News and Notes
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Family Center on Technology and Disability

Crossing the Technology Bridge -- Where Do We Go as a Field to Help All Learners Succeed?

An Interview with Ruth Ziolkowski, President and Chief Operating Officer, Don Johnston, Incorporated

Ruth Ziolkowski

This month the Family Center is pleased to feature the insights of Ruth Ziolkowski, President and CEO of the Don Johnston Company, a leading assistive technology firm that recently celebrated its 30th year in business. Don Johnston, and the company that bears his name, are known for literacy software programs, tools, devices and professional development services aimed at supporting students with cognitive, physical and learning challenges. We asked Ms. Ziolkowski to comment on various aspects of the AT field, including where it is headed in K-12 education.

Ruth Ziolkowski began her work with Don Johnston in 1987. She holds a Bachelors degree from the University of Illinois in Occupational Therapy and a Masters degree from the Keller Graduate School of Management

Ruth has held several positions in the company including V.P. of Research & Development and now oversees the critical day-to-day operations of the company. She collaborates with a variety of experts in the field of educational technology and literacy. She is co-author of the Beginning Literacy Framework with Karen Erickson and Caroline Musselwhite, and serves as an expert panel member for the National Center for Technology Innovation (NCTI). Ruth is also a board member of National-Louis University, Bookshare, and the National Center for Accessible Instructional Materials.

Don Johnston

She begins by acknowledging the influence that Don Johnston has had on her. "I've been privileged to learn from Don. With a background in organizational psychology, he thoroughly understands system change. He taught me how to regard an organization as a system, the dynamics of change and the barriers we must overcome. Those lessons guide my leadership today and have shaped our mission as an AT company. It is still our goal as a caring company to ensure that as many students as possible who have disabilities and learning challenges receive the tools and strategies they need to be successful."

Today, Ruth says, the AT field is "confronted by many issues reflective of those faced by our society, especially by the impact of the economic recession, which has resulted in constricted school budgets. This economic distress, however, has spawned the recent U.S. federal government stimulus assistance, including the American Recovery and Reinvestment Act (ARRA) of 2009. In this legislation AT was one of the top five spending recommendations for school districts nationwide."

School System Response to ARRA

Nearly a year has passed since ARRA was enacted. In that time frame, Ruth has seen three different school district scenarios develop with respect to ARRA-funded technology acquisitions:

Scenario #1: There are districts in which ARRA-funded AT is not a factor. "Districts that have other pressing needs do not understand AT or are not using it. Therefore, they have not been changed for better or worse by ARRA in their approach to AT."

Scenario #2: Districts, in which funding has been very tight for the past couple of years, have been aided by a pinch of ARRA funding in attempts to acquire AT. "This funding," Ruth notes, "helps to replenish some of a district's older technology, or upgrade their licenses and add some new technology. In these districts, the availability of AT is beneficial for individual students. ARRA funding will be a source of protection if other sources remain constrained for the next few years. These districts probably didn't acquire new technology, but were able to obtain updated copies of technology in which they've already invested in."

Scenario #3: *Systemic Change in School Districts*

The third scenario is where systemic change at the district level is taking the most shape. "This is where the exciting work is," says Ruth, "and

where we'll learn much as a field. This is where district and school leaders know more about and understand systemic change and the obstacles they face. These leaders are rethinking their approach to learning and teaching and achieving school efficiencies through technology. They know how to serve as many students as possible with the technology that does the most good. Our team has been talking and working with some of these districts to ensure that their ARRA funding, a one-time spending event, is spent with good, sound decisions to affect the greatest student outcomes."

"For example," she continues, "it is clear that some AT genres, like word prediction, have helped students with disabilities to write and express themselves more clearly for over 30 years. Word prediction continues to be a solid AT investment for schools. Students have needed these tools to succeed all along. They need this technology now and will need it tomorrow. I talk to individuals at the district level about whether these genres of technology have made a significant impact on students and then ask them how this technology can be implemented in a way that has a wider impact. They want to consider their AT investments systemically so that they can meet their mandate for a least restrictive environment. We also tried to help them formulate a more modified curriculum, but have come to realize that's not what schools want. Instead, they want students who use AT to have access to the general education curriculum."

