have your teacher’s ear?’ She responded, ‘No, I work directly with the principal.’"

Parents need to have a relationship with the building administrator, Mr. Press declares, “but it’s mandatory for parents to have a strong relationship with the team that serves their child. If parents have that relationship they will find that they will get a lot further a lot faster.”

**Universal Design: Software Selection Pushes It Forward**

In Mr. Press’s district the large scale acquisition of software has pushed universal design (UD) principles to the forefront. Some time ago, Inspiration ([http://www.inspiration.com/](http://www.inspiration.com/)) was selected as a systemic tool. Every teacher and every computer has it. That’s a great thing. What was once regarded as an AT tool that helped students who needed help organizing their handwriting is now recognized as a tool for all students.

In addition, the district recently began to further apply universal design principles via programs like Read and Write Gold ([www.texthelp.com](http://www.texthelp.com)) Classroom Suite ([www.intellitools.com](http://www.intellitools.com)) "where we have a large volume of licenses. The general department sees the value of the software as an intervention for all students, not just the most severely disabled and those who are already earmarked for other special education categories."

“We’ve tried to push the universal design concept forward from the special ed perspective, because our administrator supports and encourages purchasing of site licenses where possible, rather than opting for individual licenses for our special ed students."

The special education administrator, Mr. Press says, “understands that the all students can be served in a less restrictive environment if we have systemic tools available to support their
Providing a Level of Instruction: Reaching the Outliers

According to Mr. Press there are some technologies that supply direct curricular supports rather than simply access to the curriculum. “The Classroom Suite product, has curricular templates in it and goes beyond access, to provide instruction in curricular materials or the curriculum itself,” a feature that is beyond the basic definition of assistive technology.

“When I walk into a classroom and learn from the teacher that some of her students are struggling with multiplication or division, I ask, ‘What multiples are they struggling with?’ I then open the software and demonstrate how she can make an activity that provides guided practice on just those specific problems.

Manipulatives are on the screen, he explains. As students go through the process they are informed as to whether their responses are correct or not. “When responses are incorrect the software provides feedback to the student about the incorrect responses.” The software provides data to students and teachers, he points out.

According to Mr. Press, when teachers are first exposed to Classroom Suite they often tell him, ‘I provide scaffolded levels of instruction in my classroom but there is always a child who is far ahead or a child or two who are way behind and I just don’t have the time to accommodate students at the far ends of that spectrum.’"

Technology can help teachers reach those outliers. “Sometimes teachers can put those kids on the computer for a little extra time during free time or during center time. Perhaps students who are strong readers can spend less time on reading and more on the skill at which they are weaker,” he suggests.

Classroom Suite, he notes, has the capability to move the student through a unit of activities in a specific order based on performance on each activity. “I explain it to teachers as a packet of worksheets, where the computer can help the student work on just the pages where they need help, rather than having them go through every sheet in order, simply to complete the packet.”

“This software provides the guidance a teacher would provide in small group instruction based on student performance.” The teacher does not have to monitor the data daily, he points out. “However, she does have to follow up to determine if the student practiced an activity repeatedly to gain comprehension or if the student got the concept on the first attempt. It certainly does not replace the teacher, but it can allow the teacher to make best use of their time in meeting all learners’ needs.”

“Can I Use This for My Other Students?”

Sometimes an AT coordinator’s job can exceed their initial mission, expanding the role to provide teachers with an opportunity to share AT’s benefits with general ed students. Officially, he says, “I’m only there to solve a technology issue involving a specific special needs student. The trouble with that approach is that I am less likely to achieve general implementation.” However, in the right circumstances wider implementation can be achieved through
success with a specific student, Mr. Press says. Recently, after successfully employing his technology to assist a student, he was asked by the teacher, “Can I use this for my other students?”

When he receives that reaction, he is excited. "I know the teacher sees the bigger picture and is thinking of further applications. The teacher understands that the remedy is not limited to the original student in question but can be employed for others as well. That’s a big step toward general implementation and, ultimately, toward a universally designed classroom."

AT and UD: A Blurring Distinction?

