Assistive Technology in the Learning Environment

EVERYONE Can Use the Writing Process

Assistive Technology Consideration and Assessment
Helping Young Learners: How To Choose AT

Assistive Technology in the Learning Environment

This issue of the T/TAC Telegram is focused on the use of assistive technology (AT) in the learning environment. Whether low- or high-tech, the primary purpose of assistive technology is to provide students with the ability to fully engage and participate in the same school work and activities as their peers. Making an informed decision as to the need for and type of AT an individual requires in school is the task of the IEP team, which includes the student, the student’s family, appropriate school personnel, and other people involved in the student’s education. As with any accommodation, assistive technology should be appropriate for the individual using it. A program or device that works well for one person may not fit the needs of another. Thus, it is important to keep up with the constantly changing field of AT by attending conferences, trainings, and using other means to stay informed on the latest in technology that can be used for learning.

The Virginia Department of Education (VDOE) has an Assistive Technology (AT) web site that supports the training and dissemination of information related to the use of AT with students who have disabilities. All members of the IEP team, including the student and family, work with the student’s environment and the tasks required to improve his/her active participation in the general education curriculum. If IEP members think that AT will improve a student’s ability to participate in the general education curriculum, they should request an AT assessment from their school system. The VDOE has a document posted on their web site, Assistive Technology: A Framework for Consideration and Assessment, to be used by school divisions for developing operating guidelines for local resources and service delivery models related to the use of assistive technology. The following links also provide information on guidelines for assistive technology services. Examples that can be found at these sites include: the Quality Indicators for Assistive Technology (QIAT), the Wisconsin Assistive Technology Initiative, and the Student, Environment, Tasks, Tools SETT Framework (Zabala, J. S., 2002).

The Virginia Department of Education (VDOE) also has a T/TAC (Technical Assistance Center) site at: http://www.cast.org/index.html. The site provides rich supports for learning and reduces barriers to the curriculum while maintaining high achievement standards for all students. In order to find more information about creating a universally designed learning environment, visit the Center for Applied Special Technology (CAST) at: http://www.cast.org/index.html.

AT Assessments

All members of the IEP team, including the student and family, work together to collect information on the student’s environment and the tasks required to improve his/her active participation in the general education curriculum. If IEP members think that AT will improve a student’s ability to meet educational goals, they should request an AT assessment from their school system. The VDOE has a document posted on their web site, Assistive Technology: A Framework for Consideration and Assessment, to be used by school divisions for developing operating guidelines for local resources and service delivery models related to the use of assistive technology. The following links also provide information on guidelines for assistive technology services. Examples that can be found at these sites include: the Quality Indicators for Assistive Technology (QIAT), the Wisconsin Assistive Technology Initiative, and the Student, Environment, Tasks, Tools SETT Framework (Zabala, J. S., 2002).
Help for Young Learners: How To Choose AT?

National Center for Technology Innovation and Center for Implementing Technology in Education (2006)

Young children with disabilities need an enriched environment to promote their social and cognitive participation and growth. Technologies, from low to high-tech, can play a role in promoting their participation, but are often underutilized. This Info Brief presents an introduction to the role of assistive technology (AT) for young children with disabilities, highlights a six-step framework representing a collaborative approach for AT decision making for young children, and provides links to new resources for researchers and service teams, including the TAM Technology Fan.

THE EARLY CHALLENGE

During the first three years, children change more rapidly than at any other stage of their lives. Assistive technology (AT) tools and strategies make it easier for young children with disabilities not only to participate in day-to-day activities, but also to do so independently. Although AT shows great promise in supporting the developing child, families of young children with disabilities and the professionals who provide services to them may not be aware of these tools or know how to use them. A national sample of service providers agreed that a significant number of young children (45 percent) who may need AT are not receiving it at present. Although the consideration of AT for young children with disabilities is mandated by legislation, the reported low rates of utilization strongly suggest that AT devices and services are not being used to their fullest extent.

Technology solutions make it easier for children to move (e.g., supports for both body positioning and mobility), communicate (e.g., both receptive and expressive modes), and use materials to parapetize (e.g., utensils for mealtime, drawing tools for creative expression and storybooks for early literacy). Such AT supports can include low-tech items, like pillows and mirrors, as well as high-tech items, such as augmentative communication devices. Caregivers and support personnel need to become more familiar with the range of AT supports and successful strategies to integrate them in order to improve children’s participation and enjoyment.

SIX STEPS TO FINDING A SOLUTION

Identifying AT solutions to support a child’s participation is best done as a team process. By first examining the interests, abilities and needs of a child and the specific components of the activity where support for participation is indicated, AT solutions can be planned and implemented and the impact can be observed immediately. A six-step process defined below is one example of a framework for AT decision making for young children.

• Step 1: Collect child and family information. Begin the discussion about the child’s strengths, abilities, preferences and needs. What strategies have been found to work best?
• Step 2: Identify activities for participation. Discuss the various activities within the environments that a child encounters throughout the day. What is preventing him/her from participating more?
• Step 3: What can be observed that indicates the intervention is successful? What is his/her current level of participation and what observable behaviors will reflect an increase in independent interactions? What changes (e.g., number of initiations, expression attempts, responses, reactions, etc.) will you look for?
• Step 4: Brainstorm AT solutions. With the activity and desired outcomes established, you now need to brainstorm possible solutions with educators, family members, physical therapist, and other people with whom the child interacts on a weekly basis. Do the child’s needs include supports for movement, communication and/or use of materials? Start with what is available in the environment (what other children use) and consider adaptations to those materials. A range of options that address specific support areas should be considered. The TAM Technology Fan, a new resource focused on identifying AT items for young children with disabilities, helps to facilitate this step. See below for more information.
• Step 5: Try it out. Determine when the AT intervention will begin and create an observation plan to record how the child participates with the AT supports.
• Step 6: Identify what worked. Selecting AT interventions is a continuous learning opportunity. Reflect on your plan and discuss what worked. What didn’t work? What should be done differently? Make modifications as needed and try again. Only by trying the AT can certain factors such as technology placement, amount of force, mounting, number of choices, etc. be determined and adjusted.

BRAINSTORM AT WITH THE TAM TECHNOLOGY FAN

One of the largest challenges of the six-step process is Step 4: Brainstorming Solutions. The TAM Technology Fan, a new resource focused on AT for young children, can aid in this brainstorming process. Responding to the need for awareness building and informed decision-making, several experts in the field of AT and early childhood developed this resource to facilitate the identification of AT items for young children with disabilities. The Fan is intended for families, teachers, service providers and other caregivers who are considering technology tools for young children. Technology tools and solutions are listed by daily home and school routines as well as by general support categories. As no two children are alike, the supports they need will differ and change as children develop. The TAM Technology Fan is produced by The Council for Exceptional Children (CEC) and is available in their online catalog along with other products for early childhood.

FOR MORE INFORMATION

The resources listed below provide information about available AT solutions for young children and resource networks. Remember that AT items can include special features or alternate uses of commercial items. These should be considered along with items from specialty catalogs.

ASSISTIVE TECHNOLOGY

• ATA Center/Play Information: http://www.ataccess.org/resources/wcp/eneulfatl.html The ATA is a national network of technology resource centers, organizations, individuals and companies offering; information and referral on technology resources, outreach, training for individuals with disabilities and professionals, and networking opportunities.
• Family Center on Technology and Disability: http://www.fctd.org The Family Center supports organizations and programs that work with families of children and youth with disabilities through a range of information and services
• KITE Project, Pacer Center: http://www.pacer.org/stc/kite/ KITE Project is a training curriculum for parents and teachers of young children with disabilities used to promote inclusion through the use of technology.
• Let’s Play Projects, Center for Assistive Techno: http://letsplaybuffalo.edu/home/ These projects provide ideas and strategies to promote play through better access to play materials, and use assistive technology to give children this access.
• Tots ‘n Tech: http://tnt.asu.edu/ Tots ‘n Tech disseminations information from its national research center about the use of assistive technology to enhance the development of infants and toddlers with disabilities.

