

The Monitor

PROVIDING A LINK TO QUALITY EDUCATION THROUGH ASSISTIVE TECHNOLOGY

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In this month's Tech Corner, Linda Anderson of LAB Resources discusses current options for speech recognition in "Is Speech Recognition Good Enough These Days to Be a Tool for My Students?"

Read the special insert for ideas about how to modify the elementary and secondary classroom for students with Traumatic Brain Injury.

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A New Resource

WordSmith

by textHELP!

Wordsmith is an integrated tool bar for Microsoft Word 2000. It's designed to promote literacy through support for key writing skills. WordSmith allows multiple users to save their individual preferences for:

Text Reading

WordSmith highlights and speaks on-screen words, sentences, and paragraphs at your preferred pitch, volume, and speed. WordSmith also teaches pronunciation of words by speaking a word in syllables accompanied by on-screen lip movements.

Spelling

WordSmith's spellchecker logs errors as a useful self-monitoring tool. It features an integrated thesaurus that displays and speaks sample sentences. It also features homonym support by providing audible definitions of these often confusing word pairs.

Scanning

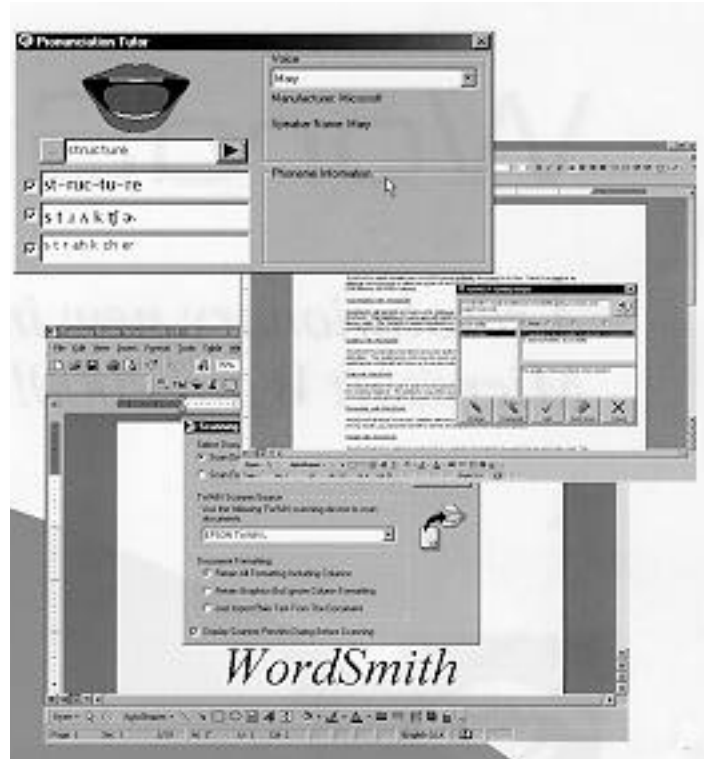
WordSmith will allow any paper document to be scanned for editing or reading.

Word Prediction

WordSmith's word prediction feature offers writers a choice of their most commonly used words, and learns new words as they are typed. Only correctly spelled words are predicted.

WordSmith System Requirements: P200 or above, Word2000, 32MB RAM(64 recommended), 120MB of disk space, sound card, and good quality speakers.

For more information, visit the textHELP website at: <http://www.texthelp.com>



Milwaukee Public Schools
8th Annual
TECHNOLOGY ACCESS CONFERENCE
Pre-conference March 01, 2001
Conference March 02-03, 2001

Wisconsin Assistive Technology Initiative

From the Director

Greetings! Hope your school year is going well. There is much going on in the world of AT right now. Closing the Gap is just a few weeks away as I write this and will have taken place by the time you read this. There are always a myriad of exciting new products and ideas from our attendance there.

In this issue I have included several items from my favorite list serv. It is the Quality Indicators for Assistive Technology Services (QIAT) list serv. It has frequent, very useful exchanges about assistive technology and its use with children with disabilities. I used information from it for both Using the Web as a Resource Tool and Getting Started with AT for a Child with very Complex Needs. If you are interested in joining, you can do so from the web site at: <http://sac.uky.edu/~jszaba0/QIAT.html>

In talking recently with Linda Anderson from LAB Resources, I learned that Wisconsin school districts have purchased over 600 copies of the WYNN Wizard and WYNN Reader for a savings of over \$300,000. That is astounding! I am so pleased that so many students will benefit from having these programs available.