Broad teacher classroom preparation, in Mr. Press’s opinion, is blurring the distinction between assistive technology and universal design. "My district attempts to serve our students at a very diversified curricular level, as long as students’ academic, social and emotional needs are being met. If the teacher prepares for her class from the broadest possible perspective that teacher will be a much better inclusion teacher." With our approach to technology, as a tool for all children, we can better support these teachers in helping all students.

This is a positive blurring from an implementation perspective, he says. Where it has the potential to create a problem, is in funding. “If a tool is AT and is related to a child’s IEP, IDEA funding should be accessed. If a teacher says, ‘I’d like to continue using this software with other students next year but I might not have any kids with IEPs in my classroom,’ we have to figure out where we are going to buy that license from. However, because we have an administrator with the larger vision to purchase site or volume licenses, we typically don’t encounter that problem and can continue to support that teacher.

Mr. Press is a member of the district’s technology committee. I can bring the special ed perspective and AT perspective to that meeting. My presence enhances awareness of our capabilities." Bringing an open mind to the meeting “makes me receptive to resources I’m unfamiliar with and allows me to share special ed resources with other team members with different roles."

Having an AT professional on committees like technology, professional development, assessment or curriculum facilitates AT “infiltration” into those departments, he believes. "For me it is very important, in order to effect change at the systemic level, not to be perceived strictly as ‘the special ed guy’ who drops by once or twice a week to do ‘his thing’ to support ‘those classrooms.’ I need to be perceived as being on the larger, district team."

Does UD Threaten the AT Industry?

Does the ascendancy of universal design threaten the AT industry status quo? That depends on your philosophy, says Mr. Press. "There will be more market competition because companies that once only marketed to individuals without disabilities are seeing that if they add accessibility features to their product that there is a much wider swath of clientele
they can market to."

However, he adds, UD may be perceived as a threat by the professionals who comprise the heart of the AT industry. "It’s a threat from the perspective of ownership of an expertise. This is a paradigm shift," he declares.

“If a professional chooses to hold on tight to their expertise in providing access independent of curriculum considerations and leaving those considerations to others – ‘I am the technology expert and you, the teacher, are the curriculum expert’ -- then yes, there is a threat to you. If you operate as a team,1295

"In my operating paradigm, that attitude is already out of style. Adhering to that ownership philosophy prevents the team from making progress and building capacity."

He adds, "If I am the provider of the solutions but not the person who implements those solutions then I am not going to make as effective progress in building the capacity of those around me. When I leave this position, someone else will replace me. That individual will do things differently and may focus on different aspects of the job as priorities. But if I have empowered the teams that I have supported and build their capacity to meet their own needs with less support from the assistive technology coordinator, then there won’t be a huge drop in services in that area. There is always more work to be done, and I am not worried about working my way out of a job."

As AT and UD further blend, we may see a merging of technology positions. "In our district, there are professionals on our campuses called curriculum integration specialists our local technology experts, who integrate technology and curriculum, focusing on regular education teachers. As our special education technology merges closer and closer with regular education technology, our roles could eventually overlap significantly. However, this could also create the need for an individual to coordinate systemic delivery of information by technology integration specialists that serve all of the technology needs of all students equally. In either scenario, working closely with the CIS person at each campus allows for better integration of the technology use by all staff and students as they are not itinerant, and are available for teacher support more easily than the AT staff."

The Pendergast AT team now involves the district CIS professionals in our training events. "They need to know the special software so that when a special ed teacher has a problem they are the first line of defense, because we have to build the capacity at the school level. Even in our small district, where I only have six schools to cover and my longest school-to-school commute is six miles, I must make sure teachers’ needs are met in a timely, efficient manner. The CIS staff have the ability to provide that support even better than I often can."
The point, he continues, is that AT coordinators should build capacity around themselves so that they are not the first person called for tech support on a computer. “I want to move things to a much higher systemic application level across the entire district. If I’m the first person called in every special ed classroom I cannot get to that larger picture. That’s the take-home point with the threatened transition to UD: Some who hold onto their roles tightly consider it a threat but others will regard it as job security, i.e. ‘Instead of serving 1,000 or 1,200 students I’m now responsible for serving 11,000. That is job security and a transition to a much better place philosophically.”