GENERAL FAMILY SUPPORT

• Center for Best Practices in Early Childhood: http://www.wiu.edu/thecenter/ The Center develops and promotes practices designed to improve educational opportunities for all young children through research, training workshops, and information dissemination.
• Council for Exceptional Children, Division for Early Childhood: http://www.dec-sped.org/

ENDNOTES


A “Tech Works” brief from the National Center for Technology Innovation (NCTI) and the Center for Implementing Technology in Education (CITEd).

http://www.ldonline.org/article/8088 ©2008 WETA. All Rights Reserved. This article was reprinted with permission from Heidi Silver-Pacuilla, NCTI, Deputy Director. For additional repositories of helpful information, please go to www. nationaltechcenter.org, www. techmatrix.org, and www.cited.org.
The writing process
When students are taught the writing process, then effective strategies can be employed to assist the student with writing challenges. Students who learn the process of planning, organizing, drafting and editing are likely to be engaged in the writing process. However, most students with intellectual disabilities are not involved in learning the steps of the writing process. Therefore, it is important that this process be modeled and used each time the student is given a writing task. Incorporate think alouds into your writing. Verbalize to the students what you are writing, why you are writing and/or why you want to change what you have written. By using think alouds, the student is learning how to plan, compose and revise his writing. Gretchen Hanser (2005) at the Center for Literacy and Disabilities Studies at the University of North Carolina adapted a predictable chart writing activity. Students can put pictures in sequential order or use a remnant book to help generate topic ideas. Gretchen Hanser (2004) created a resource for using remnant books (https://www.med.unc.edu/ahs/clds/resources/deaf-blind-blind-model-classroom-resources/predictable-chart-writing) for students with intellectual disabilities. Students must be provided with meaningful opportunities to engage in writing activities throughout the day and they must be involved in an environment that creates meaningful experiences to write about. This environment allows students to write about a common topic and can provide many writing-enriched activities. Students with significant writing challenges also need effective instruction geared to their learning needs (Copeland & Keefe, 2007). Effective writing instruction should focus on the writing process rather than the written product.

Pre-writing phase
The writing process is student-centered; therefore, the student needs to participate in all stages of writing. The four stages of the writing process include pre-writing, drafting, revising and editing, and finally publishing. The pre-writing phase involves thinking, planning and organization of ideas. It is important that the student have the necessary background knowledge on a topic and the correct vocabulary for the topic at this stage. Our writing reflects what we know and understand. Having real experiences to relate to an audience will be a valuable tool in the planning and organization of written work. For students with intellectual disabilities the pre-writing stage should focus on tapping into background knowledge and vocabulary through experiential activity and use of visual images. Take plenty of pictures and save mementos from activities so that the students will be able to see a visual representation of their intended story. Students can put pictures in sequential order or use a remnant book to help generate topic ideas. Gretchen Hanser (2004) created a resource for using remnant books (https://www.med.unc.edu/ahs/clds/resources/deaf-blind-blind-model-classroom-resources/predictable-chart-writing) for students with intellectual disabilities. Students must be provided with meaningful opportunities to engage in writing activities throughout the day and they must be involved in an environment that creates meaningful experiences to write about. This environment allows students to write about a common topic and can provide many writing-enriched activities. Students with significant writing challenges also need effective instruction geared to their learning needs (Copeland & Keefe, 2007). Effective writing instruction should focus on the writing process rather than the written product.

DRAFTING PHASE
The goal of the drafting phase is to create a story with logical, organized details. The drafting phase should allow the student freedom to express his ideas in a logical format without the struggles of the mechanics of writing or use of vocabulary.

Revising phase
Revising and editing phase
During the revision process, the student can clarify meaning and expand on ideas and thoughts. The revision process is intended to allow the writer to make the composition more interesting and understandable. The editing process corrects errors including spelling, grammar, punctuation and capitalization. Assistive technologies for the revising and editing phase should include tools that help the student “see again” what he has written and allow him to make decisions regarding the presentation of ideas. Students with intellectual disabilities would benefit from hearing the text read back to them. Free text-to-speech programs and specialized software programs that offer natural-sounding voices. Simple single-switch communication devices can also be used for programming stories.

Publishing phase
The publishing phase gives purpose to the writing activity. This article is from the September 2010 issue of Innovations and Perspectives, published by the VDOE T/TAC at VCU. It is reprinted with permission from the author.

References

This article is from the September 2010 issue of Innovations and Perspectives, published by the VDOE T/TAC at VCU. It is reprinted with permission from the author.
Families and Assistive Technology: Learning More about the Potential of Technology
Bonnie Wayne Bell, PhD, VDOE T/TAC in GMU

Families of students with disabilities are continually searching for ways to improve their child’s access to education. As the digital age advances, now students have more options to aid their learning process (Virginia Department of Education, 2010). Technology can be a valuable asset for students with various disabilities, so families may desire more information on what is available and what their rights are.

Frequently, assistive technology (AT) can be a pivotal issue in the Individualized Education Program (IEP) process (Virginia Department of Education, 2008). Therefore, families can enhance their role on the IEP team by being familiar with what is available for consideration as the educational plan is developed. Often, the educators and related service providers have current knowledge not only about devices, programs, and services that are available, but how they can be applied and what are the most effective ways they can be used. Since these IEP team members are aware of the learning issues for the student, the first step can be to begin brainstorming with them on what AT might be necessary and appropriate for your student.

Below is a list of resources that families may find useful to become more informed about AT.

Virginia Assistive Technology State-Directed Project
The Assistive Technology project addresses priorities of VDOE with centralized coordination, implementation, and dissemination of information about the laws which define AT devices and services, the process of consideration of AT by IEP teams, and AT assessment and resources. http://ttaconline.org/2177/index.asp.

Virginia Assistive Technology Resource Guide
This guide offers information to help IEP teams as they consider AT while developing IEPs. It is organized by task or access area and provides possible technology solutions that can be considered. http://ttaconline.org/staff/s_resources/s_resource_detail.asp?aid=711.

Assistive Technology: A Framework for Consideration and Assessment

Infusing Assistive Technology for Learning: Assuring Access for All Students

The Family Center on Technology and Disability (FCTD)
This is a resource designed to support organizations and programs that work with families of children and youth with disabilities. It operates entirely through program support from the Department of Education’s Office of Special Education Programs (OSEP). This website includes assistive/ instructional technology resources, monthly newsletters, and moderated online discussions: www.fctd.info.

The Family Information Guide to Assistive Technology and Transition Planning
This guide is created and provided by FCTD. It focuses on the role of assistive technology in transition planning to help families prepare for those periods of change. It addresses your child’s evolving AT needs, identification of key AT issues that may arise as your child makes a transition, and development and implementation of an AT transition plan. http://www.fctd.info/assets/assets/8/FCTD-AT-Transition-Guide.pdf.

Accessible Instructional Materials Center of Virginia (AIM-VA)
AIM-VA is part of the Helen A. Kellar Institute for Human DisAbilities at George Mason University. It produces and delivers accessible instructional materials for Local Educational Agencies (LEAs) in Virginia that have students with IEPs indicating a need for alternate formats of printed materials. www.aimva.org.

