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The Monitor

From the Director

A collaborative effort of the Milwaukee Public Schools Department of Special Services Assistive Technology and the Wisconsin Assistive Technology Initiative

Fall was a busy season – I'm sure it was the same for everyone. We never seem to slow down despite our most earnest promises to ourselves. At least for WATI, it was a fruitful season. I hope yours was too.

First, I would like to welcome Andrea Britz to the WATI staff. She joined us on December 1st and is the new part time WATI secretary. If you call into WATI, she will most likely be the person who answers the phone so say "Hello" to her.

By the time you receive this newsletter, the new WATI website will be up and running. Some highlights include an updated look, easier navigation, and several new sections. Familiar sections include *About WATI*, *Loan Library*, and *Materials*, products WATI sells. The *Training* section has been expanded to help you identify upcoming workshops in your CESA. This will be updated frequently as consultants let us know what they have scheduled. The *Best Practices* section contains many familiar articles but now includes the two fact sheets on AT for students with hearing impairments. It will also host information on assistive technology for students with visual impairments when time allows us to write it. If anyone would like to contribute to that effort, let me know.

A completely new section is titled *Literacy*. It is divided into three parts: *Birth to 3*, *Early*

Childhood, and *School Age*. Over the last two years, WATI has been developing literacy kits and distributing them to Birth to 3 programs across the state. We have decided to share the electronic files from these kits so more people can benefit from them. Each of the 7 kits includes printable books, communication boards, activity sheets and letters to parents. The *Early Childhood* section includes literacy materials developed for Head Start providers. You will find directions for making a clickable electronic book, a completed book with support materials, and videos demonstrating the use of these materials with young children. Finally, the *School Age* section is the same set of pages developed by Kathy White that was on the previous website.

Many of the other materials from the previous site have been reorganized under new menu items. Click *Curriculum* to get to the materials on *Art*, *Daily Living*, and *Transition*. Click *Special Buys* to find flyers of the current special purchase arrangements negotiated by WATI. The *Used Equipment Marketplace* has moved to a menu item of its own. Check here for the most current list of used items for sale (or free). There are a few "Wanted" items on the list as well. The form to post something for the list (at no charge) is available on this page too. The old *What's New with*

WATI is now just *News*. Back issues of *The Monitor* are available here as well as short updates on WATI activities. Finally, a list of *Links* is provided to help you spring into other areas of the Internet with great resources on assistive technology.

Two new features of our website include a *Site Map* and a *Search* tool. The *Site Map* provides a text outline of all the individual pages on the WATI website. For many it is easier to navigate using a site map rather than nested menus. The new search tool allows you to conduct a topical search within the WATI website. That is for all those times when you say "I know I saw it on the WATI website but I don't remember where." I hope this new website serves you better than the old. It will continue to evolve as we see it in action so don't be too surprised when you see additional changes. As always, your comments are welcome.

We would love to hear about your accomplishments this fall. Send me an email and let me know what you have been up to. And have a very merry and safe holiday season!

Liz Lahm

Assistive Technology (AT) as a Complementary or Compensatory Tool for Brain Compatible Instructional Strategies

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It is critical for all teachers to understand how the brain works. There is no greater road to differentiation in the classroom than the road that is traveled through the mind and understanding of a student. It is equally important to know about brain function for the person who must identify the AT needs of a student with mild disabilities. How do they identify AT tools that complement instruction and compensate for a central auditory processing disability without this background information?

The person responsible for assisting an IEP, 504 or ADA accommodation team to understand the need for assistive technology must also understand how each of the A.T. options open to them meets the brains need to understand, retrieve or physically interact with the instructional information. This is why the student has found school demands difficult up to the referral point at which someone now asks "How could assistive technology improve the functional capabilities of this person?" To understand how technology can assist a brain to process information more efficiently we must know how it typically works.

The brain is a parallel processor. Information comes in through our sensory receptors shooting through the neural network at an amazing speed. This does not happen in a linear fashion. Our brains develop strong synaptic paths to regions that help us interpret what we hear, feel, see, taste. We store relevant information into recallable categories and we prune out superfluous information. Much of this processing becomes automatic. As the central nervous system creates this strong automatic retrieval of

information, our brains are freed-up to focus on new information and connect it to our prior knowledge. For the student with significant learning disabilities (SLD) or cognitive disabilities (CD) this parallel processing may not function as designed. What the ear hears and the brain interprets may not be the same for this individual.