**Emerging Trend: Vendors Bring Curricular Supports to Individuals, Teachers**

Mr. Press says that for three years he has been observing an encouraging trend: Vendors are offering more and more curricular supports to teachers and individuals. “Vendors have become savvy to the fact that if they do not offer these supports teachers will not use their materials. They’ve recognized that access to the curriculum is not the end of the road. Providing curricular supports opens up entirely new opportunities.”

According to Mr. Press, companies are developing curricular support materials to accompany the technology that simply provides access to the curriculum. For example, he says, “Don Johnston has leveled readers such as the Start-to-Finish series (http://www.donjohnston.com/products/start_to_finish/core_content/index.html), moving beyond the stand alone access tools like Co:Writer (http://www.donjohnston.com/products/cowriter/index.html) and Write OutLoud (http://www.donjohnston.com/products/write_outloud/index.html), two of the access products Don Johnston created years ago, or Solo Literary Suite (http://www.donjohnston.com/products/solo/), which combined features of Write OutLoud, Read OutLoud, Co:Writer and Draft Builder. The later examples are all traditional AT tools, but then you begin seeing content modules and leveled readers to accompany the AT support. This newer transition to creating curricular supports for learners with different needs which is really important.

He has noticed that manufacturers categorized as AT vendors as recently as five years ago now market products at conferences such as Nation Educational Computing (NECC) conference or the FETC (Florida Educational Conference) event. In return, he adds, “we will begin to see names that the AT world once owned, talked about by others beyond the AT realm.” This convergence will serve to push forward a universal design model.

For his part, he acknowledges this convergence by co-presenting at non-traditional AT workshops for regular education teachers when possible. Taking the time to share our knowledge outside of our traditional circles will enable our reach to go farther, especially toward helping those students who might not receive special education services. “However, when I talk to a group of educators, I try to co-present with a regular education teacher. I do this because when I share I am an OT, have never been an educator, don’t have an education degree, sometimes I lose part of the audience. But, if I co-present with a veteran teacher who is implementing the software, I typically get more buy-in from the attendees,
as I am more readily accepted into their group by presenting with ‘one of their own.’”

“We Are All Educators”
“The bottom line is that when it comes to helping students access the curriculum, all of us – teachers, administrators, therapists, AT professionals, even vendors – are in the same boat, rowing toward the same goal. No matter our specialty at that moment, we are all there to help educate a child.”

The Family Center on Technology & Disability has spiffed up its website!

http://www.fctd.info

In the process, we have quality assured each of the 900+ resources in our technology resources database. You can find updated entries with verified links at http://www.fctd.info/resources/search.php

Resources in Spanish are available at http://www.fctd.info/resources/indexes.php

You can send us your feedback, including suggested links, at fctd@aed.org

RESOURCES

Articles

Technology Puts More Pupils in the Mainstream
By Jennifer Batog
Boston Globe (April 21, 2008)
The author, a Boston Globe reporter, describes the ways that universal design methods are integrating AT into the mainstream curriculum and classroom, increasing access for all children. Citing specific examples of successful technology integration at Boston-area public schools, Ms. Batog makes the case that the application of classroom technology, assistive and instructional, in a universal design format brings real and substantial benefits to all students, including those with disabilities.

http://www.boston.com/news/education/k_12/articles/2008/04/21/technology_puts_more_pupils_in_the_mainstream/

What’s New: ATIA 2008
By Matthew Press and Ann Banton
ConnSENSE Bulletin (2008)
The authors offer an overview of new or updated products featured at last year’s Assistive Technology Industry Association (ATIA) conference. Categories covered include:
- Computer access: hardware and software
- Communication: hardware and software
- Hearing and Vision
- Written output/literacy/math/science software
- Training/teaching material

http://www.connсенсеbulletin.com/atiamatt08.pdf
Constructing an Assistive Technology Toolkit for Young Children: Views from the Field
By Sharon Judge, Ph.D.
Journal of Special Education Technology (2007)
In this article Dr. Judge reports on a study in which 38 early childhood special education professionals were asked to assess the utility of a range of assistive technology tools in working with young children with disabilities. In noting that participants selected communication tools as most useful, she writes, “This is not surprising since difficulty in learning language is the most common and often the first problem recognized in young children who have disabilities (Lerner, Lowenthal, & Egan, 2003).”

