

TECH-NJ 2005

Assistive Technology for People with Disabilities

The College of New Jersey, School of Education
Department of Special Education, Language and Literacy

Volume 16, Number 1

Conference

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*Promoting Success in College for
Students of All Abilities at
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NJ Commission on Higher Education
Special Needs Grant Program
presents

*Promoting Success in College
for Students of All Abilities*

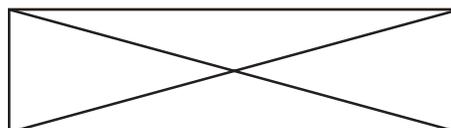
A One-Day Conference at
The College of New Jersey
April 1, 2005

Salome Heyward, J.D.
Keynote Speaker

*New Challenges and Opportunities: Providing Access
and Accommodations for Students with Disabilities*

Co-Sponsors
Adaptive Technology Center for NJ Colleges, Center for Assistive
Technology & Inclusive Education Studies, Faculty Ambassador Grant,
TCNJ's Individuals for Diversity in Education & Learning, TCNJ's Deaf
Hearing Connection Club, TCNJ's Student CEC, NJ-AHEAD, NETAC

See page 14 for conference details



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TECH-NJ: Assistive Technology for People with Disabilities

TECH-NJ is an official publication of the School of Education, Department of Special Education, Language and Literacy at The College of New Jersey. It is written by students, staff and faculty and is designed to support professionals, parents, and computer-users in their efforts to use technology to improve our schools and to enhance the lives of people with disabilities. In order to facilitate local networking, emphasis is placed on resources and innovative practices in and around the New Jersey region.

TECH - NJ 2005

Assistive Technology for People with Disabilities
Volume 16, Number 1

EDITORIAL

Computers and other assistive technology tools can be incredibly empowering for students with disabilities. Computers have been called “electronic curb cuts,” meaning that they provide access to what non-disabled students take for granted – typical classroom activities and the general education curriculum. This access to the curriculum can contribute to the successful inclusion of students with disabilities in their neighborhood schools. It can contribute to the successful participation of students with disabilities in colleges and universities. Computers can enable students with disabilities to demonstrate their understanding of academic subjects even if they cannot write legibly or speak intelligibly. Technology can decrease students’ reliance on other people by increasing their independent completion of academic tasks. The list goes on. But . . .

But what? Our 18 years of exploring new assistive technology products and teaching teachers, parents, and students how to use them has taught us one very important lesson. Technology alone is not enough. The technology is exciting (and fun), no question about it, but a computer alone will not increase a student’s success in school. Buying an expensive site license for a software program will not result in student gains. Providing students who have disabilities with the latest, most dazzling devices in the world will not make a difference in their lives – unless the equation includes:

**Training
Support
Practice
Persistence**

The first two necessities – training and technical support – need to be provided by schools and colleges consistently and in a timely manner. Imagine being asked to give a concert after only one piano lesson or being told to ride a two-wheeler without training wheels after one lesson. This is what students are often asked to do with new technology tools – become successful and independent users after only one quick training session and no technical support. And what happens? Many don’t use the new tool; they give up.

The second two necessities – practice and persistence – fall into the realm of student responsibility. It is the student him/herself who must make a point of practicing a new technology tool until s/he is comfortable with using it, and who must persist through technical problems and the typical frustrations of learning a new skill.

The three feature articles in this issue of **TECH-NJ** highlight the experiences of students with disabilities who succeeded in making assistive technology tools work for them. The profile of the Adaptive Technology Lab at Middlesex County College describes an exemplary program that provides quality training and support. The profiles of Serena Cucco, a sophomore at Manhattanville College who is blind, and Megan McTigue, a graduate of Ramapo College who cannot use her arms, demonstrate the critical roles practice and personal persistence play in getting technology to live up to its potential. Megan explains that it took her three to five months to feel comfortable using speech recognition technology and an entire year before she completely mastered it. LeDerick Horne’s poem on page 7 captures this essential mind-set:

and ain't NOTHING, and I mean NOTHING
standing in my way

A.G.D.

PROGRAM PROFILE

Supporting Student Success at Middlesex County College: An Exemplary Adaptive Technology Lab

by Ellen C. Farr

Students with disabilities at Middlesex County College are hearing voices, and because of it, they are succeeding in college far beyond their expectations. These students frequent the Adaptive Technology Lab of Project Connections, and the voices are computer-generated, reading aloud their textbooks and assignments to improve their comprehension and writing. The lab, funded by the New Jersey Commission on Higher Education Special Needs Grant Program, provides students with disabilities enrolled at the college with the technology tools they need to succeed in their academic work. Equipped with a myriad of specialized programs, the lab is designed to assist reading and writing. The strength of the lab, however, does not rest solely on its technology; rather, its unique strength is that it is staffed full-time with an expert in assistive technology.

Staff Provide Support to Students

Managed daily for the last five years by Seham Mohamed, the lab offers students the benefit of one-to-one support. Having earned a master's degree in Electrical Engineering from Alexandria University and a degree in Computer Science from Middlesex County College, Seham can relate to the demands college students encounter. She is especially sensitive to the unique needs of students with learning disabilities and stresses that she is available to support them as needed. Her hope is that the lab is recognized as "a tool in students' hands to get through college." She reminds students that "if they use the lab more often, they will do better in school."

Students who are associated with Project Connections or registered with the disability support office qualify to use the lab, which is open Monday through Friday, 8:30 a.m. to 4:00 p.m. These students, most of whom have

learning disabilities, make use of the ten stand-alone PC stations, four scanners (including a high-speed scanner) and two laser printers to assist them in reading textbooks and/or writing papers. Of the programs available, *Kurzweil 3000* (Kurzweil Educational Systems), *Inspiration* (Inspiration Software, Inc.) and *Read and Write* (TextHelp) are most frequently used. Others programs to boost reading and writing include *WYNN* (Freedom Scientific Inc.), *Write:OutLoud* (Don Johnston, Inc.), *Draft:Builder* (Don Johnston, Inc.) and *Dragon Naturally Speaking* (Scansoft). Students with visual impairments use *ZoomText* (Ai Squared) for screen magnification, and *Jaws* (Freedom Scientific Inc.) for screen reading.