Giving Students Access to the General Curriculum: "Would email have taken off if we didn't have universal access?"

"What students really need from AT is ease of use and accessibility," Ruth explains, "so that the technology is available to them to move from one class to the next. This approach takes a least restrictive environment tack. The tools meet the students' need for mobility across the curriculum and to learn anytime and anywhere from home, school, college or workforce. Would email have taken off if you had to walk down the hall in order to access the three computers that have this application? Of course not…that's where we've been with AT.

"We expect students to use these tools, like email, but if email was only on one computer, would we use it ubiquitously? If word prediction is only on one computer in a special education classroom, how can a student who needs the writing tool do well in every class? And we wonder why the tools don't get much use.

"This limited approach is inconvenient for teachers too. AT professionals spend countless hours installing AT tools on single machines and have to track all of them individually instead of training and supporting teachers and students in implementation and usage of the technology. As a consequence, our company took a fresh look at network licensing pricing, making it possible for districts to more easily include AT on the network for every computer or device, just like Microsoft Word. Word processors are everywhere and core AT tools, like word prediction, should be more widely available."

The Don Johnston CEO maintains that "companies must risk creating pricing structures that facilitate ubiquity and universality. Should such a pricing model be established, schools could then serve students with IEPs more efficiently and would be better prepared to function in a response-to-intervention (RTI) environment in which students might not be in special education but the appropriate AT tools would be available. Schools, in turn, would have full AT licenses to serve more students who need this support. Such a whole-school learning approach would provide the AT field with a true Universal Design for Learning (UDL) perspective. Districts that employ their ARRA funding to achieve this perspective will derive the most potential."

Building AT Infrastructure – The Time for Cost Efficiencies is Now

Through the ARRA funding, a huge opportunity and responsibility exists, Ruth maintains, for school administrators and AT and IT professionals to bridge the gap between special and general education and to make fundamental changes. "At some point, ARRA funding will cease, but until then, leading districts can use these funds to build an AT infrastructure. Once school districts make the initial investment in AT, keeping up that infrastructure is not as expensive as one thought." She cites general education technology as an example. "Years ago we couldn't count on every computer having word processing capability. Through the years vendors have figured out ways to include it on every machine. When you do this, the per-unit price drops significantly. The same principle holds true for school districts and AT spending."

Accommodation or Intervention? "Research Says We Should Do Both"

Today, there is more research than ever that supports the education field's efforts to bring AT into a wider spectrum to support students with different challenges. Ruth points to a new study just released in the American Journal of Occupational Therapy (AJOT) about the positive effects of AT in public schools. "Although much of the AT research is in case study format, it does show AT's impact on student productivity. You can read some of these real educator case studies on the Don Johnston website."

Ruth also cites a study reported in the Journal of Special Education Technology (JSET) that evaluated word prediction, word processing and talking word processing technology in terms of productivity. Overall, she comments, "the research found that all those tools helped the students. Some made huge gains using only word prediction. Others made big gains with just the talking word processor. There's still a level of individualization needed, students need different solutions to support different needs, but with AT tools, children do increase their productivity and stay engaged."

Ruth lauds research conducted by Karen Erickson through an NCTI grant as among the best in the AT field. "Dr. Erickson's research demonstrates that in addition to thinking about AT as an accommodation, if we apply it in certain ways, we have definitive evidence of skill achievement."

"Although AT does not 'fix' children with disabilities," she continues, "it can significantly assist them to produce better outcomes and to close some of the achievement gaps that are evident today. It can be significantly helpful to address the larger NCLB mission.