Based on the study’s results, Dr. Judge presents a suggested assistive technology tool kit, in which she describes the primary features of 18 tools organized into three categories – communication, movement, and learning.
http://jset.unlv.edu/20/JSETv21n4.pdf

A Recipe for Success in Helping Teachers Integrate Technology Effectively
By Dorothy Laufer
The Newsletter of the Western Center for Microcomputers in Special Education (2006)
The author describes a project in which technology helped elementary school students learn English where Mohawk was the primary language of instruction. Written by a teacher, this paper outlines suggested steps or “a recipe” to successfully utilize technology in similar classroom situations.
http://www.thecatalyst.us/zDoneArticles/22_3_Laufer.pdf

Classroom Technology
By Jay Wyant
AG Bell Association for Deaf/Hard of Hearing (2007)
In this article which appeared in Volta Voices, the magazine of the AG Bell Association, communication and noise management in the school classroom is discussed. The author identifies the major problems related to noise that may affect deaf/hard of hearing students in a typical classroom. He advises initiating a discussion about noise management in the school year prior to a move to a new classroom environment and urges that noise management provisions be included in the IEP. Appropriate levels of signal to noise ratios are identified. Echoes and reverberation are described and solutions recommended, including adding carpeting, arranging furniture in the room, dropping the ceiling and adding fabric or absorbent tiles to the walls. The article also discusses mechanical noise, sound fields, FM systems, and the impact of static electricity on students with Cochlear Implants. Resources for additional information on acoustics and noise management are provided.

Books
Assistive Technology in the Classroom: Enhancing the School Experiences of Students with Disabilities
By Amy G. Dell, Deborah Newton and Jerry Petroff
Merrill (2007) 400 pages, $49.67
The authors emphasize the integration of AT into the curriculum. The link between technology and teaching drives the book’s orga-
nization and content which are arranged by school-related tasks that students must perform daily, including reading, writing practicing academic skills and communicating with their teachers and peers. The authors present descriptions of technology-based solutions to obstacles students with disabilities face in completing these tasks. The text features ways to enhance computer access for these children. A companion website offers updated information on product names, vendors, website addresses and other time-sensitive material.

http://www.pearsonhighered.com/educator/academic/product/0,3110,0131191640,00.html

Reports

Graphic Organizers and Implications for Universal Design for Learning: Curriculum Enhancement Report

By Nicole Strangeman, Tracey Hall and Anne Meyer
The Access Center (2007)
This report is a literature review that explains the implications of universal design for learning (UDL) principles in the classroom and discusses research on using graphic organizers with UDL, including:
- The basic reasons to use graphic organizers to implement UDL principles
- Examples of successful UDL curriculums that use graphic organizers
- Recommendations for UDL implementation and use in the classroom
- Steps to inventory and select new devices, as well as options to gain administrative support
- Resources for more information on UDL and graphic organizers.

http://www.k8accesscenter.org/training_resources/udl/GraphicOrganizersHTML.asp

Websites

Early Connections: Technology in Early Childhood Education
Northwest Educational Technology Consortium
This website was developed to disseminate information to parents, teachers and caregivers on a variety of topics related to the use of technology with young children. The site is divided into categories by age from birth through the primary grades. Information is provided on many topics including but not limited to before/after school care, technology and implementation, software/hardware and classroom management. http://www.netc.org/earlyconnections/primary/curriculum.html

STAR Tech Program: Using Technology in the Classroom
This website, created by Education Development Center, Inc., provides information on ways to integrate technology into the curriculum. The site includes:
- An overview of low-, mid- and high-technology tools
- Vignettes of teachers using technology as part of the instructional process
- Links to articles and websites focusing on technology integration
- Links to AT websites http://www.startechprogram.org/technology/usingtech.html
Internet4Classrooms
This website, designed by teachers Susan Brooks and Bill Byles, seeks to help teachers use the Internet and Internet-based resources effectively in their classrooms. Site sections include: "links for K-12 teachers," "assessment assistance," "online practice modules," and "daily dose of the web." There is a great deal of well-organized information here.