Workshops are presented to increase faculty awareness of the lab in hopes that they will better understand adaptive technology and advise their students with disabilities to visit the lab for assistance.

Seham teaches students to use the programs during their initial lab visit and supplies a self-authored handbook detailing tutorials for each program. She then monitors student progress by tracking time spent in the lab and the type of software/hardware used. She is able to make recommendations for improvement based on this data.

Additionally, Seham operates a lending program from which students may borrow an *AlphaSmart* or *Dana* (AlphaSmart, Inc.) portable notetaker, books-on-tape from the Recording for the Blind & Dyslexic, four-track and mini tape recorders, and *Franklin Spellers*. This is a popular feature of the lab; students visit Seham early to guarantee that they will be able to borrow a device for the semester.

Seham has noticed an increase in student attendance at the lab, estimating that 150 students have visited the lab so far this year. This represents substantial growth from just a few years ago. She attributes this to technology that is easier to use and improved outreach efforts.

Technological Advances and Outreach Increase Lab Use

Having managed the lab for the last five years, Seham can attest to the rapid change and advancements in adaptive technologies. A decade ago, the *Galileo Reading System* was the choice for scanning text. While it provided auditory feedback, it was cumbersome and slow. The device could only scan and read one page at a time, leaving the reader with a disjointed narration. Compared to today's options, this system was primitive. Now, the lab owns a high speed scanner to convert printed text to electronic text or audio files at the rate of approximately 15 pages per minute. Students can then listen to their texts on a regular CD player or use the files in one of the lab's read/write programs. Upgrades in software parallel this progress. Seham is constantly reviewing new products and software to ensure that her lab is appropriately equipped for student success.

Having exceptional technology available is only half of the battle. The challenge still remains to encourage students to use the proffered tools.

Having exceptional technology available is only half of the battle. The challenge still remains to encourage students to use the proffered tools. To accomplish this, Seham is involved in outreach programs to promote the lab and its services. She assists in teaching a class called "Strategies for Success" and

(continued on page 13)

USER PROFILE

Voice Recognition Provides Independence for Ramapo College Graduate

by Christina J. Schindler

"MouseGrid, 7, 7, 8, click" rapidly fires from Megan's mouth as the mouse speeds across her computer screen. Within seconds, she has navigated to *Microsoft Word*, opened a new document and begun to type. Yet, she has never touched a mouse or a keyboard. Instead, Megan completely controls the computer using her voice.



Megan McTigue

Megan McTigue, a 23 year-old graduate of Ramapo College of New Jersey, uses *Dragon Naturally Speaking Professional* (Scansoft), a voice recognition program, to access her computer. By dictating into a microphone, she is able to control both the mouse and the keyboard solely with her voice. Megan needed to explore different access methods because she has very limited use of her arms due to a form of muscular dystrophy called Werdnig-Hoffmann's Disease Type II. Despite the movement difficulties of her limbs, Megan's speech is flawless, thus making voice recognition a logical alternative for her. In Megan's own words, "All I need is a voice. With the use of an electric wheelchair, an adapted van, and voice activation software, I'm basically set."

Megan's Computer Access

Before learning *Dragon*, Megan's computer access was very limited and she was dependent on other people to write for her. Typing "just became too troublesome and time-consuming, so I would end up dictating in the end. Dictation was my method of 'typing' for years."

Megan typically relied on "my student aides or brother or sister, or whoever was around, to do the physical typing while I dictated. It was extremely time-consuming, not only for me, but for the people helping me as well."

At the age of 18 Megan worked with an assistive technology specialist to find a better solution for her computer access.

"The technician evaluating me thought I would be a great candidate for using *Dragon* because I had fine speech and the cognitive ability to handle the training."

Megan began using the program consistently at Ramapo College where she received technical support from Jean Balutanski, Director of the Office of Specialized Services. Jean initially guided Megan through a program tutorial, but it was through use over time, and much trial- and-error, that Megan fully grasped the program's capabilities.

"As time went on and I began mastering *Dragon*, I began doing my own work completely independently. I started out with small papers and assignments, then I started surfing the internet for research and whatnot, and before I knew it, I was doing a 22-page senior seminar paper, research and all." Megan emphasizes that this efficiency did not occur overnight. It took her a solid 3 to 5 months to feel comfortable with the program, and it was not until a year of use that she felt she had truly mastered the software. "Learning this program is very much like learning another language. At first I was very slow; saying only short sentences and making sure the process was actually working. It's a very strange feeling talking to a computer and seeing visual results in front of you immediately. As time went on and I had a better under-

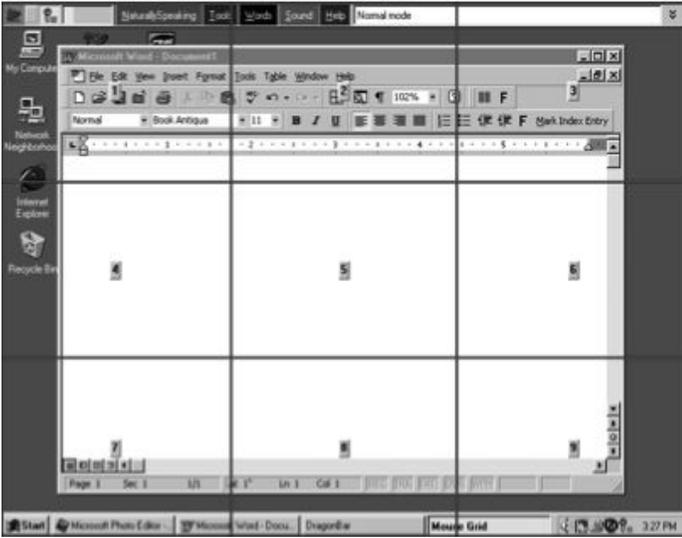
standing of how the program worked and how I could work with the program, my speed and accuracy became faster and greater. The language of *Dragon* has become second nature to me. Now I can talk for sentences without worrying about how the program is responding. If a problem arises, I know I can fix it."