We are beginning to plan for the 2001 Summer Institute on AT in Amherst. It will be held Tuesday through Friday, June 19-22 and 26-29. So mark your calendar now!

Penny

NEW! NEW! NEW!

Picture This..., with its beautiful clear, detailed photos with no distracting backgrounds is now available for BoardMaker. Mayer-Johnson has Picture This...Photos in BoardMaker Libraries for \$59.95 individually or a five user site-license for \$225. The photos have been reduced in size and resolution to bring the file sizes down. Just load the libraries and you have 2700 photos at your fingertips. You can order these from LAB Resources in Wisconsin at 1-800-691-3476.

Tech Corner

Is Speech Recognition Good Enough These Days to Be a Tool for My Students?

By Linda Anderson,
LAB Resources

As with so many questions, there are many factors related to whether the answer is "yes" or "no". Speech recognition is not appropriate for all students. I believe the answer to this question is "yes" when your student has adequate speech and cognitive skills; your computer is fast enough; and both student and teacher know how to use the program.

The speech recognition product that has received the best ratings in magazine articles (PC World, PC Magazine, Home Office Computing, etc.), when compared with other similar products is Dragon NaturallySpeaking. Dragon Systems has won more than 75 major industry awards and honors worldwide in the past year and a half. Dragon NaturallySpeaking Professional Edition will be the basis for this discussion of speech recognition.

Let's look first at the speech and cognitive skills that your student should have.

- Good speech that is fluent and clearly articulated.
- At least a 10-year cognitive level.
- Ability to formulate thoughts and dictate them.
- Your student may or may not correct his own recognition errors. Someone will need to correct these for your student if he does not do them himself.
- Ability to read aloud for 5 to 20 minutes (time required depends on computer processor speed) to set up his voice file. If reading is difficult for your student, you can whisper the text to him in phrases or short sentences for him to repeat into the microphone.
- The ability to tolerate some frustration.

Next, let's look at what you'll need in terms of computer. The faster your computer, the better the software will run. We recommend using this software with a Pentium III computer and at least 128 MB of RAM (256 MB is better). You'll see lower specifications on the box and the software will run at those specifications, but it will not run well. You also need to have a sound card certified by Dragon. There is a complete list of sound cards that have been tested and certified on the Dragon web site (www.dragonsys.com).

How difficult is it to learn to use speech recognition? Although these programs are becoming easier to use, we still strongly recommend training with them to achieve the best success and use the full power of the program. In an article by Brad Patten from The Business Journal in which he reviews three different voice recognition programs, he states, "voice technology still requires

considerable training, that is, if you want the computer to respond. If you just want to yell at it, no training or voice technology is required."

Training classes are available from LAB Resources and from the Wisconsin Assistive Technology Initiative.

Dragon NaturallySpeaking comes in a variety of different editions including: Essentials, Teen, Standard, Preferred and Professional. Only the Preferred and Professional Editions offer auditory feedback capabilities. Your student can play back his voice to see if the text on the screen matches what was said. He can also use the text-to-speech feature to listen to the computer read aloud the text on the screen (which may be different from what was actually said). Because of the importance of offering students with learning disabilities these auditory feedback options, I recommend only the Preferred and Professional Editions. You don't need to worry that you will lose the student voice models available in the Teen Edition because both the Preferred and Professional editions have these student voice models as well as adult voice models.

If you are trying to decide whether the Preferred Edition or the Professional Edition would best meet your student's needs, the biggest advantage to the Professional Edition is that it is fully customizable. If your student can't remember the name of a command, you can set up multiple ways to say that command. You can also create your own commands to enter data, create and fill out forms, and perform complex tasks on your computer with a spoken word or phrase. The Professional Edition also provides the ability to set up multiple vocabularies for a single voice file. For example, you can create a science vocabulary for your student to use when he is doing his science homework and a social studies vocabulary to use when he is doing his social studies homework. This will improve the accuracy of his work as the computer will be more likely to correctly recognize what he is saying.