The Virginia Assistive Technology System (VATS)
VATS is a statewide program authorized and funded by the Assistive Technology Act of 2004, as amended and administered by the Virginia Department of Rehabilitative Services. VATS’s commitment is to increase awareness, accessibility, and acquisition of assistive technology. Through VATS Information and Referral System, callers can access information on assistive technology products, funding options, and resources that range from therapists to service providers to vendors of assistive technology devices and services. The toll free number, 1-800-435-8490, connects you with a professional who can answer inquiries and guide you to resources in your community. http://www.vats.org. National Center on Universal Design for Learning
UDL recommends the use of flexible instructional materials, techniques, and strategies that empower educators with the tools they need to meet students’ diverse needs. This website offers guidelines, examples, and AT resources. http://www.universalcurriculum.org/aboutudl/udlguidelines.

Parents Guide to Universal Design for Learning
This guide is designed to help parents learn the basics about the UDL approach, and it offers helpful tips for talking with your school about it. http://www.ncld.org/images/stories/Publications/AdvocacyBriefs/ParentsGuide-UDL/ParentsGuideUDL.pdf.

Project Participate
This website provides families, educators, administrators, and therapists with simple strategies to increase the active participation of students with disabilities in school programs. Project Participate facilitates team collaboration and promotes the appropriate uses of technology in the classroom. It is supported by a U.S. Department of Education grant. www.Projectparticipate.org.

Assistive Technology Act of 2004
To learn more about the purpose and key elements of Assistive Technology Act of 2004, often referred to as the Tech Act, families can visit http://www.nichcy.org/laws/other/pages/assistivetechact.aspx.

Alliance for Technology Access
ATA is a national network of technology resource centers which offers a range of information, training, and resources. www.ataccess.org.

Brief Review of Some Digital Readers
A review of digital readers compiled by Estela Landeros-Dugoud of T/TAC@GMU can be found at: http://ttaconline.org/staff/s_resources/UploadedFiles/Claire11242019121519pdf/Digita%20Readers.pdf.

Techmatrix
This is a tool that allows products to be compared side-by-side. http://www.techmatrix.org/.

AbleData
This website provides information about assistive technology products and rehabilitation equipment. It has a searchable website of over 40,000 products organized by functional areas. In addition, it offers information on the companies that make or sell the products, as well as, other resource and conference information. www.abledata.com.

The Woodrow Wilson Rehabilitation Center (WWRC), Fishersville, Virginia
The Assistive Technology Services Division at WWRC provides comprehensive interdisciplinary technology assessments and customized technology services, which may include special and individualized computer technology, customized rehabilitation engineering and fabrication, augmentative alternative communication, mobility enhancement, and adaptive devices for daily living and recreation, in order to improve employment potential, foster independence, and promote full inclusion in society through the use of assistive technology. For additional information on WWRC, call (800) 345-9972 or visit their website at www.WWRC.net.

References:

Carrying an assistive device throughout the school day may have been stigmatizing at one time for a student with communication or learning challenges, but the tables have turned. Now those students without ear buds or handheld electronics are the ones stigmatized! The advent of the technology-rich generation provides professionals involved in the education of students with Autism Spectrum Disorders (ASD) and/or intellectual disabilities the perfect opportunity to provide assistive technology supports through the same means as typically developing peers. iPhones, iTouchs, and other handheld systems can readily be used as individualized communication systems, schedule assistants, visual prompts, and aids to academic instruction for students to use.

Instruction for students in special education must be individualized and tailored to the unique learning strengths and needs of each student, and so should the selection of educational applications (apps) to support a student. With a simple click of the iTunes Apps store, professionals can find thousands of applications from which to choose. Because few professionals have the discretionary time required to review the quantity of helps available, this article lists some of the iTunes applications, reviewed and categorically listed by the VDOE Assistive Technology and Autism State Directed projects that might be of benefit to the students they serve.

### MATH

<table>
<thead>
<tr>
<th>App Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>123 Animals Counting</td>
<td>Touch 40 different animals with sounds to see and hear numbers counted.</td>
</tr>
<tr>
<td>Cloud Math</td>
<td>Practice adding, subtracting, multiplying, and dividing with a timer; levels of difficulty, and solution choices.</td>
</tr>
<tr>
<td>Cute Math</td>
<td>Seven activities for counting, adding, and subtracting with manipulatives, solution choices, and verbal praise.</td>
</tr>
<tr>
<td>Freddy Fraction</td>
<td>Use Freddy, an alien, to determine the equivalence among fractions, decimals, and percents.</td>
</tr>
<tr>
<td>Graphing Calculator</td>
<td>Scientific calculator and high resolution function plotter to trace multiple equations on the same graph.</td>
</tr>
<tr>
<td>KidCalc Math Fun</td>
<td>Activities for number recognition, counting, and math operations using flash cards, puzzles, and games.</td>
</tr>
<tr>
<td>Math Drills</td>
<td>Drills for adding, subtracting, multiplying, and dividing with number lines, hints and facts.</td>
</tr>
<tr>
<td>Math Magic</td>
<td>Adding, subtracting, multiplying, and dividing with visual supports, solution choices, reinforcers, and rewards.</td>
</tr>
<tr>
<td>Money – Learn to Count</td>
<td>Customize the values of money, then select the correct value that corresponds to bills and coins pictured.</td>
</tr>
<tr>
<td>Pop Math</td>
<td>In adding, subtracting, multiplying, and dividing, pop pairs of bubbles that match the equation with the solution.</td>
</tr>
</tbody>
</table>

### COMMUNICATION APPS

<table>
<thead>
<tr>
<th>App Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABA Flashcards (Actions)</td>
<td>In this set of 52 images, learn actions via text, photo, and real audio; other categories of FlashCards also available.</td>
</tr>
<tr>
<td>DAF Assistant</td>
<td>Delayed auditory feedback and frequency shifting to help decrease stuttering.</td>
</tr>
<tr>
<td>Expressionist</td>
<td>Cartoon drawings with 120 commonly used expressions in 7 categories and 1000+ nouns.</td>
</tr>
<tr>
<td>iConverse</td>
<td>AAC tool to express 6 different icons representing basic needs: food, drink, sick, bathroom, help, and break.</td>
</tr>
<tr>
<td>iPrompts</td>
<td>Visual prompting tool containing schedules, a timer, choice prompts, and a library.</td>
</tr>
<tr>
<td>iSpeak Spanish</td>
<td>An on-line Software that uses high quality text-to-speech to translate English to Spanish and Spanish to English easily usable on a computer, iphone.</td>
</tr>
<tr>
<td>iSpeech Toddler Sign</td>
<td>Software of two animated children animate 30 signs each, with accompanying explanations.</td>
</tr>
<tr>
<td>iTranslate Plus</td>
<td>Software to translate words and whole sentences in 52 languages, and use text-to-speech with 43 voices in 16 languages.</td>
</tr>
<tr>
<td>Learn to Talk</td>
<td>Over 160 interactive flashcards to learn nouns, verbs, early syntax, and word combinations.</td>
</tr>
<tr>
<td>Locabulary Lite</td>
<td>Audio output for expressing phrases, moods, and requests.</td>
</tr>
<tr>
<td>Look2Learn</td>
<td>AAC system with photos and preloaded voices to express wants and needs.</td>
</tr>
<tr>
<td>MyTalk</td>
<td>AAC software with photos and voice recording feature that can be used with a web authoring service.</td>
</tr>
<tr>
<td>Proloquo2Go</td>
<td>An augmented communication system, AAC solution with over 7000 symbols, natural sounding voices, automatic conjugation, and more.</td>
</tr>
<tr>
<td>Sign 4 Me</td>
<td>Sign Language software to teach more than 11,500 words in the library and learn signed English from a 3D avatar.</td>
</tr>
<tr>
<td>Sign Smith ASL</td>
<td>Sign language software with more than 1,200 signs, to learn American Sign Language from a 3D avatar.</td>
</tr>
<tr>
<td>Speak it!</td>
<td>Software to be able to copy or type text for text-to-speech using natural sounding voices.</td>
</tr>
</tbody>
</table>
iPod and iPad Apps for (Special) Education, an expanded and updated table of educational apps (including icons can be found at http://www.ttaonline.org/ staff/b/resources/uploadedFiles/Clare242010111916am/iPhoneApps.pdf ). Other assistive technology links can be found at www.ttaonline.org. Bookmark this website and visit regularly to stay updated on the most recent assistive technology iTunes apps for your students.