"As time went on and I began mastering *Dragon*, I began doing my own work completely independently. I started out with small papers and assignments, then I started surfing the internet for research and whatnot, and before I knew it I was doing a 22-page senior seminar paper, research and all."

Today, Megan utilizes *Dragon* at home for all aspects of her life. She independently uses e-mail and instant messaging, participates in online auctions, manages her checking account, communicates with people by using text messages, and plays music (one of her passions) while getting her work done. (Megan attests that the music does not interfere with the accuracy of the speech recognition.) In Megan's own words, "It has really changed my life drastically."

The Pieces Needed to Make It Work

Megan currently uses *Dragon Naturally Speaking Professional* with a Compaq PC. Within the *Dragon* program, she speaks keyboard equivalents for typing, tabbing, entering, and deleting text, as well as for opening and closing programs and files. For example, when capitalizing a letter, instead of hitting the shift-key with the corresponding letter, Megan says "shift-key" and then the corresponding



Dragon's MouseGrid is used to position the mouse pointer anywhere on the screen. Speak "MouseGrid" to place the MouseGrid over the full screen (as in this example).

alpha character to capitalize. Essentially any key on the keyboard can be spoken and understood by *Dragon* as a keyboard function.

Most people are familiar with this dictation ability of voice recognition technology, but many are unaware of the power voice recognition holds for navigating around the computer screen by emulating mouse commands. Megan controls her mouse using a function within *Dragon* called MouseGrid. MouseGrid enables her to separate the screen into nine quadrants. As each quadrant is selected, it becomes a smaller quadrant, making the movement of the mouse extremely precise. As Megan fires out numbers with lightening speed, she is essentially breaking down the computer screen into mini quadrants so she can target her mouse click accurately.

Microphone Considerations

An important part of Megan's speech recognition setup is the microphone she has chosen to use. It is called an array microphone (by GN Netcom), and it offers two important advantages. It has a noise canceling feature that allows background noise to not interfere with the dictation. Megan finds this feature essential since she constantly listens to music through her computer while

working. Another benefit of an array microphone is its position. Instead of requiring a headset, an array microphone sits below the computer monitor and sends a listening beam. This enables Megan to work on her computer at any time without having to rely on an assistant to place the headset on her head. With this combination of assistive technology – speech recognition and an array microphone – the

only assistance Megan needs is someone to turn her computer on at the beginning of the day.

Assistive Technology Opens Doors

Megan graduated from Ramapo College of New Jersey in May of 2003 with a 3.7 GPA in Music Business. She is currently involved with training individuals on voice recognition software and working at her local supermarket, running the self check-out machines and assisting managers and customers. She also works part-time as the stage manager for a dance studio in Midland Park called Meaningful Movements Inc., a nonprofit organization serving individuals with different abilities and strengths through dance, art, and adapted physical educa-

tion. Like most 20-somethings, Megan enjoys being with friends, catching a good movie, getting a drink and seeing some great live music. In the future, she hopes to obtain a Ph.D. in ethnomusicology from CUNY or NYU, so she can teach a subject she loves – music.

Megan has manipulated multiple parts of the assistive technology puzzle into a working dynamic for her computer access. The power this assistive technology affords is perfectly summarized in Megan's own words. "Assistive technology helps me communicate and function independently through several different mediums: instant messaging, text messaging, writing, e-mail, live chatting, etc. It has given me control in many areas of my life. Ultimately, voice recognition software will contribute greatly towards my obtaining a successful career in the future. This technology enables me to accomplish things that would be virtually impossible to accomplish on my own. There is no way I would have all the success I've had, and will continue to have, without this technology."

SAY	THEN A DIRECTION	THEN A SPEED (OPTIONAL)
Move Mouse	Up	Fast
Mouse Move	Down	Faster
Drag Mouse	Right	Much Faster
Mouse Drag	Left	Very Fast
	Upper Left	Slow
	Lower Left	Slower
	Upper Right	Much Slower
	Lower Right	Very Slow

Dragon's voice commands for mouse motion.

Christina J. Schindler is an alumna of The College of New Jersey (M.S. in Educational Technology) and an assistive technology specialist for the Adaptive Technology Center for NJ Colleges.

UTILIZING BLINDNESS SKILLS IN COLLEGE

by Serena Cucco

Wow! I'm on the Quad! Where's the classroom building? Where's the Dining Hall? Where's the Library? My first week at Manhattanville College was quite a learning experience. I had to orient to the campus, meet lots of new people, find ways to get my reading done, manage my time, make sure all my clothes matched, get to all my classes, and get to know my professors. And I had to do it all independently!

I oriented by using a tactile map, taking notes on my various routes and asking questions when necessary. I found the students very helpful. However, my friends often asked me if I needed help to get to places I already knew how to get to, and I always politely and proudly declined their offers. I have to say that the snow made life a bit difficult for a few weeks! That's when I learned to appreciate the smokers, who were always outside and willing to direct me when my landmarks and paths were all covered.

Assimilating into College Life

I made friends the first week of school. The first two were the girls in the room next door. The guys on the other side were computer geniuses happy to help me with computer glitches. I often made plans with my friends for dinner in the dining hall or the pub. The few times I went to dinner alone, I almost never ended up eating alone. My friends often saw me and invited me to sit with them. A couple of times, some friends and I made music videos. One time, we sang and danced to "Surfin' USA," one of my favorite Beach Boys songs.

In order to handle matching my clothing, I've got braille labels in my shirts and sweaters that say what colors they are and what pants they go with. This way I can make sure that my clothes match. I have done my own laundry. I find doing laundry very annoying, just like everybody else does!

Tackling Academic Challenges

Getting all my reading done was a challenge. The ADA Coordinator at the college gave me a list of upperclassmen who were interested in reading for me. Also, during the first week of classes, my professors announced that I needed readers. A couple of students from each class expressed interest in reading for me for the class we had together. This helped at the beginning, so that I didn't fall behind right away. It also gave me some time to try out different readers from the list I had been given. Some of the students from my classes ended up being great readers and became my permanent readers. As the year progressed, many of them also became my friends.

My professors have been friendly, interesting, and very accepting of my blindness. When we have a test, they either e-mail the test out to be brailled or give it to me in print and I have it read to me. I take the test on my *BrailleNote*, then I print it out and hand it in.