With Version 5 of the Professional Edition scheduled for release in October, recognition accuracy is better than ever. This doesn't mean, however, that the computer won't make any mistakes recognizing what has been said. It does mean that it will be a functional tool when used correctly. Dragon says that you can achieve up to 99% accuracy. Not everyone will achieve this high of a level of accuracy, but when you think about the occasional typing errors most of us make, recognition errors are easier to accept.

Some new features of Version 5 Professional Edition are:

- Deferred correction capability -- with Version 5 Professional Edition, you no longer have to correct all recognition errors the computer makes before changing users or turning off the computer. Your student's voice files won't be damaged if they aren't corrected until a later time.
- Quick correct feature -- when the computer makes an error understanding speech, correction will be easier and faster than ever.
- Enhanced Web browsing -- surf the Internet by voice.
- Improved e-mail integration -- create and send e-mail by voice and listen to your messages read aloud. Use convenient voice commands to control popular e-mail programs.
- Create and fill out forms.

Although the Professional Edition is priced at \$695 for list price, it is available through LAB Resources at \$625. If you are planning to put this on multiple computers, site license pricing is now available for schools for the Professional Edition. With the purchase of 7 or more sites, the price drops to \$289.95 per site.

This article was written using Dragon NaturallySpeaking Professional Edition. When used correctly with an appropriate student on the right type of computer, Dragon NaturallySpeaking can be a great tool

for students who have difficulty writing and or typing to get their work done. If you have any questions about using speech recognition with your students, please call LAB Resources at 262-691-3476 or 800-691-3476.

Using the Web as a Resource Tool

by Penny Reed

I have the good fortune to participate in a list serve which provides very useful information. In response to two questions about one handed typing, many useful suggestions were provided. I thought you might find them useful.

Here is the first question: I have a third grader with deteriorating muscular dystrophy. He is currently fully mainstreamed in regular classes but his hand writing is deteriorating quickly. He has average academic abilities and apparently regular speech. What options should we trail at this point to try to get him prepared for his future limitations. Would voice recognition software be appropriate? Can kids his age use it easily? Should we try any switches? or keyboards? He is comfortable at a computer. What other info do I need?

Here is the second question: I am supporting a team who is supporting a student in 2nd grade. The student had a stroke and hemi-paresis on the left side. Her verbal skills are good. Her handwriting and spelling are fair, but the team is concerned about the long run, and are sure that writing opportunities will become heavier as the year goes on. The student does all of the same work as the rest of the class. The students will begin keyboarding in October. Currently, she can use her left thumb as an assist, but she is reluctant. The district uses windows machines. I have looked at some one handed typing programs, but they seem to require the user to learn a mirrored version of the keyboard. The team is also interested in providing a smaller

keyboard Tash mini and possibly an AlphaSmart) in the short run, since the student doesn't have key location skills yet. My question is this: Should this young student learn the standard keyboard using her right hand at this time? Does anyone know of one handed keyboarding software that is kid friendly, and will be easy for her to use on any computer.

One of the responses was a detailed "option list" developed by Chris Ritts at the Georgia Project for Assistive Technology (GPAT) and submitted with some added notes by Margaret Devours also from GPAT. (I have also added a couple of comments.)

Options for One Handed Typing

Information about one-handed keyboarding is available at <http://www.stanford.edu/~valya/hci.html>

There are several routes that are commonly explored;

1. Use of the standard keyboard with a center home key orientation. This is considered if the student is already familiar with the standard keyboard layout, if he/she is a student who may be using multiple computers, and if he/she does not need other access modifications. The advantage to doing this is that the student can sit down to any standard computer and use it. No modifications are needed and the student and staff does not need to manage any software or hardware. The disadvantage is that it is hard for some students to stretch far enough to reach all areas of the keyboard. It could be put a lot of stress on the hand muscles. Mayer Johnson sells Five Finger Typist to help the student learn this home key positioning.