This is where the central nervous system or faulty wiring comes into play. All information comes in through the ear to the auditory thalamus, which then sends it on to the proper systems for processing. All of this happens simultaneously. For students with language processing issues, the messages may come in too quickly for their slower less effective central nervous system to handle. For examples, the teacher says; "Everyone, take out your math book, turn to page 25, use your calculators to finish problem 17, and raise your hand when you are finished." The student with central auditory processing disorders has heard "math book." The message goes from the auditory thalamus to the auditory cortex to the Wernickes region and Brocas for language processing, then to the cortex to check for math related memories and the frontal lobes for feelings about math and stored information. By the time it takes the majority of the class to raise their hands, the student with SLD has the desk open, their hand on their math book and they are unable to remember the rest of the directions. It took that long to process the first five words of the directions. It is not that they have no memory; it is that they cannot get the information into their memory at the same rate without some other

form of support that they can get from a verbal direction.

The student with SLD has difficulty with most language-based activities. Because of the heterogeneous nature of the population within in this category, that difficulty may manifest itself in different subject areas. It may be remembering the steps in oral directions. Alternatively, it may be in deciphering the meaning in math story problems. Focusing on the key elements in a trade book full of different colored fonts, charts and captions could be problematic. On the other hand, it may be working with any print in unfamiliar reading activities.

Brain research has also helped to develop some applications of computer-based software to increase the ability of the brain's auditory processing centers to recognize and speed-up the process and sound out phonemes. Increases have been shown in left temporal-parietal cortex and left inferior frontal gyrus bringing brain activation in these regions closer to that seen in children with normal-reading abilities. This approach may help children reset the timing structures and boost their ability to segment words into phonological pieces more efficiently.

Students with SLD expend an incredible amount of energy trying to take in information. Because of the language processing issues described

Assistive Technology (AT) as a Complementary or Compensatory Tool for Brain Compatible Instructional Strategies (continued)

above, they have difficulty placing any information into working memory for later retrieval. They also have trouble processing multiple sensory inputs at once and filtering out background noise from the spoken directions. They demonstrate an inability to filter out important information from unimportant information.

As we gather information, our neural networks create strong synaptic connections for working with important information. At the same time, we purge ourselves of synaptic connections that carry less important information. This allows us to forget that which is unimportant and use our energies to

focus attention on more useable information. Students with SLD are not able to do this purging of synaptic connections, making it hard to focus. For example, they have a difficult time knowing what an important fact is when they are asked to choose one from a reading sample. They can spend an incredible amount of time trying to start a writing assignment. They have difficulty organizing their thoughts. Without instructional supports, the students have difficulty getting any information to the automatic level of processing that allows them do two things at once. They cannot take notes at the same time they need to listen to

information. This processing discrepancy affects how information is passed and processed in one or more of three different brain systems.

An accompanying chart to this article (available on the WATI website) demonstrates how we match the targeted brain system with effective teaching strategies and utilize AT to compensate for an inefficient central nervous system processing disability or complement a teaching strategy that supports how the student demonstrates their knowledge of the curriculum.

Transitioning Assistive Technology to Post Secondary Settings

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Transitioning students from high school to post secondary settings is always a challenge. The challenge is exemplified when the student uses assistive technology to access the curriculum and will likely benefit from the use of assistive technology in the new environment. It is one thing to move strategies and school records from one place to another, but moving equipment across agency lines is something else. To assure that transition of all relevant information and tools happens it is important to plan ahead and keep school records and implementation notes organized.