"On that front we have to answer the question, 'Is that enough?' In other words, unless AT can improve children's test scores, are the benefits derived from its use sufficient for us and for them? We often work with students who won't or cannot read or write. Research proves that these children read and write more often with AT tools. They don't achieve grade-level results overnight, but the indicators show that they can keep better pace, which is where we want them to be.

"We can also look at the research conducted by Sally Shaywitz, M.D., a nationally recognized pediatrician, neuroscientist, member of the National Reading Panel, professor of pediatrics and co-director of the NICHD-Yale Center for the Study of Learning and Attention. Dr. Shaywitz wrote about the issue of intervention versus accommodation in a 2008 article (http://www.iapsych.com/chcreading/LinkedDocuments/shaywitz2008hl.pdf).

What Dr. Shaywitz makes extremely clear is that intervention alone is not enough to get our students to grade level curriculum. This is an important assertion by a well-respected authority in the field who says that we need to cease looking at AT as an 'either-or' tool to fill students' needs. Good intervention and good accommodations are not a choice. If we want our kids to be successful, we should do both and we will see an enormous impact on our students' learning abilities and in access to required materials they need to succeed."

Accessible Instructional Materials: Think Systemically

Ms. Ziolkowski has long been active in the accessible instructional materials movement (AIM), which was inspired by IDEA 2004 under the banner of the National Instructional Materials Accessibility Standard (NIMAS) (http://www.ideapartnership.org/index.php?option=com_content&view=article&id=849&oseppage=1). NIMAS was created to help increase the availability and timely delivery of print instructional materials in formats that are accessible to K-12 students, thus providing students with access to the general curriculum.

She explains... "IDEA 2004 contained additional language pertaining to accessible instructional materials that added clarity to the legislation. The reauthorized IDEA made file formats clearer and created the NIMAS standard. AIM's overall intention is to encourage the AT field to think systemically to reduce duplication of effort regarding accessibility. If we establish a standard, there should be faster movement. It's like the Beta/VHS tape battle where it took 10 years for the market to determine a standard. IDEA 2004 has served as a standard for accelerating access to the alternate format and to do as much as possible to

eliminate redundancy.

"Students need to be able to use grade-level curriculum, but for that to happen materials must be made accessible. As a nation we need to be smart about how we provide universal access. In terms of traditional and new accessible instructional tools, the new tools are coming out of the commercial mainstream and we are just beginning to see them adopted."

Ruth cites Amazon's Kindle, the Sony Book Reader, Barnes & Noble's Nook electronic book reader and the Apple tablet as examples of mainstream consumer products with potential for children who need accessible instructional materials. At the consumer electronics show she saw that e-book readers were the hottest tools on the floor. "Text readers and screen readers are a core genre of AT and we're seeing them now as high-profile products in the consumer realm. For some students, these devices may provide a solution. We find, though, that the core accessibility features students often need the most are left off. For instance, we know that speech support is very important – but the consumer readers don't yet have that feature."

Will these readers, when modified to address core issues, provide significant help to students who need reading support? Ruth says, "Computers should have solved problems for all the students who were physically disabled because computers enabled them to type instead of hand write. But that benefit has also brought new challenges. Eventually modified electronic reading devices will be a core solution for students, but we still have to encourage accessibility and ease of use for students with disabilities."

Are Electronic Textbooks Available Yet?

When asked about the current availability of e-textbooks, Ruth says, "People are using electronic files like Bookshare - http://www.bookshare.org/ - and RFB&D (Recording for the Blind & Dyslexic audio books) - http://www.rfbd.org/ - and finding all the public domain that's out there and available, but it's not enough to have digital text. You need digital text that is used in the curriculum. The mainstream ebook readers are not addressing state-aligned educational content, plus the devices are often in proprietary formats. There still remains a problem in finding materials for students who don't qualify for free access under the Chafee amendment." http://www.afb.org/Section.asp?SectionID=44&TopicID=16&SubTopicID=33&DocumentID=1785

Ruth explains: "Chafee allows an 'authorized entity' such as a governmental agency or non-profit organization, like Bookshare, to reproduce or distribute copyrighted materials in specialized formats for blind or other print disabled students without the need to obtain permission of the copyright owner. The definition of 'print disability' is unclear and does not cover every student with an IEP, so many students are not yet able to benefit from accessible instructional materials. That problem will continue to exist until districts begin to reexamine their purchasing policies, their contract

language and their overall AT considerations for accommodations.