Note: If it is a young student you may want to consider the LittleFingers Keyboard, designed specifically for small hands, available for both platforms and also available with an integrated trackball. [\[desk.com/products.htm\]\(http://desk.com/products.htm\)](http://www.data-</p></div><div data-bbox=)

2. The second option is to use a piece of software that changes the use of the keyboard so that you use the standard home key alignment, but you access both sides with one hand. The hand stays on the normal side, but by hitting the space bar you superimpose the other side and make it accessible. The spacebar acts as a toggle key. Example: I am a right-handed one-handed typist. I place my hands on the standard home keys of " j k l : ." I access all the keys on that side of the keyboard in the normal fashion. To get to the letters on the left, I will hit the space bar - before hitting the key.

The same fingers are used. To get an F, I hold the spacebar and hit the J. The same finger as I would normally - on the other hand. They say that folks who were two-handed typist prior to becoming a single-handed typist can visualize this and use it quickly. The advantage is that you don't have to relearn a new key arrangement. It is software driven not hardware so there is not any hardware to buy or switch out. When you need to use it you simply launch the software. Matias makes the software a demo is attached. Check out the website: <http://www.half-qwerty.com>

3. The third option is to use the Dvorak layout that favors the one handed typist. This is contained in the Control Panel of most Windows computers - Keyboard icon - Language tab - click on Properties for keyboard layouts. It can also be downloaded from the Microsoft or Trace websites. KeyTime sells keyboarding software for this. Call 206-522-8973 or look at www.keytime.com.

The advantages are that it is a more efficient layout, readily available, and standard equipment can be used. The disadvantages are that if the student uses multiple computers that are also used by other learners, they have to enter the control panel twice- once to change it and once to change it back - each time they use the computer. This is true if they are using their own keyboard or one that has the labels reorganized. Secondly, they have to

learn an alternate key layout. Some

people don't think this is a problem; that it is easy to learn and quick to start using. (Note: this might be avoidable by using individual user login settings)

It is also considered a disadvantage that you have to re-label the keyboard. Some people use a moisture guard with the alternate labels on it. The student goes into the control panel and changes the layout, then drapes the moisture guard over the standard keyboard and they are ready to type. Others find an extra computer and add bold key labels to the keys in the correct order. Still others pop the keys off of the extra keyboard and reattach them in the Dvorak layout that is needed. Thrift stores are the least expensive source of extra keyboards if there are not extras available in the school.

4. The last option is to attach an alternative keyboard that has an alternate layout or shape.

A. The AlphaSmart (www.AlphaSmart.com) has 4 keyboard layouts programmed into it. It can act as a Dvorak keyboard when you reorder the keys (or use labels) and choose that alternate built-in layout. You simply shut down the computer and plug this one in the standard keyboard port. No software is needed because the layout is in the keyboard not in the computer. Some people get a Y adapter (from Info Grips) that enables them to have more than one keyboard plugged in at any one time. A big advantage to this is that the student has a portable writing aid whether they are attached to a computer or using it freestanding. It is durable, portable, and easy to use. The disadvantage to any alternate keyboard is that it has to be carried around and attached to the computer. This means shutting the computer down and restarting it. The AlphaSmart 3000 is the exception since it now has a USB interface. You can attach/remove USB devices without shutting down the computer.

B. An alternate route is to get a keyboard that is designed for use by persons with one hand. Maltron makes ergonomically efficient keyboards for one-handed users. Their design reduces fatigue and increases efficiency. Look them up at www.maltron.com As with the others, the disadvantage is the new keyboard layout and the fact you have to carry it around and attach it each time. The advantage is a more efficient layout. The Maltron actually fits the hand better than the standard keyboard.

C. The BAT keyboard is also an alternate keyboard for one-handed typists. There are only a few keys on the keyboard. Letters and numbers are produced with a unique key combination. This keyboard is typically used by persons with visual impairments because the coding is similar to what is used with Braille keyboards. The disadvantage is that the person needs to learn the chords for each letter and number. There is not a visual display to refer to as they are learning the chords. They would need to refer to the keystroke guide. The advantage is that it is ergonomically designed and therefore less physically stressful for the user.

D. I would recommend the DVORAK arrangement as well. It is available on Windows 95 and 98 accessibility features and on the Alphasmart. You can purchase key labels or do a rearrangement of the keyboard. It significantly reduces reach requirements. Also, consider "sticky keys" to do the sequential commands if you have not already.