References:

Technology Assists Professionals in Gaining Knowledge and Skills in Evidenced Based Practices for Students with Autism Spectrum Disorders

Karen L. Berlin, M.Ed., VDOE T/TAC @ GMU

Understanding Autism
Yale University offers this web-based undergraduate course, with all lecture content and supporting materials available online for free for anyone who desires to learn about Autism Spectrum Disorders. Topics covered include: overview of Autism, intervention programs, infants and young children, social development, social perception, neuroimaging, behavioral treatments, family perspectives, communication, genetics, and psychopharmacology. http://autism.yale.edu

Interactive Collaborative Autism Network
A collaborative effort between the State Departments of Education of Connecticut (CT) and Minnesota (MN) and the University of Kansas (KU), this site offers online instructional modules on autism spectrum disorder including: information on characteristics and assessment, as well as academic, behavioral, communication, environmental, sensory, and social interventions. Each topic consists
of an introduction, lecture, quiz, frequently asked questions (FAQs), glossary, and resources. Topics also contain a forum that allows users to communicate with other ICAN users.

http://www.autismnetwork.org/index.html

**Autism 101**
This course, designed by the Professional Development Center in Autism, provides an overview of autism spectrum disorders (ASD) and how the characteristics associated with ASD may impact learning for children with this diagnosis in school, community, and home environments. Course content includes: autism overview, communication, social, behavior and communication characteristics, partnerships with families, and effective programs.

http://depts.washington.edu/pdacent/families, and effective programs.

http://www.rethinkautism.com/ as a model that many consider to be guidelines for effective practices for the AT assessment process. The QIAT identifies seven indicators for quality assistive technology services:

- Procedures for all aspects of assistive technology assessment are clearly defined and consistently applied.
- AT assessments are conducted by a team with the collective knowledge and skills needed to determine possible solutions that address: the AT needs and abilities of the student, demands of the student, and learning challenges within the demands and tasks of each of his/her educational settings.

**Assistive Technology Consideration and Assessment**

As required in the Individuals with Disabilities Education Act (IDEA) of 1997, Individualized Education Program (IEP) teams must document their consideration of assistive technology (AT) for each individual student. The team must consider whether or not AT is necessary to ensure that the student has access to the general education curriculum, is able to engage in school activities with his/her peers, and has the opportunity to progress towards his/her educational goals. It may be the case, however, that members of the team feel they do not have adequate training in order to identify the assistive technology needs of a student.

To offer guidance in this effort, the VDOE’s Assistive Technology State Directed Project developed a document to assist IEP teams in planning and implementing AT services to students with disabilities.

**Enhancing Instructional Contexts for Students with Autism Spectrum Disorders (EIC-ASD)**

This is a free tool for assessing the ability of instructional contexts to support students who have ASD. The tool is based on common strengths and core deficits among individuals with ASD and is designed to be used across age and ability levels in a variety of instructional settings. It can be used to identify best practices in place for students with ASD, and identify elements of the EIC-ASD allowed the user to browse and evaluate examples of instructional best practices for students with ASD through video and pictures that illustrate the concepts.

http://education.gsu.edu/autism

**Autism Training Solutions**

This is a free, self-paced course providing evidence-based coursework specific to the principles of Applied Behavior Analysis. Courses are comprised of 20 minute modules and include: A Behavior Management Series, (Principles of Behavior, Functional Behavior Assessment, Antecedent Interventions, Consequence Interventions, and Teaching New Behavior), Verbal Management Series (Introduction to Verbal Management, Instrucational Control, and Mand Training), and Discrete Trial Instruction Series, (Introduction to DTT).

http://autismtrainingsolutions.com/home.php

**ReThink Autism**

This is a curriculum that includes: Assessment, (brief skills checklist to assess each student’s current level of performance, Curriculum, (over 1200 video-based exercises demonstrate how to implement EBPs for skills within the curriculum; detailed, written lesson plans are provided, as well as, alternate ways to teach each skill), Training (step-by-step instructional videos of educators working with students demonstrate principles of ABA), Data Tracking, (record results from teaching sessions and have data automatically graphed for ongoing assessment).

http://www.rethinkautism.com/Professional/intro.aspx

Visit www.ttaconline.org to find these as well as numerous other online resources for evidence based practices for students with ASD.
environments, and tasks.

- The assessment provides the IEP team with clearly documented recommendations that guide decisions about the selection, acquisition, and use of AT devices and services.
- The use of AT is reassessed any time changes in the student, the environments, and/or the tasks result in a change in the student’s needs related to his/her current devices and/or services.

The QJAT model suggests that assistive technology assessment is an ongoing continual part of educational planning. It also emphasizes that the assessment process should be one that yields recommendations based on data collected from trials with assistive technology tools, used in meaningful ways on typical tasks in the student’s daily environments.

The Student, Environment, Tasks, Tools (SETT) Framework (Zabala, 2002) is another useful resource for assistive technology assessment. It is an organizational tool to help collaborative teams create student-centered, environmentally useful, and task-focused tools and systems that foster the educational success of students with disabilities (Zabala, 2005). It is a framework, rather than a protocol, that focuses on answering critical questions in order to guide the discussion of the IEP team during the decision-making process. Links to the materials of the SETT Framework can be accessed through the Assistive Technology: A Framework for Consideration and Assessment, from http://ttaconline.org:2177/index.asp.


Bobbe and Michelle Duquette check out talking books on the iPad at the Technology Showcase.


References:

- The legislation cited above is the third and current reauthorization of the Technology-Related Assistance Act of 1988, known as the, “Tech Act.” The purpose of the legislation was and is to enhance the lives of persons with disabilities by promoting the awareness of and access to technology and services. Awareness and access is meant to enable persons with disabilities to participate more fully in their community, as well as, to access educational and employment opportunities. The legislation applies to all persons with disabilities regardless of age.

AT, at its most sophisticated, includes hundreds of electronic devices designed to enhance communication, education and learning, vision and reading, hearing, listening and recreation. AT also includes ergonomic equipment, prosthetics, and orthotics. AT, at its simplest, can be a pencil grip, highlighting markers, an index card, or similar straight edge to help students track across a line of print. It can even be adjusting the window blinds or fluorescent lighting.

Assistive Technology Services support people with disabilities and/or their caregivers by helping them select, acquire, or use adaptive devices. Typically, AT services include evaluations, training, and demonstration of how a device is used and/or tailored to each persons needs. Also, there may be assistance toward leasing or purchasing products.


Resources:


Foundations for Assistive Technology

Judith Fontana, Ph.D., VDOE T/TAC @ GMU

Have you ever used:
- Spell check?
- Grammar check?
- A calculator?
- A straight edge?
- Voice recognition software?
- Highlighters?
- A ramp?
- A lever door knob?
- A magnifier?

If so, then you have used what for some is considered “Assistive Technology, or AT. AT commonly refers to,” products, devices or equipment whether acquired commercially, modified or customized, that are used to maintain, increase or improve the functional capabilities of individuals with disabilities...” (PL 108-364, The Assistive Technology Reauthorization Act of 2004).