"Administrators are going to have to work with the publishers and begin to negotiate for what they need from publishers," advises Ruth. "Leading AT individuals in the field and AT organizations are beginning to say that if we are smarter in our acquisition of materials to get the accessibility and flexibility we need right from the start, we will serve not only students with special needs but all learners. In addition, AT services can shift from creating and making materials accessible (scanning) to working with teachers and students in modeling the use of flexible materials to help students reach access to grade level curriculum. In terms of tools, the AT field is asking, 'How do we make these tools more available and cost-effective?'"

New licensing methods are one answer. In school districts, Ruth has noticed a 'value shift' occurring. "If we're shifting away from every district remaking its own materials then more value is placed by a district on acquiring, for example, the most sophisticated optical character recognition (OCR) program to create its own digital materials or an accessible text reader that supports reading instruction. Even though there's a NIMAS standard, districts and schools are using whatever materials are available. I see a shift to technology that will meet the new standards but still support the accessibility standard and to much-needed professional development for teachers, but there's still room to grow."

Resistance to Full Digitization Remains

It amazes Ruth to admit that resistance to full digitization still remains. "It's there – not just among publishers but among significant groups of their customers in the K-12 and post-secondary education fields. I'm not referring only to issues related to access to technology but also to teachers themselves. There is a lot of professional development that is necessary to see significant change.

"AIM has helped to spotlight the need for multiple formats and this will continue to evolve. Devices like iTunes and the iPhone, which can accommodate accessible formats, put pressure on companies to determine new business models for making content available in new formats. Yet the irony is that at the end of the day, despite this accelerated technological evolution, schools are amazingly still looking for traditional textbooks."

Even with the new AIM-related laws, Ruth says it is a struggle to get content in the formats that are needed. She is confident, however, that increased activity among digital publishers will eventually result in the creation of appropriate material.

In terms of AT usage overall, Ruth feels, "more often than not, technology usage is based more on the teachers' comfort level with technology instead of the student's need for technology. If we were driven more by student need, we would see much more use of technology. According to an NCLD report, 66% of students with learning disabilities are reading 3 or more grade levels behind. I can assure you that 66% of students with learning disabilities are not using assistive technology to get access to the general curriculum."

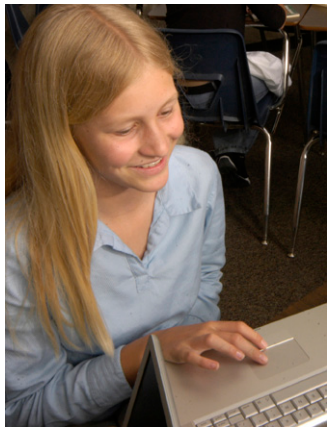
Student proficiency with technology has been a major contributor to positive change in teachers' relationship with technology, she asserts. "It's trite but true: Most kids are proficient users of technology, which can frighten or intimidate some teachers because they don't want to appear to know less than their students."