The Individuals with Disabilities Education Act of 1997 mandates the provision of transition services and assistive technology. Transition planning should begin no later than age 14. Assistive technology consideration begins at the first

point an individual is identified for special education services and annually thereafter. At age 14, both are part of a planning process to assure successful preparation for graduation and transition to the post secondary setting of the student's choice. As students move into high school they should begin exploring their interests, talents, and abilities to find the best fit for career options. Based on that, planning to acquire the necessary knowledge and skills is the focus when choosing courses, extracurricular activities, and developing self-advocacy skills (Disability Resource Service, 2004). It is important to closely examine the use of assistive technology to achieve secondary education goals but also to understand what the technology requirements of the post secondary career will be, and plan for how those skills will be met by the time the student is ready to enter the job force.

Supports. It is noted in the literature that unemployment and underemployment may not be due just to a person's disability but also contributing is the lack of services available to the student when exiting school (Inge & Shepherd, 2004). Assistive technology is one of several supports required by many students. In a 1994 study, Harris and Associates found that 16% of students with disabilities needed AT to access employment. Much can be accomplished by shifting focus from resolving the disability to providing appropriate supports in the post school setting. Other supports include job placement & training support, financial support, personal assistance services, transportation, & independent living support (Inge & Shepherd, 2004)

Inge & Shepherd (2004) provide
(continued on Page 4)

Transitioning Assistive Technology to Post Secondary Settings (continued)

many examples of low to high tech solutions for work settings, which can help frame a transition IEP team's thinking about assistive technology supports available to students. A few of these include:

Low tech – reachers and movable carts to provide access to work materials; clamps to stabilize work materials; redesign of a task to match the abilities of the individual;

High tech – communication with supervisor using an augmentative communication device; voice recognition software for a reception to take phone messages;

Barriers. While many students successfully use assistive technology in high school to participate in the curriculum, a barrier that surfaces when trying to transfer that AT to the post secondary setting is the transfer of equipment from the jurisdiction of one agency to another. Susan Goodman, Esq. (1999) breaks down this barrier into the following distinct components:

1. Lack of involvement of vocational rehabilitation counselors in the planning process
2. Lack of AT knowledge of vocational rehabilitation counselors
3. Rules regarding the disposition of equipment imposed on school districts
4. No agreed upon method for vocational rehabilitation agencies to buy the equipment from schools
5. Poor communication and collaboration between schools and work-related service agencies.

In an audio conference in May of 1999, she suggested a multi-step process for removing this barrier. This is available on the Tech Connections web site, an assistive technology project out of Atlanta, Georgia.

Procedures. More general procedures that address the complete process of transition are suggested by the Wisconsin Assistive Technology Initiative (WATI) in the *Assistive Technology and Transition Planning Portfolio* (Canfield & Reed, 2001). The Portfolio includes:

- Procedure Guide for Assistive Technology and Transition
- Assistive Technology Protocol for Transition Planning (Noll, Schwartz, and Canfield, 2001)
- Student Information Guide for Self Determination and Assistive Technology Management
- Assistive Technology Goal Setting Worksheet
- Student Portfolio for Successful Transition with Assistive Technology
- Assistive Technology Planning Guide for Transition

The Portfolio includes an organization method to assure all the relevant documents for a student are kept together and are arranged in a meaningful way. It includes:

- Expandable portfolio case to hold all pertinent documents, including those listed above
- Partitioned sections for ease of organization of documents

Checklists for each section for a quick reference of what should be included in the section.

The manual for this portfolio is available online at the WATI website (www.wati.org) or it can be purchased by Wisconsin residents for \$10.00 plus shipping and handling. (More information and an order form are also available on the website.)

The student is an important member on the Transition Planning team. For students who have self-determination skills or who need assistance with self-determination, they can complete the workbook available from WATI, *Hey! Can I Try That?* (Bowser & Reed, 2001), that assists them with the identification and selection

assistive technology. This workbook is also available online from WATI and is available in Spanish as well, or it can be purchased for \$1.00 plus shipping and handling.

Together, the *Assistive Technology and Transition Planning Portfolio* and the *Hey! Can I Try That?* Workbook can help the student, parents, and transition planning team find success in assuring the student will have the assistive technology supports needed for success in the post secondary setting.