I think it was very important that I chose the readers I used myself. If a potential reader wasn't very accessible or didn't read well, I didn't use him or her. Using readers also made it easier for me to manage my time, since I knew that when a reader came I would be guaranteed a good two hours of work time. I had five regular readers who each came a couple of days a week.

My professors have been friendly, interesting, and very accepting of my blindness. When we have a test, they either e-mail the test out to be brailled or give it to me in print and I have it read to me. I take the test on my *BrailleNote* (Pulse Data), print it out and hand it in.

I purchase all my books in print from the bookstore and I try to get them in accessible format as well. Some of them are available from Recording for the Blind and Dyslexic and others I get as electronic files directly from the publishers. I don't usually get all of them in accessible form. That's where readers come in handy. Sometimes my readers scan the material for me. Then I can either listen to the book on my computer using *JAWS*, a screen reading program from Freedom Scientific and *Kurzweil 1000*, a scan/read program from Kurzweil Education Systems, or I can download it into my *BrailleNote* where I can read it in braille. I access some of the material online, again using *JAWS*.

Beyond the Campus

I became involved in a mentoring program on campus in which children from a nearby homeless shelter come to Manhattanville once a week. We help them with their homework, talk to them, and play games when they don't have homework to do. Our favorite game is "Who Wants to Be a Millionaire." After this, we all eat dinner together in the Dining Hall. The kids love the Dining Hall because they've never had this much food, especially junk food!

During the spring semester, I took my first off-campus trip—to New York City! We went to see a Rangers game at Madison Square Garden and the Rangers won! The college president went with us to the game and bought popcorn for us.

I believe the keys to a successful college experience for a blind student are using good blindness skills, like getting oriented, using readers well, and managing time effectively. Make friends, educate your friends and professors about blindness when necessary, and immerse yourself in your new college life.

Serena Cucco is a guest contributor. She was first profiled in TECH-NJ in 1997 when she was in sixth grade. This update originally appeared in The Sounding Board (Fall/Winter 2004), the publication of the National Federation of the Blind of New Jersey.

Dare to Dream

by LeDerick Horne

Dedicated to all the LD students at the New Jersey Department of Education's Dare to Dream Conferences who led workshops and gave inspiring presentations about their struggles and triumphs.

We are gathered here today
to bear witness,
to bear witness to the union
of two beautiful people
Yes, today is the day that we merge
who you are
with who you want to be,
making the vision
and the reality – one
An integration
born of communication
and made tangible
by your commitment to yourself

Now, I know some of you might be afraid
but don't let cold feet
stop you from jumping the broom,
from taking the first step,
from beginning a journey
that will transform your life

Yes, I know some of you might be afraid,
But see, it's my job
- to show you that better days are coming

Yes, it's my job
- to be Harriet Tubman like
with my movements and verse
So if I have to steal a way
just for us to make a way, then Star
I'll be the first one with his hand in the cookie-jar
of self-advocacy,
I'll use these sticky fingers
to pick-pocket the pocket of
self-determination,
 And if I got to grand-theft-auto
 the Mercedes-Benz
 of a quality-education,
then they might as well leave the doors unlocked
and the keys in the ignition
'cause I'm gone in 60 seconds
and ain't NOTHING, and I mean NOTHING
standing in my way
You see, it's my job
to unlock doors
unshackle minds
break through glass ceilings
motivate, inspire, and challenge you,
-I'm here to challenge you

And so I dare you,
- I dare you to sit in your seat
and not feel moved
by the testimonies of these brave souls,
who come before you as examples of excellence

I dare you,
- I dare you to look in the mirror
without imagining,
see yourself as yourself
A diamond, that might need a little polishing,
but whose beauty has always existed

I dare you,
- I dare you to step
bounce and move to your own rhythm
excite minds
in time
we'll redefine the system
I write lines
designed to embrace and kiss,
plus supercharge like imports strapped with nitrous,
this is a revolution
a fight for inclusion
segregation is no solution
Brown vs. Ed is how I'm provin'
we deserve the best
nothin' more and nothin' less
every child gets left behind
when all we focus on are tests

And so I dare you,
- To judge yourselves by a different standard,
to lift as you climb,
to fight like gladiators
 to become master and commander

of your own beautiful minds
And above all else,
I dare you to dream – dare to dream y'all

LeDerick Horne is a guest contributor. He is a graduate of Middlesex County College and New Jersey City University.

NEW PRODUCTS

Thinking Reader by Tom Snyder Productions

Poor readers tend to spend a lot of time and mental energy trying to decode words in text. This often prevents them from developing the comprehension skills necessary for understanding word meaning and content. As students enter middle school, if they have not sufficiently developed the skills needed to grasp the subject matter and themes of grade-level reading material, they risk falling further behind.

Thinking Reader from Tom Snyder Productions is a software series of electronic books developed to provide support to these struggling readers. The program trains students to read strategically in order to increase their comprehension. Specifically designed for Grades 5-8, the *Thinking Reader* series presents unabridged, grade-level literature via the computer screen combined with human voice narration.

The following books in the series were chosen because they represent core, grade-level literature, they present multicultural perspectives, and they tell engaging and meaningful stories.

Roll of Thunder, Hear My Cry by Mildred D. Taylor

Bridge to Terabithia by Katherine Paterson

Tuck Everlasting by Natalie Babbitt

Bud, Not Buddy by Christopher Paul Curtis

Dragonwings by Laurence Yep

My Brother Sam is Dead by James Collier and Christopher Collier

Esperanza Rising by Pam Munoz Ryan

A Wrinkle in Time by Madeleine L'Engle

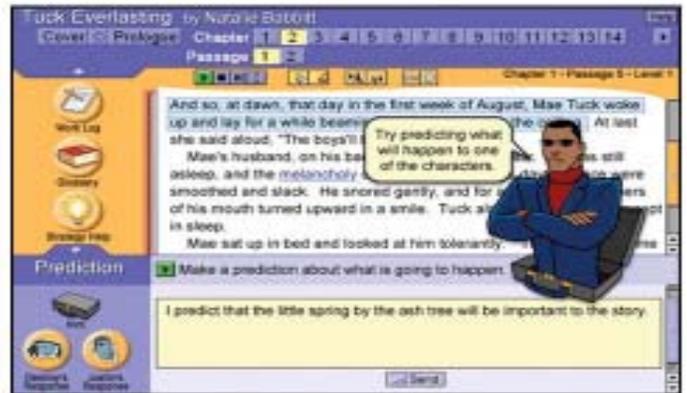
The Giver by Lois Lowry

How Does the Program Work?