5. In addition to Five Finger Typist mentioned above, another one handed keyboarding program is available from The Learning Studio . Keyboard Coach is available for two handed or for single handed, either right or left. Check it out at <http://www.thelearningstudio.com>

7. Voice Recognition may be an excellent choice if the student is able to use it, especially as they get older. Voice Recognition is getting easier to use and will continue to do so. But

learning the keyboard is still useful even if you think you are going to voice recognition as the primary means of producing written text.

DiscoverSwitch, DiscoverBoard & Windows 98

Bob Keller from Don Johnston, Inc. sent us the following note: Recently we became aware of a situation involving DiscoverSwitch, DiscoverBoard and Windows98. MicroSoft has made some changes in the OS that have locked Discover out of the system. Previously Discover had a reserved code in the Windows system that allowed Discover to take over the system and either bring up a scanning array or send a character to an application. The changes in the OS now allocate the code that we used to the power manager and is responsible for putting the computer into a sleep state. If you have run into a situation where pressing either a DiscoverSwitch or a DiscoverBoard puts your computer to sleep you are seeing the results of the change in code.

This situation does not occur in Windows95 or early versions of Windows98. It will occur in all versions of Windows2000, WindowsME and some versions of Windows98. If you would like some information on what versions of Windows OS or computers have the code changes implemented and lock out Discover please contact our tech support department at (800) 889-5242.

We have been asking MicroSoft for a fix to this situation but at this point have received no solution. We will contact you as soon as we have any information from MicroSoft. Please contact me or tech support if you have any further questions.

Getting Started with AT for a Child with Very Complex Needs

by Sharon Davis,ESC3,
Victoria, Texas

This was submitted by Sharon in response to a question on the list serv about where to start.

I am a Speech Language Pathologist, so this may be to technical but I think it is the basis that I use to program for kids. In each of us, there are different abilities and ways we express them. In children who may not have a voice yet, I talk about breaking down their expression of language into three platforms.

First: How and when do they communicate? We all communicate with no words at all and no need for words. This is an excellent area to look at for all kids and lots of adults because our words do not always align with our communication anyway.

Second: Do they have language skills? Language is divided into five areas, semantics (really vocabulary and word meanings), then syntax (the rules we use when we order our words), then pragmatics, (all those embellishments we do to words with our body language, our inflections, our voice use, our social skills etc. etc.) metalinguistics which is the use of words to study words (example: English or grammar classes in schools, and our phonological system which is the study of our sounds, their sequences and how we make them..

Third: Talking or Speaking is like the icing on the cake of all those other emerging or developing skills. We often want to start here, with the speaking aspect of our kids, because so many of us have been given the gift of speech. Really, even with or without switches or technology, everyone communicates and all our communication fits into a format of

the language, with different skills, but not everyone talks and even my most sophisticated device users with great technology prefer to exhaust their own abilities of communicating with their friends and families before they use their technology. For many of them, their device is their literacy tool, allowing them to write email and talk with their device to establish how literate and brilliant many of them are.. I love what technology can help a person achieve or do but the person is so important with or without it. I know everyone already knows this but I often think we forget to begin at the beginning, with the needs and issues of the child to help us develop what else might be needed. There is an excellent piece of assessment for communication of the most severe and nonverbal child that has been

produced through a grant and published for retail at not very much money from the Oregon Health Sciences University, Center on Self Determination. The author is Charity Rowland and it is a Communication Matrix. There are other excellent pieces for assessment of the non verbal child through Hands on Problem solving authored by Philip Schweigert and Charity Rowland.

The website is:
<http://www.ohsu.edu/selfdetermination>
 This protocol paired with something like Every Move Counts is an excellent starting place for those most severe students who cannot yet use black and white symbols or take a standardized test. I know that many on this list serve will have other excellent ideas and I know you asked

about switches and integration and keeping the severe child paired with their peers but I have a strong bias about first looking at how they communicate and who they communicate with and then enhancing where possible with other technologies. When I started in this field about 20 years ago, I was so amazed with switches, there were only about three switches back then, but even then as now, the child is still a child and we must help the child to be as successful at communicating as he or she can.

Good luck, Keep your sense of humor and your energy up and you will find an ongoing world of fascination, fun and ever changing issues in the world of assistive technology.

Used Equipment Marketplace

Wisconsin Assistive Technology Initiative
 357 North Main Street
 Amherst, WI 54406

ITEMS FOR SALE.....