References

- Bowser, G., & Reed, P. (2001). *Hey, Can I Try That?* Oshkosh, WI: Wisconsin Assistive Technology Initiative.
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- Noll, Schwartz, & Canfield, T. (2001). *Assistive technology protocol for transition planning.* Turtle Lake, WI: Cooperative Educational Service Agency #11.
- Wisconsin Department of Public Education. (2003, September). *Opening doors to postsecondary education and training.* Madison, WI: Author.

WATI Lending Library

The WATI Lending Library collection is undergoing an overhaul. The numbering system is being changed to reflect an item's category. When that task is complete, a new catalog will be available online, along with a limited number of paper copies. The number system will correspond to the outline in the catalog. For example, all mouse alternatives will begin with the numbers 1.0.2. We will begin using the new system immediately but will be able to cross reference from the old system. Over the remainder of this school year, and probably well into the next, both number systems will be equally used. You are encouraged to refer to the new numbers so you get used to them immediately.

Below are several of the new items in the lending library. Both new and old numbers are included. If you would like to try any of these, contact Sharon Rhode at 800-991-5576. You will need to have a loan agreement on file for the current school year before you can borrow from the library. The loan agreement form is available online. Items can be checked out for 35 days. If you would like to renew an item, contact WATI for permission. If nobody is waiting, we can extend the due date for one 30-day period. After that, it must come back to WATI for maintenance and cleaning.

New Number	Old Number	Description
Books and Videos		
10.0.2.0ew	61322	Strategies That Work - Teaching Comprehension to Enhance Understanding Teaching comprehension to enhance understanding.
10.0.1.0s	61323	Teaching Reading with Start-to-Finish Books Gold Library How to use the Start-to-Finish Books Gold library to enhance reading.
10.0.3.0bj-v (VHS) 10.0.3.0bk (DVD)	61344 (VHS) 61345 (DVD)	Social Networks Help individuals with complex communication needs and their families determine the most appropriate technologies. Planning communication strategies includes the varying needs of listeners, recognizing that communicating with family is usually easier and will require less assistance than communicating with casual acquaintances or strangers. Social Networks is grounded in the principles of functional goal setting and person-centered planning. The Social Networks Manual helps practitioners guide the intervention process. The Social Networks Inventory Booklet is used to collect information about communication partners and current modes of expression. The Social Networks Video presents interviews with leading experts as well as consumers and shows how individuals with complex communication needs broaden their "social network" of friends, acquaintances and people in the community (store clerks for example.)
10.0.2.0ey	61356	Art for Me, Too! (book only) Helps include all children in arts & crafts. Contains 45 art projects, instructional prep tips, materials list, project patterns, adaptations for children w/ special needs, directions in both words & symbols & a list of follow-up activities.

WATI Lending Library, cont.

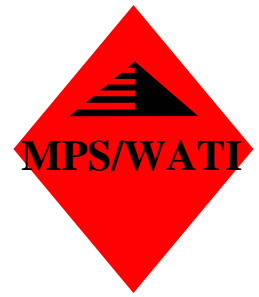
10.0.2.0fg	61371	<p>Brain Matters</p> <p>The author makes it clear that before we can effectively match teaching practice to brain functioning, we must first understand how the brain functions.</p>
Software		
4.2.3.0ab-s	61332	<p>IntelliTools Classroom Suite</p> <p>Three integrated programs: IntelliTalk 3, IntelliPic Studio 3, & Intellimathics 3. Consistent user interface among all three tools. Create curriculum activities and assign to students. Full student portfolio management. Instant authoring capabilities with varied templates. Students can practice curriculum-based activities and check their answers. Teachers can record, report, and print students responses. Teachers and students can create multimedia presentations, activities, quizzes, reports and more.</p>
2.2.2.4d-s	61341	<p>WordQ</p> <p>WordQ software is a special education writing tool used along with standard Windows word processing software to provide spelling, English grammar (and French grammar), and reading assistance. It uses advanced word prediction to suggest words for you to use and provides spoken (text-to-speech) feedback. WordQ also acts a text reader to help you proofread your work or to read existing or scanned text. Users of all ages who have problems writing and editing can benefit, including those who have learning disabilities (LD) such as Dyslexia, or who are learning a second language (e.g., English as a Second Language; ESL).</p>
10.0.2.0fb	61366	<p>Boardmaker with Speaking Dynamically Pro for Windows Lab Lessons Hands-On Tutorial</p> <p>LAB Lessons are designed for educators who want to learn how to use assistive technology software. These comprehensive, bound tutorials are easy-to-use with clear instructions and colored graphics. Users will be pleased at how quickly they will get up and running with their software.</p> <p>Other titles available:</p> <p>10.0.2.0fc <i>Clicker 4</i></p> <p>10.0.2.0fd <i>Dragon NaturallySpeaking Preferred & Professional</i></p> <p>10.0.2.0fe <i>textHELP Read & Write 7</i></p> <p>10.0.2.0ff <i>WYNN Wizard and WYNN Reader (v3.5)</i></p>
Devices		
4.1.1.0p	61349	<p>BookWorm</p> <p>Makes almost any book a "talking book." Simply record a book into the BookWorm literacy tool and press the keypad or an external switch. All students can enjoy their favorite book. Using the headphone jack makes independent reading easy.</p>