AT, at its most sophisticated, includes hundreds of electronic devices designed to enhance communication, education and learning, vision and reading, hearing, listening and recreation. AT also includes ergonomic equipment, prosthetics, and orthotics. AT, at its simplest, can be a pencil grip, highlighting markers, an index card, or similar straight edge to help students track across a line of print. It can even be adjusting the window blinds or fluorescent lighting.

Assistive Technology Services support people with disabilities and/or their caregivers by helping them select, acquire, or use adaptive devices. Typically, AT services include evaluations, training, and demonstration of how a device is used and/or tailored to each persons needs. Also, there may be assistance toward leasing or purchasing products.

References:

Writing is a critical aspect of literacy, and disturbing numbers of adolescents are not meeting educational writing proficiency standards based on results from the 2002 National Assessment of Educational Progress (NAEP). The report found 70 % of 4th graders, 69% of 8th graders, and 77% of 12th graders are not meeting educational writing proficiency standards based on results from the 2002 National Assessment of Educational Progress (NAEP). The report found 70 % of 4th graders, 69% of 8th graders, and 77% of 12th graders scored at Basic or Below Basic on the writing assessment. Graham and Perin (2007), in a report for the Carnegie Foundation of their meta-analysis of 142 research studies, also found that 70% of students in grades 4-12 were considered low achieving writers. Having difficulty expressing thoughts and ideas through written language is the most prevalent disability of communication skills (Calfee & Wilson, 2004).

As students move through the grades, they experience increased demands for writing activities and composition in English, as well as, being expected to use writing to demonstrate learning in other core subjects like history, social studies, and science. Calfee and Wilson (2004) describe written composition problems to include:

- lack of understanding of the purpose of composition writing tasks (narrative, expository, essay, report, review)
- failure to plan for composition (having a clear purpose or supporting ideas)
- less time spent writing
- overuse of immature and ineffective “telling” strategy
- lack of other strategies or procedures for generating and organizing ideas
- lack of knowledge or use of text structures for different genres, essays, reports, etc.
- over reliance on narrative or descriptive text structure

Compared to peers, these students also had:
- more mechanical errors including spelling, punctuation, and capitalization
- more subject/predicate (syntax) errors
- fewer words and sentences
- less variety of words and novel words
- fewer adjectives and adverbs
- fewer words with at least 7 letters
- less complex sentences

Moreover, students with low literacy skills tend to compose short texts with familiar words, have little sense of their audience, or demonstrate limited text organization. They often spend less than one minute planning what to write. In editing and revising, these students usually revised mechanics not ideas, organization, or text cohesion (Petroski-Karlan & Paree, 2007).

The National Writing Project (2006) recommends that writing instruction needs to be improved. It is not a matter of simply receiving accommodations like extra time or a clarification of the writing task. In order to improve writing skills, students need to explore and reflect on ideas; engage in strategic thinking about what they know, about new text information, and about what they will write; organize information to support thinking; and engage in synthesizing activities to produce a written product which they have revised and edited (Calfee & Wilson, 2004). Teachers need to scaffold instruction before, during, and after writing to help students create more fully developed writing products. This instruction also needs to generate student interest and motivation for the writing topics.

A model for the process good writers use includes:
1. Planning (generating ideas, setting goals, and organizing)
2. Transcription/Translating/ Drafting (turning plans into written language)
3. Revising and Editing

It is recommended that teachers provide scaffolding by including a sequence of steps or an explicit framework to guide students through this writing process (National Writing Project & Nagan, 2006).

The National Commission on Writing (2003, 2006) recommended reform of writing instruction include:
1. Increase in amount of time that students spend writing
2. Improved assessment of writing
3. Application of emerging technologies for writing
4. Professional development for teachers in writing

One of the major outcomes of this new emphasis on writing was the widespread view that writing and teaching of writing needs to be closely connected to reading and can best be supported by combining the teaching of good writing processes with a wide range of new technologies. These assistive technologies can be particularly helpful for struggling writers with learning and academic disabilities (Peterson-Karlan & Parette, 2007).

Technology can be a tremendous benefit in differentiating instruction and supporting students to become proficient writers. A variety of technology tools can be combined with instructional writing strategies in all phases of the writing process: planning, transcribing, editing, and revising. Scaffolding instruction with technology helps students with the mechanics of writing, as well as, composing written products in a shared core curriculum environment. Struggling writers benefit from explicit instruction and guided practice with new technologies if they are to learn how to use them effectively to become better writers. Some types of technological tools that can support the development of writing skills are listed below.

Computers and word processors

Using basic computers and word processors is one of the most significant technology supports for writing. Writing using keyboards eliminates legibility issues of poor handwriting and allows inserting, erasing, re-organizing of notes and writing drafts. Supporting word processing by offering students a variety of games to teach keyboarding skills can begin at early ages for 5-10 minute periods each day and increase to 10-20 minute periods for upper grade students (Richards, 2008).

<table>
<thead>
<tr>
<th>Planning</th>
<th>Type of Activities</th>
<th>Technology Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose of composition</td>
<td>Build background knowledge of topic area.</td>
<td>Color-coded word cards, folders</td>
</tr>
<tr>
<td>Audience for writing</td>
<td>Build key vocabulary.</td>
<td>Highlighters and post-it notes</td>
</tr>
<tr>
<td>Topic-key task</td>
<td>Create notes from resources.</td>
<td>Pressure paper for shared note-taking</td>
</tr>
<tr>
<td>Content area needed for information</td>
<td>Brainstorm/generate ideas, and key questions with others.</td>
<td>Word walls</td>
</tr>
</tbody>
</table>

Text to Speech

This output tool, used with a computer, allows students to have text displayed on the computer read back to them. Then, students can use the text with a computer, using the text, and selecting text, then send the text to others.

Word Prediction Programs

These programs are based on common patterns of English and prompt the user to select an appropriate word based on the beginning part of the word typed (1-3 letters). The writer selects from a list of likely choices. Word prediction can be combined with text-to-speech programs for some students with poor spelling challenges.

Spell Checkers

Spell checkers included in most word processors and separate hand held devices are very helpful at all stages of the writing process, but particularly at the Editing phase. Also, they can be used with text-to-speech and in conjunction with electronic dictionaries, thesauruses, and glossaries. Hand held spell checkers can be taken easily from class to class.

Planning

• Purpose of composition
• Audience for writing
• Topic-key task
• Content area needed for information

Technology Options

• Build background knowledge of topic area.
• Build key vocabulary.
• Create notes from resources.
• Brainstorm/generate ideas, and key questions with others.
• Use teacher directed questions, guides, and think sheets.
• Receive direct instruction for tools or strategies/modeling.
• Pre-write: lists, journal entries, quick writes about ideas, characters, reflections.
• Create outlines, concept maps, and concept maps to organize information and concepts.
• Produce written plan for composition or writing task.
• Practice keyboarding skills with games at a separate time-period from composition writing time.

References and Resources: Assistive Technology Tools and Resources for Learning, Retrieved October 19, 2010 from http://www.techmatrix.org/ biodiversity/ScienceSearch/Print%5b4%5dlove%5dfood%5d%20Multisensory%5dTechnology%20for%20Students.