KNOWLEDGE NETWORK MEMBERS

Landmark College Institute for Research and Training (LCIRT)
The institute provides professional development training and graduate-level courses for educators featuring classroom-tested strategies for working with students with learning disabilities and AD/HD. Educator attendees include educators from high schools, prep schools and post-secondary institutions. A strong classroom AT implementation component is included. Workshops range from half-day introductory sessions to week-long, hands-on sessions at Landmark’s Putney, VT campus or are delivered at school sites and online. The IRT also offers curriculum development services and the establishment of longer term relationships with schools, providing ongoing support for teachers and administrators. Founded in 1984, Landmark College specializes in providing students with dyslexia, AD/HD and other learning disabilities with a liberal arts education.

For further information on the IRT, contact:
Institute for Research and Training
Landmark College
River Road South
Putney, VT 05346
Phone: (802) 387-4767
http://www.landmark.edu/institute/assistive_technology/index.html

NICHCY
(National Dissemination Center for Children with Disabilities)
is now on Facebook!

NICHCY provides information on:
- disabilities in infants, toddlers, children, and youth
- Individuals with Disabilities Education Act
- No Child Left Behind (as it relates to children with disabilities)
- research-based information on effective educational practices

They’re also on Twitter at http://twitter.com/DrNICHCY
Atomic Learning

Subscription-based, Atomic Learning provides web-based software training and curriculum resources for more than 110 applications used by K-12 students and educators, including individual teachers and small professional development projects and mid-size school districts and colleges. The company offers short tutorial movies and a library of curriculum resources that can be integrated into professional development programs, utilized as a curriculum supplement and as a software training resource. Products and services include:

- Web-based software training
- More than 35,000 tutorial movies on more than 110 of the most common software applications
- More than 500 new tutorials added every 45 days
- Closed captions available
- More than 200 technology-based classroom activities and curriculum resources
- Home access
- Usage tracking
- E-Newsletters
- Aid in integrating Atomic Learning into a school technology and training environment

For more information about Atomic Learning, contact:
Atomic Learning, Inc.
15088 22nd Avenue, NE
Little Falls, MN 56345
Phone: (866) 259-6890
Fax: (603) 215-0106
http://movies.atomiclearning.com/k12/home

College Of New Jersey: Center for Assistive Technology and Education Studies (CATIES)

CATIES is a research and service initiative of the College of New Jersey’s School of Education that aids in the education of children with disabilities by linking faculty and staff expertise with the needs of New Jersey’s educational community. CATIES provides AT and augmentative communication evaluations that span low-tech, single message devices to high-tech, dynamic display devices. The organization’s staff provides software and hardware training to students, parents, teachers and school support staff.

For additional information, contact:
Center for Assistive Technology and Education Studies
College of New Jersey, School of Education
2000 Pennington Road
Ewing, NJ 08628
Phone: (609) 771-1855
caties@tcnj.edu
http://caties.tcnj.edu

Florida Diagnostic and Learning Resources System (FDLRS): Technology Coordinating Unit

FDLRS provides assistance and support in the appropriate use of a variety of technologies for students, teachers, professional staff and par-
ents. Services include: promoting local awareness, identification, acquisition, and effective integration of assistive and adaptive technologies; facilitating the identification and use of augmentative communication systems; promoting integration of instructional technology with effective teaching, leading to improved learner outcomes; providing support to districts/schools in the identification of accessible instructional and assessment media; supporting the use of technology to help students manage their behavior to be successful in the classroom and community; providing opportunities to explore equipment, components, and program solutions that may expand learning options for students through the use of new and emerging technologies; and facilitating the identification and use of technologies that present information and training through distance education options such as interactive video, on-line courses, and other interactive multimedia methods. For further information, contact: Florida Diagnostic Learning Resources System PAEC, 753 West Blvd. Chipley, FL 32428 Phone: (850) 638-6131 Fax: (850) 638-6142 Contact: David Davis, Technology Coordinator Email: david@fdlrstech.com http://www.paec.org/fdlrsweb/technology.htm

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