WATI Lending Library, continued

4.1.1.0p	61349	BookWorm Also Available: 4.1.1.0o <i>BookWorm with books</i> 4.1.1.0n <i>BookWorm with Keyguard</i>
3.0.2.3bg	61357	Talking Symbols Notepad Students experience language with Talking Symbols. Features include: 10 seconds recording time, great sound quality, activates with light touch, 2" x 2" activation area, and symbol holder (Mounts anywhere using adhesive strip or internal magnet)
2.1.1.0l	61384	Squiggle Wiggle Writer The original vibrating, motorized pen in hot new clear colors creates squiggle writing loops with replaceable color points hours of creative fun, endless "Squiggle Art" on most papers Ages 4 years and up.
2.1.1.0m	61389	Slant Desktop (Adjustable) This portable desktop adjusts smoothly from 0-85 degrees for writing, reading, and artwork. The 20 x 15 inch surface allows plenty of room to rest your forearms or prop up a large print book. Made of rich hardwood. Folds for storage.

Notes of Interest

We also developed a few new products this fall. We made some minor revisions to the *Resource Guide for Teachers and Administrators about Assistive Technology*. The new version is downloadable from the WATI website (www.wati.org) or you can purchase it from WATI for \$1.00. Several websites were updated as well as the WATI consultant list. Two new Birth to 3 kits were developed and distributed. The Early Childhood literacy materials were also finalized. Both of these can be found on the WATI website.



Monitor Schedule
 September 15
 November 15
 January 15
 March 15
 May 15

Articles due the first of the month

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We're on the Web!

See us at:
www.wati.org

do2Learn

<http://www.do2learn.com>

This website was designed to promote independence in individuals with special learning needs...and many of the materials are FREE! It is broken down into *Areas of Concern*, *Basic Skills*, *Games*, *Organization Tools*, *Picture Cards*, *Product Guide*, and *Site Map*. Under *Areas of Concern* are brief overviews of various disabilities, family advocacy information, and advice. Under *Basic Skills* can be found ideas for art projects, learning (including but not limited to the alphabet, time, colors, and feelings), and links to other popular websites, and songs. *Games* addresses colors, numbers, words, safety, and facial expressions and feelings in a fun and many times interactive way. *Organization Tools* provides recommendations for

Websites to Visit

everything from classroom setup to math and writing aids. Assist in creating visual schedules, social scripts, and facilitating reciprocal communication can be found under *Picture Cards*. The *Product Guide* offers items that can be purchased through do2learn by categories, including books for kids and parents or teachers, computer games, games, toys, videos and music, etc. The *Site Map* is a quick reference directory for the various information found on the dot2earn website.

Mind Matters, Inc.

<http://www.patwolfe.com/>

This site was designed for educators at all levels and is dedicated to the translation

of brain research to classroom practice. It is the website of Pat Wolfe, author of *Brain Matters* (WATI Lending Library number 10.0.2.0fg) and *Building the Reading Brain*. The site provides information on brain research that supplements that found in the article by Jill Gierach in this issue of *The Monitor*. Several articles written by Pat Wolfe and others are included as well as a nice annotated bibliography on the subject



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