Students begin a book by logging onto the computer. They click the "Play" button, and the program reads the book while the text is highlighted on the monitor. Difficult vocabulary words are underlined, and a click of the mouse brings up a secondary window that speaks aloud the word and its definition. To hear the word and definition in Spanish, students simply click a box. Having instant access to definitions while reading helps students understand the text.

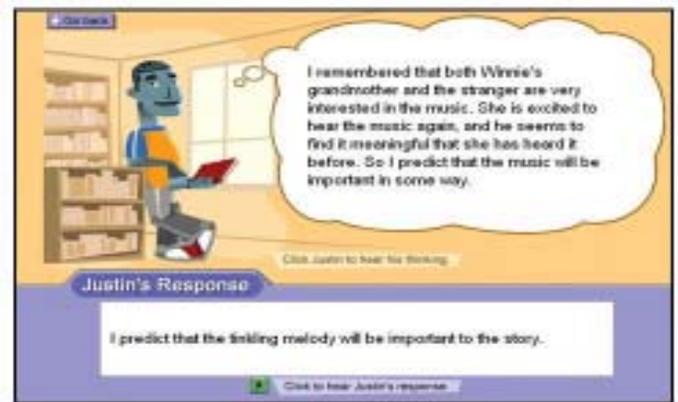
At various points throughout the story, a message appears on the screen that indicates "This is a good place to stop and think about the story." Clicking on the message takes students to a set of directions asking them to use a reading comprehension strategy to respond to what was just read. Strategies used include summarize, question, clarify, predict, visualize, feeling, and reflect.

If they are unsure of how to respond, students are not left to flounder. They can get help by pointing to buttons on a pop-up window. Clicking the "Hint" icon brings up a helper who gives them an idea about how to answer the prompt. (See Figure 1). For additional assistance, two student buttons, "Justin" and "Destiny," bring up characters who share with students how they might respond. This is called the Think-Aloud section. (See Figure 2). When students are ready they can either type or record



Thinking Reader surrounds the unabridged text of core literature with a variety of comprehension supports tailored to each student's reading level.

Figure 1



Characters provide model responses and the thinking behind their responses.

Figure 2

their responses into the program. Clicking the "Send" button enters the response into the students' Work Log, which automatically gets sent to the teacher.

The Work Log and Reading Levels

Over the course of each book, students' strategy responses are captured in a Response Journal. Teachers can use the Work Log for student-teacher conferences and to help them determine appropriate reading levels for students. (See Figure 3).

Thinking Reader offers five levels of support. The levels can be adjusted as students' comprehension skills improve. Level 1 has the most supports, and Level 5 has the least. Lower level supports focus on content, while higher level supports are more general and focus more on strategies. Strategy prompts also vary based on reading levels. Lower level prompts tend more toward multiple-choice and sentence starters, while higher level prompts are more open-ended.

Using Thinking Reader in Different Settings

The materials that accompany each book in the *Thinking Reader* series provide teachers with invaluable ideas for using the program. The Teacher's Guide offers suggestions for implementing *Thinking Reader* in supported reading environments such as pull-out programs and resource rooms, classrooms with students of varying reading abilities, computer labs and with English language learners.

The Teacher's Guide also outlines a five step plan for using *Thinking Reader*.

Step 1: Modeling Strategic Reading. An excerpt from *Tom Sawyer* is used off-computer to walk students through the strategic reading process.

Step 2: Building Reading Comprehension Skills. Teachers complete the first passage with their students on the computer. Students then move through the program on their own.

Step 3: Assessing and Evaluating Student Progress. Teachers review the Work Log to view students' responses and comprehension quiz results. Teachers can evaluate students' progress by clicking the Recent Progress button on the Student Progress Screen. This will present the last five Work Log responses and the students' most recent reflection responses. More formal assessment rubrics and comprehension quizzes are included.



Research, Validation, and Accessibility

Thinking Reader was designed by David Rose and Bridget Dalton at the Center for Applied Special Technology (CAST). The program incorporates research on proven approaches to reading, universal design for learning, brain-based behavior, and the benefits of technology-based materials for reading instruction. It was designed using Section 508 guidelines for universal accessibility, including adjustable font size, keyboard navigation, text captioning, screen reader compatibility, and text-to-speech.

Thinking Reader is aligned to state and national standards and supports the principles of No Child Left Behind (NCLB).

Ordering Information and Pricing

Thinking Reader is compatible with Windows and Mac OS X (10.2 or higher) systems. Single title pricing is \$500 for a 10 student license. Included with each title:

- Installation CD for stand alone and network use
- Teacher's Guide which includes step-by-step instructions, graphic organizers and worksheets, teacher-student conference guidelines, and an assessment rubric
- Title-specific discussion guide
- Reading strategies poster and bookmarks
- Paperback copies of the novel

For more information or to request an evaluation version or a research report call Tom Snyder Productions at (800)342-0236 or log on to www.tomsnyder.com

Period 3 Report							Class Work Log	Class Quiz Results	Quit
Name	Chapter Passage	Level	Time on Task	Recent Progress	Work Log	Quiz Results - Average			
Abrams, Rick	1.1	1	1 hr, 5 min			98%			
Bourgeois, Tina	1.2	1	2 hrs, 30 min			90%			
Carroll, John	1.3	1	3 hours			75%			
Ellis, Hedrick	1.4	1	1 hr, 5 min			65%			
Finison, Carrie	1.1	1	2 hrs, 30 min			95%			
Gilligan, Terry	1.1	1	3 hours			60%			
Grotian, David	1.2	1	1 hr, 5 min			78%			
Hagan, Sean	1.3	2	2 hrs, 30 min			98%			
Hamanaka, Lisa	1.4	2	3 hours			80%			
Iwobi, Ikay	2.3	2	1 hr, 5 min			78%			
Rheame, Paula	2.3	2	2 hrs, 30 min			68%			

Teachers can track specific student performance and general class progress.