ITEM #	ITEM/DESCRIPTION	PRICE
156	Rascal electric scooter, 2 or 4 wheel option, charger, adjust. seat, like new	\$3000/OBO
169	KAYE prone stander, model #106, ages 15 months-8 yrs.	\$135
170	KAYE prone stander, model #104, ages 18 months-11 yrs.	\$150
172	Bath tub lift, operated by water pressure	\$300
173	Bruno Regal "Rascal" electric cart	\$1800
174	Action Ranger electric wheelchair	\$2500
175	98 "Quickie" electric wheelchair	\$500
176	1991 Plymouth Voyager LE van, covered w/automatic door and wheelchair lift 100,000 + miles	\$6900
177	Bruno 3-wheel scooter (96-97), new tires, bearings, batteries, excellent cond.	\$1000
178a	Aluminum 6 1/2 ft. ramp	\$500
178b	Ricon automatic lift, fits any mini-van, price includes installation	\$2500
178c	Garaventa 1995 wheelchair stair-trac	\$2000
178d	1990 Dodge Grand Caravan, 10" lowered floor and raised door & roof w/ramp	\$9000
178e	1991 Plymouth w/raised roof & door, auto door & lift, 8-way seat, hand controls	\$14800
178f	Braun 1996 wheelchair car topper	\$1400
180a	Power wheelchair, Zippie P500 by Quickie, like new condition	\$3500
180b	Oscillating mattress and electric pump, like new condition, hospital bed size	\$150
180c	Hoyer lift, excellent condition	\$500/OBO
180d	Roho cushion, dry flotation pad and pump, excellent condition	\$150/OBO
181	Fortress 2000 FS (1990) three-wheel power scooter, excellent condition, all terrain versatility, trunk/van lift included	\$500
182	Two manual wheel chair ramps (with wheelchair restraints) for Chrysler mini van	\$500 each
183	Invacare Storm power wheelchair, Roho cushion, charger, 4 1/2 years old	\$2500

ITEMS TO DONATE.....

ITEM #	ITEM/DESCRIPTION
171	Mini Vangater 1990, automatic wheelchair lift for Dodge or Chrysler
178g	Braun 1989 semi-automatic lift

ITEMS WANTED.....

ITEM #	ITEM/DESCRIPTION
179	IntelliKeys with overlays, model FS-K1 and Mac ADB cable

Non-Profit Organization
U.S. POSTAGE
PAID
Milwaukee, Wisconsin
Permit No. 3240

Return Service Address Requested

Milwaukee Public Schools
Assistive Technology
DSS Center
5225 W. Violet St.
Milwaukee, WI 53208-2698

The Monitor

Dates to Remember

Training Opportunities

Check out the WATI website at www.wati.org

Milwaukee DSSC Assistive Technology

- Nov. 07 Software Demonstration: Inspiration
4-5 p.m. Call 438-3555 for information
- Nov. 08 Reading Activities Project for Students
with Severe Disabilities 4-6 p.m.
Call 438-3651 to register
- Nov. 10 Open Lab 1-3 p.m.
- Nov. 14 Software Demonstration: Inspiration
4-5 p.m. Call 348-3555 for information.
- Nov. 17 Simple Communication Devices:
Choosing and Using the Correct Device
for Your Student Call 438-3651
Registration required.
- Nov. 21 Software Demonstration: Inspiration
4-5 p.m. Call 438-3555 for information.
- Nov. 28 School Based Assistive Technology
Training Rm. 220 8:30 a.m. - 3:30 p.m.
- Nov. 28 Software Demonstration: Inspiration
4-5 p.m. Call 438-3555 for information.

- Dec. 05 Software Demonstration: Phonics Alive
4-5 p.m. Call 438-3555 for information.
- Dec. 08 Speaking Dynamically Pro for All
Students
- Dec. 12 Software Demonstration: Phonics Alive 2
4-5 p.m. Call 438-3555 for information.

Conferences

MPS Technology Access Conference

March 01-03, 2001

Held at Milwaukee's Four Points Sheraton

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MPS Assistive Technology
6620 W. Capitol Drive
Milwaukee, WI 53216
(414) 438-3623

Wisconsin Assistive Technology Initiative
1-800-565-8135