Ruth's mentor and founder of her company, Don Johnston, did not learn to read until the 8th grade when an inspiring teacher, Mrs. Tedesco, taught Don to learn in different ways. Don is to write a second book about returning to school. In his first book, an autobiography, Don writes about his learning challenges in grade school and the teacher who changed his life. The book is called "Building Wings: How I Made it Through School" and was a hit among teachers and students with disabilities. Don received hundreds of letters sharing the impact the book made on struggling and reluctant readers. A Building Wings Readers Theater Toolkit (learning materials to accompany Don's book) was created by local teachers in Schaumburg School District 54 near the Don Johnston headquarters. The online book and Readers Theater are free to download from the website at http://www.donjohnston.com/building_wings/readers_theater.html

Today, Don Johnston is training to be a docent who leads tours for the Chicago Architectural Committee. "It's a very stringent program," shares Ruth, but this time Don can use technology to learn which was not available to him when he attended grade school. Don receives his materials digitally and uses his Read:OutLoud accessible text reader to take notes and study the information. Don is seen as a tech-savvy learner, not one with reading difficulties. No one is questioning whether he is getting an unfair advantage or telling him that he can't use these tools when he is assessed for his docent certification. Don expects school to be much different this time around and still envisions a world where all learners will get these opportunities."

Ruth concedes, "In many schools the use of AT is still viewed as an unfair advantage. We have gotten better at letting kids use AT in school, but when it comes to testing, and time for students to show what they know, legal, regulatory and other obstacles remain the barriers that block kids from demonstrating their knowledge in the ways they can best communicate their skills."

AT Benefits for Students on the Autism Spectrum



Ruth has also been active in promoting the benefits of assistive technology for students on the autism spectrum. "We see that districts are receiving an increase in the number of referrals. This goes back to the core: students must be able to read, write and communicate to succeed in school. When I talk to districts about their increased autism-related caseloads, I ask them what kinds of tools they use and recommend. Many recommend time-tested AT tools such as word prediction, talking word processors, text readers and electronic books. For some children who have had no exposure to AT, having access to a computer or

some kind of typing instrument is a big step up from writing by hand. For students experiencing motor planning issues or spelling difficulties, word prediction tools are the most effective. We are seeing that many of the tried and true AT tools being implemented have very significant impact. Sometimes students with autism have tons of ideas but cannot stay focused and have difficulty organizing their thoughts and the features of AT writing tools can help them stay on task."

Many districts use Don Johnston's Start-to-Finish computer books (http://www.donjohnston.com/products/start_to_finish/library/index.html) which are written in a considerate text format to keep struggling readers engaged and feeling more independent. "The reason children with autism do better with these materials is that the books are written to understand a different developing language system," shared Ruth. "If a child is unable to comprehend a complex sentence he/she can probably understand a simple sentence. Start-to-Finish was written to accommodate a developmental language system. Children on the autism spectrum often need alternate materials as well as assistive technology."

Among the anecdotes, Ruth has heard about a practitioner from Minnesota who works with students with autism. "She uses technology that was created for one purpose in multiple ways to support her students with different needs. For example, she used a word prediction writing tool for a non-verbal student to bolster his overall communication skills. The child's verbal skills consisted of repeating what others said, a very Echolalic (the automatic repetition of vocalizations initiated by another individual) trait. He was unable to initiate any dialogue on his own. The teacher used word prediction and a talking word processor to facilitate the child's writing skills. The child was then able to generate ideas of his own and initiate conversation."

The Rise of Digital Rights Managers - Change is Coming

Ruth views three significant emerging areas of change in the AT field:

- AT implementation. "The AT field is asking, 'How do we train teachers more virtually, i.e. in compacted time periods? How are we going to have the same -- or more -- impact by having even less time with teachers?' We see districts thinking creatively about virtual solutions to that dilemma."
- AT consideration process. "In most districts the process is based on an expert model, i.e. students in districts with knowledge and skill regarding AT have more access to AT. In some districts if there is an individual on the IEP team who understands AT, the AT consideration process will be strong. If there is no such individual the process will be weaker. Data and data-driven decision-making drive ARRA funding. In my opinion, the AT field ought to avoid being so expert driven and use data to identify which students need access and who should be considered for AT. This is a trend area -- devising new methods for AT consideration -- that could propel the field forward."
- New responsibilities for AT professionals. "This area concerns accessible instructional

materials. Many AT professionals took time to generate and produce materials in an accessible format. Those professionals will move away from that effort but will spend more time providing input on general curriculum decisions. They'll focus on accessibility. They'll concentrate on acquisition policies to ascertain the true accessibility of files. Just because files are in a digital format does not mean they are digital. These individuals will become, in function or in fact, Digital Rights Managers and will encourage others to emulate them. They'll do this because, depending on the policies and agreement they have with their publishers, they will find that some students have access to everything while others have access only to some things."