Figure 3

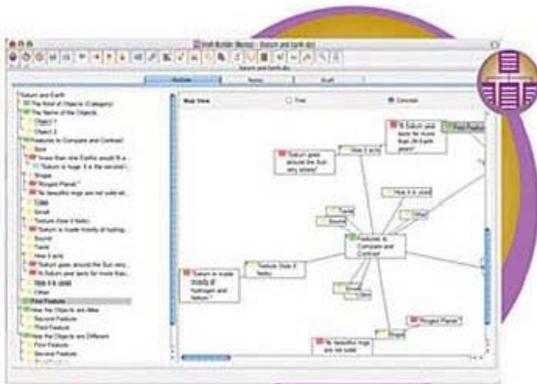
Step 4: Engaging Students in a Discussion of the Literature and Strategies. Classroom discussions help students gain additional meaning. The Teacher's Guide contains six graphic organizer templates for furthering discussions: character web, Venn diagram, relationship diagram, story map, incident summary and cause and effect.

A separate Discussion Guide booklet is included and contains questions, activities and extension ideas for highlighting themes and ideas.

SOLO by Don Johnston

Supports Reading and Writing for Struggling Students

Don Johnston Incorporated has combined its existing programs, *Co:Writer* (word prediction), *Draft:Builder* (graphic organizer) and *Write:OutLoud* (talking word processor) with a new addition, *Read:OutLoud* (text reader), into a new software solution, *SOLO*.



A writing and graphic organizer that moves through planning, organizing and draft-writing in content areas



A text reader to develop active thinking and reading comprehension habits to build knowledge

SOLO provides an integrated solution to help students build skills and utilize strategies as they use guided supports for reading comprehension and structured models for writing.

Educators can use *SOLO* to differentiate instruction and oversee their students' reading and writing development. *SOLO* enables teachers to take any content and adjust their presentation of information to meet the needs of diverse classrooms. They can create customized assignments for individual students or groups of students. Qualitative and quantitative data can be collected from student work and displayed in graph, chart and preview form.

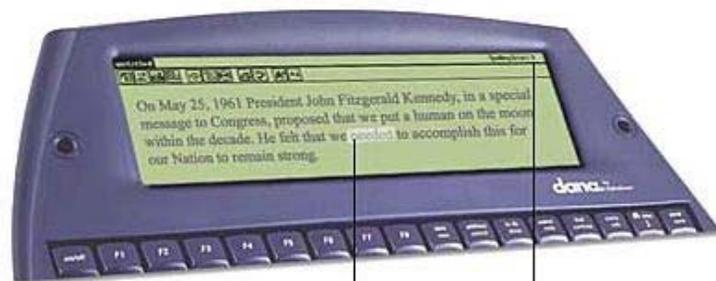
For more information about *SOLO* and other products, go to www.donjohnston.com

Write:OutLoud To Go

Portable Talking Word Processor Fosters Writing Independence

Speech Output Added to Portable Notetaker

A new product for the *Dana* (AlphaSmart) that will help students with writing difficulties has just been made available. *Write Out:Loud To Go* adds a text-to-speech feature to this popular portable notetaker. With the installation of a small voice card in the back of the *Dana*, the device is able to read aloud anything a user types. This kind of auditory support helps students recognize their mistakes and revise their written work. In addition, the talking *Franklin Spell Checker* provides support for poor spellers.



Text is spoken and highlighted

Spelling Error Counter reminds students to use the Franklin Spell Checker and edit their writing

For more information about *Write:Out:Loud To Go* visit www.donjohnston.com.
For more information about the *Dana* and other portable notetakers go to www.alphasmart.com.

FASTT Math by Tom Snyder Productions

Using *FASTT Math* (Fluency and Automaticity through Systematic Teaching with Technology), struggling students, grades 2 – up, develop fluency with basic math facts in addition, subtraction, multiplication, and division. The software moves beyond traditional drill and practice to assess each student's level and to provide a continuously adaptive program that increases fluency in customized, 10-minute daily sessions. *FASTT Math* also includes prescribed print activities for those students who need additional instruction in the conceptual foundation of numbers and operations.

Product Features

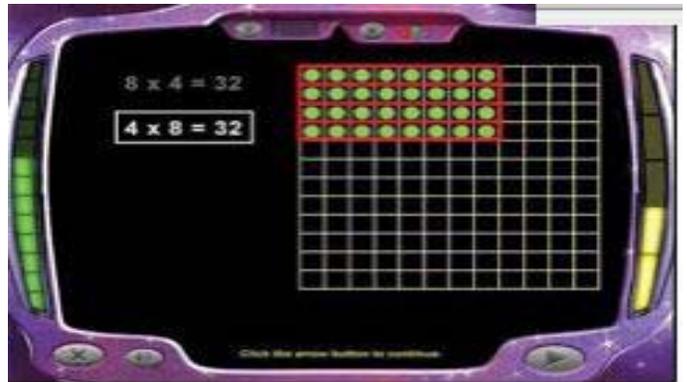
- Research-based and validated
- Authored by Ted Hasselbring and Laura Goin
- Students practice basic facts in addition, subtraction, multiplication, or division
- Customized course of study for each student, based on individual assessments
- Frequent, short practice sessions
- Choice of two fact ranges: 0-9 or 0-12
- Generates customized worksheets for additional practice
- 12 detailed performance and usage reports at the student, class, grade, and school levels for teachers and administrators
- Teacher's Guide with assessments and lesson plans
- Fact Fluency Foundations Guide with age-appropriate activities for counting, number concepts, and computation strategies
- Bilingual — switch easily between English and Spanish
- Meets guidelines for universal accessibility

Meets State and National Standards

Students will:

Learn basic facts in addition, subtraction, multiplication, and division; Be able to recall facts from memory; Develop fluency with multi-digit problems in each operation; Gain the foundation necessary for success in higher-order problem solving.