A report


http://www.techmatrix.org/ biodiversity/ScienceSearch/Print%5b4%5dlove%5dfood%5d%20Multisensory%5dTechnology%20for%20Students.

http://www.adlit.org/article/35797theme-print

http://www.readingrockets.org/article/30373?print

http://www.techmatrix.org/ biodiversity/ScienceSearch/Print%5b4%5dlove%5dfood%5d%20Multisensory%5dTechnology%20for%20Students.

http://www.adlit.org/article/35797theme-print

http://www.readingrockets.org/article/30373?print
### Writing Process

<table>
<thead>
<tr>
<th>Type of Activities</th>
<th>Technology Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write draft based on components of plan.</td>
<td>Computer with word processing software and spell and grammar checks</td>
</tr>
<tr>
<td>Produce written text: using key words, sentences, and paragraphs.</td>
<td>Computer with graphic-based word processor (Writing with symbols, Pix Writer)</td>
</tr>
<tr>
<td>Use word processing to improve legibility and length.</td>
<td>Computer with talking word processing software (Write: Outloud, IntelliTalk)</td>
</tr>
<tr>
<td>Continue to have brief keyboarding practice using games at a different time period from designated composition writing time.</td>
<td>Computer with word prediction software (Co:Writer, Word Q)</td>
</tr>
<tr>
<td>Use text-to-speech technology for students with persistent, severe spelling difficulties.</td>
<td>Electronic reference tools such as dictionaries, thesauruses</td>
</tr>
<tr>
<td>Use speech recognition software with text-to-speech output to produce dictated text.</td>
<td></td>
</tr>
<tr>
<td>Provide systematic instruction for use of word processing or other technology tools.</td>
<td></td>
</tr>
</tbody>
</table>

### Editing

Detect and correct errors of:
- Spelling
- Capitalization
- Punctuation
- Grammar
- Sentence structure

### Revising

- Add more things reader needs to know
- Rearrange information in logical way
- Remove unnecessary details and information
- Replace words or details to make ideas stronger

- Change content to improve meaning or organization.
- Look at content from a different point of view.
- Will your audience understand what you have written?
- Look for places where the writing can be clearer or more interesting.
- Decide if anything needs to be added to improve your paper.
- Are there details or examples for key points?
- Have others read your paper and give you feedback.
- Allow enough time to think about how to improve the paper.
- Proofread your writing for errors.
- Use a spellchecker or grammar checker on your computer or a separate spellchecker.
- Have someone else proofread the final completed writing to catch any other errors that may have been missed.

### Technology Options

- Spellchecker and grammar checkers on computer or word processor used to write the paper
- Spellchecker with Text-to-Speech for accuracy of editing

### References:


This document can be viewed at T/TAC Online at [http://www.ttaconline.org/staff/s_searchresults.asp](http://www.ttaconline.org/staff/s_searchresults.asp).

### Elements of Effective Writing Instruction

In their “Writing Next” document, Graham and Perin (2007) identified 11 instructional elements across multiple studies that demonstrated significant positive effects for improving writing quality.

Listed from most effective to least effective:

1. **Writing strategy instruction**
   - Explicit instruction for teaching planning, revising, and editing writing
   - May also include teaching processes for collaborating with peers, self-regulation, or ways to use learning aids

2. **Summarization**
   - Explicitly and systematically teaching students to write summaries

3. **Collaborative Writing**
   - Providing opportunities for working together with other students on one or more aspects of the writing process

4. **Specific Product Goals**
   - Assigning students specific goals for the completed writing assignment including needed elements such as “give 2 examples to support your point of view”

5. **Word Processing**
   - Using word processing software to complete composition assignments

6. **Sentence Combining**
   - Teaching students to craft more complex sentences from simple sentences, by adding phrases, adjectives, etc., especially effective for low achieving writers

7. **Pre-Writing**
   - Engage student in pre-writing activities to generate and organize ideas like brainstorming, gathering of information, use of outlines and organizers

8. **Inquiry Activities**
   - Using and analyzing multiple sources for collecting data and information and developing sub-topics and/or research questions.

9. **Process Writing**
   - Emphasize an organized approach for teaching the phases of the writing process: planning, transcribing, revising, as well as, other elements needed to improve individual student’s writing

10. **Study of Models**
    - Provide examples of different types of writing for assignments

11. **Writing for Content Learning**
    - Using writing as a tool to learn information in content area classes with emphasis on writing skills for particular content

These eleven elements of effective instruction were identified across studies but were not meant to represent a curriculum plan. No research was reported that combined the elements in multiple ways. The authors suggest that teachers could choose those elements that best matched their context and the needs of their specific students.
Web Resource and Assistive Technology Supports for Instruction of Writing ASOL for Students with Intellectual Disabilities

Karen L. Berlin, M.Ed., VDOE T/TAC @ GMU

The 2011 school year marks the first time the Virginia Alternate Assessment Program (VAAP) English collection for grades 5, 8 and 11 will require evidence of achievement in the writing ASOL. Although many teachers have been including writing as a core component of literacy instruction for students with intellectual disabilities, the addition of this assessment component has presented new instructional opportunities for teachers and students. Characteristics of students with intellectual disabilities challenge traditional approaches to writing instruction, as these learners may display fine motor deficits, and/or limited ideation and expressive language.

Assistive technology (AT) can aid teachers in making accommodations for fine motor deficits by finding each student’s “pencil.” Often described in research as “alternative pencils”, AT provisions can include, but are not limited to: picture symbols with tactile representation, assistive writing devices, adapted pens/pencils, and manipulatives with print. Student ideation and expressive language can be expanded by AT through a wide variety of communication devices, writing software applications, stamps, adaptive keyboards, and other instructional supports. Software applications, stamp systems, and other resources can be searched by grade level or topic.

Co: Writer

PixWriter
http://www.alphasmart.com/products/pixwriter.html is a picture-assisted writing tool.

Write Outloud

Alphasmart, Neo, Dana
http://www.alphasmart.com/ are portable writing tools.

Screen Reader
http://www.readplease.com/ for revising and editing.

References:


The Writing Site
http://thewritingsite.org/resources/links: Categorizes a wide variety of excellent writing resource links.

Center for Literacy and Disability Studies

Remnant Books
http://www.med.unc.edu/ahs/clds/resources/deaf-blind-model-classroom-resources/predictable-chart-writing: Provides information on how to create remnant books, which are visual-tactual means to record important events in a student’s life.

First Grade Resources
http://classroom-resources/predictable-chart-writing: Provides information on how to create remnant books, which are visual-tactual means to record important events in a student’s life.

Predictable Chart Writing
http://www.med.unc.edu/ahs/clds/resources/deaf-blind-model-classroom-resources/predictable-chart-writing: Provides a predictable chart-writing template for students to use as a visual support for writing to teach beginning, middle and end concepts.

Scholastic.com
http://www2.scholastic.com/: Offers a wide variety of activities to help students write. The site can be searched by grade level or topic.

Writing with Writers
http://teacher.scholastic.com/write/writeit/: Embedded within the Scholastic website, this site offers workshops for students to work with authors, editors, and illustrators to help them develop writing skills.

Kiz Club
www.learnnc.org/lp/external/2109: Resource for printing out flashcards that can be used as word banks or to fill-in-the-blanks when students need help with writing.

Reading Rockets
http://www.readingrockets.org: Offers interesting modules and links for teaching beginning, middle and end concepts.

Storybook Online Network
http://www.storybookonline.net/Default.aspx: Offers a storytelling community for children where they can post their own stories and/or read the stories of others.

Raz-kids.com
http://www.raz-kids.com/: Offers free sample interactive stories to serve as a catalyst for writing instruction. Classroom subscriptions are available for purchase.

Education Place
http://www.eduplace.com/: Offers a wide variety of graphic organizers to help structure writing projects.

Scholastic Teachers
http://content.scholastic.com/browse/article.jsp?id=2995: Provides a printable download of the story train as a visual support for writing to teach beginning, middle and end concepts.