Already, Ruth says, AT professionals are surfacing as Digital Rights Managers or DRMs. "Virginia and Indiana, in their instructional materials programs, are asking districts to identify DRMs. Sometimes that individual is an AT professional, sometimes an IT professional, sometimes it's a librarian. This is a new movement and a new responsibility. Even if the AT professional in a district doesn't become the DRM, he/she will have to maintain a good working relationship with the individual who is selected to fulfill that responsibility in order to make sure the general curriculum is accessible to every student with an IEP. In the end, we are crossing this bridge together to make a difference in the lives of many more students in special and general education. Our company is committed to this effort and to support and serve educators for many more years to come."

EXECUTIVE PROFILE:

Don Johnston
Founder Don Johnston Incorporated

Don Johnston founded his educational publishing company in 1980 with a sincere desire to develop tools and services that would help students become successful readers, writers and thinkers. He is a highly respected leader in the assistive technology field, dedicated to helping struggling learners identify their unique learning styles and become self-advocates for their learning success. In the mid 1970's, Don started an alternative school in collaboration with the local school district for students with behavior and learning problems. Later, he became an organizational consultant for businesses planning change and taught part-time for 15 years in the Organizational Development Department at George Williams College and Aurora University in Illinois. Don holds a Bachelors Degree in Psychology from Kent State University and a Masters Degree in Psychology specializing in Groups and Organizational Change from George Williams College. He is well respected for his knowledge of brain-based research and the study of how children learn best; including the theory of Universal Design for Learning (UDL). Over the years, he has collaborated with many educators, researchers and scientists at Vanderbilt University, NASA and has received numerous awards. In 2005, Don Johnston received the Outstanding Leadership Award presented by the Technology and Media Group (TAM) from the Council for Exceptional Children. Don is also a well-known author, photographer, science enthusiast, entrepreneur, keynote speaker, teacher and student ambassador.

RESOURCES

ARTICLES

The End of Textbooks

By David Rapp

Scholastic (November-December 2008)

K-12 schools have been slower than colleges to embrace the ebook, the author declares. Although the K-12 market continues to lag, developers have been working to create ebook technology to support it. Even a few years ago, he observes, ebooks were not taking advantage of contemporary computer technology and instead were simply reproduced electronically. Now, however, there is evidence that ebooks' multimedia content is linked to external assessment and homework management systems. He concludes that much effort on the ebook front has been dedicated to systems that support teachers and that are ancillary to the content, with less effort expended to translate paper text into an ebook alternative.
http://www2.scholastic.com/browse/article.jsp?id=3750551

Students Can Benefit from Accessible Instructional Materials

By Jeff Dietrich

Center for Educational Networking (2009)

The author defines accessible instructional materials (AIM), outlines the paths available to students who are eligible to receive such materials and highlights the importance of AIM availability. Mr. Dietrich defines AIM as follows: Accessible instructional materials include textbooks and other curriculum resources provided in specialized formats so that they can be used by and with students who are struggling readers or otherwise unable to access printed text. Fully accessible means:

- All text is digital and can be read with text-to-speech software, modified with regard to font size and navigated by unit, chapter, section and page number (or other appropriate segments).
- Images include alternative text and long descriptions when appropriate. (Alternative text is a replacement for an image that serves the same purpose as the image itself. It is read by a screen reader in place of the image).
- Math equations are provided as images with alternative text or in the content file using MathML.
- Content reading order, levels, and headings are determined by publisher tagging.
- Text can be converted into Braille.