For more information or to request an evaluation version or a research report call Tom Snyder Productions at (800)342-0236 or log on to www.tomsnyder.com



The program customizes daily instruction and practice sessions which are continually adaptive.

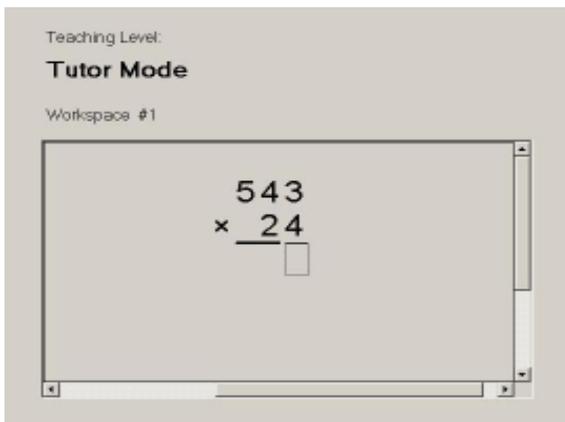
Virtual Pencil by Henter Math

Virtual Pencil Algebra and *Virtual Pencil Arithmetic* are two computer software programs that provide interactive access to math for students for whom using a traditional pencil is a problem. This might include someone who is blind or visually impaired, motor impaired, or learning disabled. A pencil plays a key part in learning math and other equation-solving disciplines. Typically a student uses a pencil to “work through” a math problem, writing down the intermediate answers and using them to get the final answer. But if a student cannot operate a pencil then the student cannot write down the intermediate answers. This makes it very difficult to use those intermediate answers in acquiring the final answer, and does not leave anything on the paper to show that the student actually worked through the problem and knew how to solve it.

Virtual Pencil is not a tutorial. It is a tool that can be used to interactively solve a math problem. The software does the job of the pencil. It moves to the right spot on the “paper,” guided by the user, and inputs the answers that the user selects. It can edit numbers and variables, insert fractions or square roots or other structures, and copy whole equations or expressions. When used with a screen reader, the numbers and actions are read outloud. The user must navigate the screen and provide the input.

Virtual Pencil Arithmetic handles addition, subtraction, multiplication, and division, with fractions and decimals; *Virtual Pencil Algebra* handles quantities, radicals, exponents, subscripts, Greek letters, absolute values, matrices, fractions, and many editing features.

For more information about *Virtual Pencil* go to www.hentermath.com



RESOURCES



The George Lucas Educational Foundation (GLEF) is a nonprofit operating foundation that documents and disseminates information about exemplary programs in K-12 schools to help spread these practices nationwide. The foundation serves this mission through the creation of media: films, books, the magazine **Edutopia**, e-newsletters, CD-ROMs and DVDs.

What is “Edutopia”?

The word conjures up an ideal educational landscape, where students are motivated to learn and teachers are energized by the excitement of teaching. In these schools, parents and other professionals from the community — architects, artists, physicians, and writers, among others — contribute their expertise and resources. Technology is readily available and enables students, teachers, and administrators to seek knowledge and expertise beyond the school building. “Edutopia” is a vision of powerful teaching and learning.

The foundation uses the magazine **Edutopia**, its website and documentaries to celebrate the unsung heroes across our nation who are making “Edutopia” a reality. They have shown what can be done, often with the same number of resources as other schools and sometimes with fewer. The foundation recognizes that for these innovations to spread, educators and parents, as well as business and community leaders, must first see and understand them. The Documentary Gallery is a robust archive of short documentaries and expert interviews that allows visitors to visualize what these innovations look like — in the classroom and in the words of teachers and students. Detailed articles, research summaries, and links to hundreds of relevant websites, books, organizations, and publications are available to help schools and communities build on successes in education.

Edutopia highlights the following 13 topics which the foundation believes are critical elements in public education:

Assessment	Parent Involvement
Business Partnerships	Project-Based Learning
Community Partnerships	School-To-Career
Digital Divide	Teacher Preparation
Emotional Intelligence	Technology Integration
Mentoring	Technology Professional Development
Ongoing Professional Development	

To subscribe to the free **Edutopia** magazine, go to www.edutopia.org

New Regulations for Accessibility of Instructional Materials

Students who are blind, visually impaired or have print disabilities experience a barrier to learning - inaccessible materials - when core curriculum textbooks presented in print are the primary learning resource. Students who cannot see the words on a page, cannot hold a book or turn its pages, cannot decode the text or cannot comprehend the syntax that supports the written word may each experience different challenges, and they may each require different supports to extract meaning from information that is “book bound” - but the barrier for each is the same.

In July 2004 a National Instructional Materials Accessibility Standard (NIMAS) for students with sensory and other print disabilities was endorsed by the U.S. Department of Education. In July 2005, when the reauthorization of IDEA takes effect, a National Instructional Materials Access Center will be established at the American Printing House for the Blind. Publishers will be required to provide electronic files of instructional materials, such as textbooks, so they can be more easily converted to Braille, text-to-speech, and other accessible formats. It is expected that this mandate will solve the problem experienced by many students with disabilities of obtaining textbooks in electronic format.

The National Instructional Materials Accessibility Standard Report is available at the CAST website, www.cast.org/ncac/

NJ Regional Centers for College Students with Disabilities

New Jersey supports eight centers located throughout the state that provide direct assistance to auditorily impaired, visually impaired, and learning disabled students. The goal of the centers is to provide integrated, individualized, direct services to students and technical assistance to other colleges and universities in the state. The Special Needs Grant Program is administered by the New Jersey Commission on Higher Education.