Scholastic.com
http://www2.scholastic.com/:

Draft Builder
http://www.donjohnston.com/products/draft_builder/index.html breaks writing into manageable pieces and helps students generate and organize ideas.
The use of technology to enhance learning can be an effective approach for many children and assistive technology (AT) is available to support students with a wide range of disabilities (Stanberry & Raskind, 2009). “For school-aged students, AT devices and services are those that provide access to the general education curriculum and/or a means to meet Individualized Education Program (IEP) goals (Pennsylvania Training and Technical Assistance Network [PTTAN], 2010).

Often, when people think of technology, they think only of high-tech products, such as computers and software, but there is a broad continuum. AT may encompass both high- and no- or low-tech solutions and allows many students with disabilities to function effectively and meet their educational goals (PTTAN, 2010).

A student's IEP team is required to consider the need for assistive technology (IDEA 1997). “Consideration […] should include, but not be limited to the following instructional areas of need:

- Writing
- Spelling
- Reading
- Math
- Study/Organization Skills
- Listening
- Communication
- Activities of Daily Living

Adaptive/Alternative Keyboards: For students who experience difficulty with conventional keyboard configurations, these offer individuals with special needs greater efficiency, control, and comfort. They may be different from standard keyboards in size, shape, layout, or function.

Computer Access: Consideration should include, with disabilities to function effectively and meet their educational goals (VDOE, 2009) Assistive Technology: A Framework for Consideration & Assessment)

The team also considers how each area of identified need manifests itself within various settings and environments, including general education, special education, community, work, and home (VDOE Assistive Technology Consideration Guide (2008).

GLOSSARY OF AT TERMS

This glossary contains a list of some common assistive technology related terms and definitions. This list has been compiled and adapted from VDOE's Assistive Technology: A Framework for Consideration and Assessment; The Family Center on Technology and Disability, The National Center on Accessible Instructional Materials, and The Pennsylvania Training and Technical Assistance Network.

Accessible Instructional Materials (AIM): Specialized formats of curricular content that can be used by and with print-disabled learners. They include formats such as Braille, audio, large print, and electronic text.

Accessibility Features: Various options that exist within products that allow a user to adjust settings to their personal needs.

Adaptive/Alternative Keyboards: Technology that is relatively simple but potentially very effective. Sometimes these systems and/or devices have no electronics and often are powered by standard batteries. Examples include pencil grips, slant boards, adapted feeding utensils, talking spell checkers.

On Screen Keyboards: Software-generated images of a standard or modified keyboard placed on the computer screen. The keys are selected by a mouse, touch screen, trackball, joystick, switch, or electronic pointing device.

Portable Word Processor: Often lightweight and inexpensive devices that can easily be taken from place to place. These devices provide access to word processing without a computer. Text can also be downloaded from the device to a computer or to a printer for saving and printing.

Scanning: An indirect access method used with communication devices or computer access. Choices are highlighted systematically, and the student uses a switch to make selections as the highlighter moves from symbol to symbol.

Screen Reader: A software program that uses synthesized speech to “speak” graphics and text aloud.

Switch Access: Switches offer an alternative method of providing input to a computer when it is not possible to use a standard keyboard or mouse. Switches come in various sizes, shapes, methods of activation, and program options.

Talking Word Processors: Software programs that provide audio feedback as the student writes. As each letter is typed and each word is written, the device will “speak” it aloud.

Universal Design for Learning (UDL): The design of instructional materials and activities that make learning goals achievable by individuals with wide differences in their abilities. Flexible alternative curricular materials and activities are built into the instructional design and operating systems of the educational materials rather than added on after the fact.

Voice Recognition (also called Speech Recognition): Allows the user to speak to the computer, instead of using a keyboard or mouse, to input data or control computer functions.

Word Prediction: These programs allow the user to select a desired word from an on-screen list. The computer-generated list predicts words based on the first or second letter(s) typed by the user. The word may then be selected from the list and inserted into the text.

References and Resources:


National Center for Accessible Instructional Materials; All about AIM and AIM Basics; Retrieved September 17, 2010 from http://aim.cast.org/learn/accessiblmedia/allaboutaim.


November/December 2010

Featuring some of our Most Wanted resources . . .

**Assistive Technology for Students who are Blind or Visually Impaired: A Guide to Assessment**
By Ike Presley and Frances M. D’Andrea; call number - 681.761 PRE 2008

This book is designed for teachers and other service providers who assess visually impaired students with the purpose of documenting their educational needs and suggesting potential solutions through the use of assistive technology.

**Assistive Technology: Powerful Solutions for Success [DVD]**
Call number - VIDEO 362.4 ASS 2010

Utilizing the principles of Universal Design for Learning (UDL), this DVD takes you into classrooms where AT solutions are being successfully implemented for students requiring auditory processing supports, fine-motor and writing supports, and reading supports. Running Time: 37 minutes.

**The Practical and Fun Guide to Assistive Technology in Public Schools**
By Chris Bogar and Sally Norton–Darr; Call number - 371.904 BUG 2010

This book includes tips, strategies, and insight that will help improve your school or district AT program.

**Eggspert**
Call number - AT 371.336 EGG 2001

Eggspert is an electronic game that can be used to turn classroom lessons into exciting learning sessions. Use the two different play modes - Quiz Show and Wheel of Fortune for math, spelling, geography, and other classroom question-and-answer activities. Requires 4 AA batteries or check out the optional AC adaptor.

**Assistive Technology in the Classroom: Enhancing the School Experiences of Students with Disabilities**
By Amy G. Dell, Deborah Newton, and Jerry Petroff; call number - 371.33 DELL 2008

With an emphasis on the integration of assistive technology into the curriculum, this text focuses on how assistive technology can be used in schools to enhance the teaching and learning of students with disabilities. It is organized by school-related tasks that students must perform on a daily basis to be successful -- reading, writing, practicing academic skills, and communicating with their teachers and peers -- and presents descriptions of technology-based solutions to the obstacles students with disabilities face in completing these tasks.

**Assistive Technology in the Workplace**
By Desleigh deJonge, Marcia Scherer, Sylvia Rodger; call number - 362.404 DEJ 2007

This book outlines and defines the process for selecting, integrating, and utilizing assistive technology in the work environment. Each stage of the process is examined in depth, and effective strategies are presented to help overcome the barriers likely to be encountered at each stage. The book also provides insight into the client’s experience by drawing on research that explores the experiences of people using assistive technology in the workplace and the issues they face in acquiring and using their technology in the work environment.

**Every Move Counts: Clicks and Chats**
By Jane Korsten, Teresa Foss, and Lisa Berry; call number - 371.9 KOR 2007

This book includes sensory-based strategies for communication and assistive technology. It includes reproducible documents—assessments, tables, charts, and data formats for use with specific individuals.

**Freedom Machines [DVD]**
Call number - VIDEO 362.42 FRE 2005

Freedom Machines is look at disability in the age of technology, presenting intimate stories of people ages 8–93, whose talents and independence are being unleashed by access to modern, enabling technologies. Freedom Machines reveals the power of technology to change lives. Running Time: 69 minutes

To request one of the items above or any other materials available for checkout, please contact Region 4 T/TAC Librarian Jackie Petersen, jpeterson@gmu.edu or 703.993.3672

If you like these, search our catalog for more @ http://kihd.gmu.edu/library

No time to come to the library? No problem! Most items can be mailed to your school or home address.