Adaptive Technology Center for New Jersey Colleges at The College of New Jersey

Director: Amy Dell
(609) 771-2610; <http://adaptivetech.tcnj.edu>

Learning Disability Centers

Project Assist at Cumberland County College

Director: Wayne King
(856)691-8600;
<http://www.cccnj.net/ccj/pages/student/projasst/projasst.html>

Regional Center at Fairleigh Dickinson University

Teaneck
Director: Vinnie Varrassi
(201) 692-2298
Madison
Director: Paul Vico
(973) 443-8734;
<http://www.fdu.edu/studentsvcs/rcsld.html>

Central Regional Connections at Middlesex County College

Director: Beth Lowe
(732) 906-2507; <http://www.middlesex.cc.nj.us/admin/connect/projcon.htm>

Project Mentor at New Jersey City University

Director: Jennifer Aitken
(201) 200-2091; http://www.njcu.edu/PMentor/proj_ment_home.htm

Project Academic Skills Support at Ocean County College

Director: Maureen Reustle
(732) 255-0456;
http://www.ocean.edu/campus/student_services/drc/pass.htm

Deaf & Hard of Hearing Centers

Center for Collegiate Deaf Education at Bergen Community College

Director: Nancy Carr
(201) 612-5269, (201) 447-7845 TTY; <http://www.bergen.edu/oss/ccde.asp>

Mid-Atlantic Postsecondary Center for Deaf & Hard of Hearing at Camden County College

Director: Josie Durkow
(856) 227-7200 ext. 4506, (856) 228-1897 TTY;
<http://www.camdencc.edu/departments/deaf/index.htm>

Adaptive Technology Lab

(continued from page 3)

is involved with the Faculty Ambassador Grant, funded by the U.S. Department of Education. Through this grant, Seham conducts workshops to increase faculty awareness of the lab in hopes that they will better understand adaptive technology and advise their students with disabilities to visit the lab for assistance.

Reaching Out to High School Staff and Students

New this year, to supplement the annual open house Project Connections hosts for high school staff involved in transition, Seham will conduct training workshops on *Kurzweil 3000*, *AlphaSmart*, *Inspiration* and *Dragon Naturally Speaking*. Her intention is to increase awareness of assistive technology at the high school level so that students will begin college more knowledgeable about the programs available to assist them. She hopes the outcome of the training will be two-fold: that students will have access to much needed assistive technology while still in high school, and that as a result, students will be better prepared for their transition to college.

Combining a knowledgeable, dedicated coordinator with state-of-the-art technology, the Adaptive Technology Lab at Middlesex County College stands as an excellent model for improving student success.

For additional information on Project Connections:
<http://www.middlesexcc.edu/acadsupport/control.cfm/ID/74/>

Ellen Farr is an alumna of The College of New Jersey (M.S. in Educational Technology) and a member of the staff of CATIES (Center for Assistive Technology and Inclusive Education Studies).

NJ Commission on Higher Education Special Needs Grant Program

presents

Promoting Success in College for Students of All Abilities

a one-day conference at The College of New Jersey

April 1, 2005

8:30 am - 4:00 pm

Conference Overview

Students with disabilities are successfully graduating from institutions of higher education nationwide. As a growing population, their attendance draws attention to the need for improved access and accommodations. What are these students' rights? How can high schools better prepare students for the transition to college? What technology tools are available to assist students with disabilities succeed in a competitive setting?

Keynote Address: Salome Heyward, J.D.

New Challenges and Opportunities: Providing Access and Accommodations for Students with Disabilities

Dr. Heyward has 20 years of civil rights law practice in the field of federal statutes addressing disability, race, national origin and sex-based discrimination. Her vast experience concerning legal issues in the postsecondary arena include Director of Affirmative Action for a large research institution and senior staff attorney for the U.S. Department of Education. Additionally, she is recognized nationally as an expert in the field of disability discrimination law, and is the author of several texts, articles and publications, including *Graduate Schools and the ADA* and *Disability and Higher Education*.

Conference Program

There will be 3 time slots for breakout sessions with a variety of presentations, panel discussions, hands-on workshops and a featured session for students conducted by Richard Wanderman. A showcase of new technology products, state agencies and other helpful resources will be on display throughout the day.

Who Should Attend?

Disability support staff in higher education	High school and college administrators
College faculty	Child study teams
ADA compliance officers	Teachers
High school staff involved in transition	Parents
Guidance counselors	High school and college IT staff
High school and college students	

How Much Does It Cost?

The NJ Commission on Higher Education is underwriting the conference so the registration fee is only \$25, which includes a continental breakfast & lunch buffet.

How Do I Register?

A complete conference program and registration form are available at <http://caties.tcnj.edu>.

**The College of New Jersey is a
Registered New Jersey Professional Development Provider**

I recommend the following program/product for consideration for inclusion in a future issue of TECH-NJ:

Part A

Name of Program/Product: _____

Brief Description: _____

Contact Person: _____

School/Company: _____

Street: _____

City: _____ State: _____ Zip Code: _____

Phone Number: _____

E-Mail Address: _____

My Name/Phone Number/E-mail Address: _____

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STAMP
HERE

TECH-NJ

The Department of Special Education, Language and Literacy

The College of New Jersey

P. O. Box 7718

Ewing, New Jersey 08628-0718

(FOLD HERE)

Part C

If you know anyone who would be interested in receiving a copy of TECH-NJ, please fill in below.

Name: _____

Street: _____

City: _____ State: _____ Zip Code: _____

Name: _____

Street: _____

City: _____ State: _____ Zip Code: _____

NJ Regional Centers for College Students With Disabilities

The Special Needs Grant Program of the New Jersey Commission on Higher Education supports a system of regional centers to provide support services for students with special needs. There are eight centers located throughout the State of New Jersey.

The Adaptive Technology Center is located at The College of New Jersey. The Center works with service providers at the institutions to provide opportunities for college students who have learning disabilities, or who are visually impaired or deaf or hard of hearing, to meet the academic demands of college. The Center provides technical assistance and training workshops for college and university staff.

Five Regional Centers serve students with learning disabilities, providing comprehensive support programs for students attending their colleges. To increase knowledge and understanding of learning disabilities, the Regional Centers also provide training, assistance, and community awareness activities for faculty and staff at other postsecondary institutions, and conduct diagnostic evaluations.

Two Regional Centers provide comprehensive support programs on their campuses for students who are deaf or hard of hearing. A full range of services are available to assist students in certificate and degree programs. For staff at other colleges and universities, the Regional Centers provide technical guidance and support.

For contact information for all the Regional Centers, please see page 13.

THE COLLEGE OF NEW JERSEY

Department of Special Education, Language and Literacy

P. O. Box 7718

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