KELLAR LIBRARY LINE-UP

Jackie Petersen, MLS, VDOE T/TAC at George Mason University
Events & Conferences

NOVEMBER

November 15: 2010 Fourth Annual I’m Determined Youth Summit - Stonewall Jackson Hotel in Staunton, VA
The Youth Summit is a two-day event held each year. Approximately 100 youth with disabilities (14 and older) from across the Commonwealth meet to network and discuss issues of importance to young people with disabilities. Delegates work in teams to identify issues and develop action plans that will encourage youth to better advocate for themselves and lead more self-determined lives. - Visit: http://www.ttaconline.org/staff/s_events/s_event_detail.asp?cid=1752

November 19: AT Consideration Workshop (Presented by AT Coordinators from GMU T/TAC)
During this workshop, participants will have the opportunity to analyze and implement the tools developed and/or adapted by the Assistive Technology State Directed Project in order to document what devices or services must be considered as most appropriate for their students. This event will be held at the Kellar Annex 1 near the GMU Fairfax Campus and will be limited to 30 people on a first come, first serve basis. This event can be repeated on different dates at your request if you provide a site in your geographical area. Visit: http://www.ttaconline.org/staff/s_events/s_event_detail.asp?cid=1765

DECEMBER

December 10: Interactive Whiteboards: How can I use them in the classroom?
(Presented by AT Coordinators from GMU T/TAC)
During this workshop, participants will have the opportunity to review and compare through hands-on experiences, several interactive boards and their software and classroom applications. This event will be held at the Kellar Annex 1 near the GMU Fairfax Campus and will be limited to 30 people on a first come, first serve basis. Light lunch will be provided at this location. This event can be repeated on different dates at your request if you provide a site in your geographical area. Visit: http://www.ttaconline.org/staff/s_events/s_event_detail.asp?cid=1766

JANUARY 2011

January 14, 2011: Can mobile devices really change the way we learn? During this workshop, participants will review the use of these mobile devices from the perspective of their use at home, in the classroom, in the community, and in the workplace. Hands-on activities will allow participants to play with apps developed for productivity, communication, learning, social collaboration, and entertainment. This workshop will be presented by the AT Coordinators from the GMU T/TAC, and it will be held at the “Staff Training Center, 43711 Partlow Rd., Ashburn, VA 20147”. It will be limited to 30 people on a first come, first serve basis. This event can be repeated on different dates at your request if you provide a site in your geographical area. - Visit: http://www.ttaconline.org/staff/s_events/s_event_detail.asp?cid=1767

FEBRUARY 2011

February 11, 2011: Insight into Autism - This conference sponsored by Eastern Virginia Medical School (EVMS) and Children’s Hospital of the King’s Daughters (CHKD) will be an update on genetics, early diagnosis, and neurobiology followed by an afternoon on clinical application presented by Drs. Dozier, Harrington & Urbano. - Visit: http://www.ttaconline.org/staff/s_events/s_event_detail.asp?cid=1779

During this workshop, participants will have the opportunity to discuss how these tools will help them support project-based learning, where students can engage in multi-week, multi-media, multi-subject, collaborative efforts. This workshop will be presented by the AT Coordinators from the GMU T/TAC, and it will be held at the Kellar Annex 1 near the GMU Fairfax Campus. It will be limited to 30 people on a first come, first serve basis. Light lunch will be provided at this location. This event can be repeated on different dates at your request if you provide a site in your geographical area. Visit: http://www.ttaconline.org/staff/s_events/s_event_detail.asp?cid=1768

MARCH 2011

March 14-16, 2011: Virginia Transition Forum 2011: Taking Steps to Person-Centered Thinking
Norfolk Waterside Marriott, Norfolk, VA
Drawing close to 1,000 participants annually, The Virginia Transition Forum brings together students, parents, educators, rehabilitation professionals, and others to guide youth with disabilities to achieve successful employment and life outcomes. We will host the 2011 Transition Forum at the Norfolk Waterside Marriott and the overflow hotel is the Sheraton Norfolk Waterside. Visit: http://www.ttaconline.org/staff/s_events/s_event_detail.asp?cid=1746
March 18, 2011: Book Study Topic: The Universally Designed Classroom (Part 1)  
(Presented by the AT Coordinators from GMU T/TAC)

This is Part 1 in a 2 session series. The book title is “Accessible Curriculum and Digital Technologies” (2007). It is edited by David H. Rose, Anne Meyer, and Chuck Hitchcock. During this workshop, participants will review the UDL framework and apply its principles to developing materials, instruction, and evaluation tools. Homework will be assigned to discuss during Part 2. This workshop will be presented by the AT Coordinators from the GMU T/TAC and will be held at the Kellar Annex 1 near the GMU Fairfax Campus. It will be limited to 30 people on a first come, first serve basis. Light lunch will be provided at this location. This event can be repeated on different dates at your request if you provide a site in your geographical area. 
Visit: http://www.ttaconline.org/staff/s_events/s_event_detail.asp?cid=1769

APRIL 2011

April 14, 2011: Captivate, Activate, Invigorate: Engaging the Mathematical Brain  
Save the Date for “Captivate, Activate, Invigorate: Engaging the Mathematical Brain” workshop co-sponsored by the T/TACs at GMU and ODU. Featured presenter: John Almarode - Location: Hospitality House, 2801 Plank Rd., Fredericksburg, VA 22401 - Target Audience: Teachers – elementary through middle school Plan to attend this amazing workshop which will link the most recent research on student engagement and learning in the math classroom. Participants will walk away with ideas and strategies that will have every student captivated, activated, and invigorated! Registration information will be posted on T/TAC Online.

Contact: Judy Stockton, GMU T/TAC - jstockt1@gmu.edu or Laura Beller, ODU T/TAC - lbeller@odu.edu


The CEC 2011 Convention & Expo is the largest professional gathering of the special education community. This event offers you an unparalleled experience with more than 800 sessions to help you learn the latest in evidence-based practices; explore innovative technologies, products, and services; and network with other professionals working with children with exceptionalities and their families. 
Visit: http://www.ttaconline.org/staff/s_events/s_event_detail.asp?cid=1788

April 29, 2011: Book Study Topic: The Universally Designed Classroom (Part 2)  
(Presented by the AT Coordinators from GMU T/TAC)

This session is Part 2 in a 2 session series. The book title is “Accessible Curriculum and Digital Technologies” (2007). It is edited by David H. Rose, Anne Meyer, and Chuck Hitchcock. Continuing from Part 1, participants will discuss UDL implementation and review examples using best practices and curriculum enhancements. This workshop will be presented by the AT Coordinators from the GMU T/TAC and will be held at the Kellar Annex 1 near the GMU Fairfax Campus. It will be limited to 30 people on a first come, first serve basis. Light lunch will be provided at this location. This event can be repeated on different dates at your request if you provide a site in your geographical area. 
Visit: http://www.ttaconline.org/staff/s_events/s_event_detail.asp?cid=1770

MAY 2011

May 27, 2011: Book Study: How to Differentiate Instruction in Mixed-Ability Classrooms (2001)  
(Presented by the AT Coordinators from GMU T/TAC)  
This book is by Carol A. Tomlinson. During this workshop, participants will review what differentiation is and is not. Strategies for managing a differentiated classroom will be analyzed. This workshop will be presented by the AT Coordinators from the GMU T/TAC and will be held at the Kellar Annex 1 near the GMU Fairfax Campus. It will be limited to 30 people on a first come, first serve basis. Light lunch will be provided at this location. This event can be repeated on different dates at your request if you provide a site in your geographical area.

Visit: http://www.ttaconline.org/staff/s_events/s_event_detail.asp?cid=1771

The T/TAC Telegram has gone electronic. If you would like receive our quarterly newsletter, please sign up on our website at: http://www.regonline.com/ttac_newsletter. You will receive each new issue of our newsletter delivered right to your inbox.