http://www.cenmi.org/Documents/FocusonResults/FocusonResultsDetails/tabid/79/articleType/ArticleView/articleId/328/Students-Can-Benefit-From-Accessible-Instructional-Materials-AIM.aspx

iPods May Help Asperger's Kids Navigate Life

Minneapolis-St. Paul Star-Tribune (2009)

iPods and iTunes applications are quickly becoming solutions for multiple problems that go way beyond those originally conceived by the initial iPod developers. Individuals who struggle with social skills and daily living skills have found that the iPod can be stocked with information, lists, videos and other reminders on ways to successfully interact with others. The Fraser Project described in this article utilizes these devices and applications to create social stories and other necessary supports for individuals with autism and Asperger's Syn-

drome. http://www.startribune.com/lifestyle/health/51702302.html?page=2&c=y

American Recovery and Reinvestment Act of 2009: Using ARRA Funds Provided Through Part B of the Individuals with Disabilities Education Act (IDEA) to Drive School Reform and Improvement

U.S. Department of Education (2009)

This document offers guidance for IDEA Part B funds made available under ARRA. It provides:

- Examples of potential ARRA expenditures that are relevant to improving results for students with and without disabilities
- Detailed explanations for all of the examples
- Suggestions regarding the coordinated use of funds to support some of the examples.

Recognizing that many local education agencies (LEAs) may need to use a large portion of the ARRA funds to support teacher salaries or other critical short-term needs, this resource suggests how LEAs can use such funds to support activities that increase LEA and school capacity in a manner that is consistent with regulatory requirements and in coordination with other funding sources including their regular IDEA Part B allocation.

www2.ed.gov/policy/gen/leg/recovery/guidance/uses.doc

Toolkit for Creating Accessible Instructional Materials

San Jose State University, Center for Faculty Development (2009)

The center recommends adoption of the following measures by college faculty to create accessible materials:

- Distribution of instructional materials in an electronic format created using Word, PowerPoint, PDF, etc., so that students using assistive technology can effectively access the information contained in these materials
- Provision of electronic instructional materials in a character-readable and editable format so that assistive technology can be used
- For instructional materials with images (e.g. pictures, diagrams, clip art), provision of a written description of the image ("alt text" or "alternative text")
- Designing of instructional materials, such as Word and PowerPoint documents, via built-in formatting styles (e.g. headings, subheadings, slide layouts, etc.) to create a logical document structure

http://www.sjsu.edu/cfd/docs/accessibility_toolkit.pdf

Wired Up: Tuned Out

By Jen Scott Curwood

Scholastic (August 2009)

According to the author, today's digital media natives need a school environment that channels and challenges their tech savvy. Today's students, she writes, spend more than 6.5 hours daily utilizing electronic media for educational and non-educational purposes. She cites Pew Internet and American Life Project studies showing that 93% of students ages 12-17 go online. Of those children, she adds, 55% use social networking sites and 64% create original content such as blogs or wikis. Unlike television watching, however, students accessing the Internet take an active role, marking a switch from consumption to participation. This

change, she continues, impacts the way children construct knowledge, develop their identity and communicate with others.
http://www2.scholastic.com/browse/article.jsp?id=3752302

American Recovery and Reinvestment Act Report: Summary of Programs and State-by-State Data
U.S. Department of Education (November 2009)
This lengthy report, in which data-filled charts are plentiful, details how $67 billion in ARRA funding has been disbursed on a state-by-state basis through September 30, 2009.
http://www.ed.gov/policy/gen/leg/recovery/spending/arra-program-summary.pdf

Accessible Textbooks: a Glossary of Commonly Used Terms
American Foundation for the Blind (2009)
The AFB provides a glossary of terms pertaining to accessible textbooks, with most including links to additional information.
http://www.afb.org/Section.asp?SectionID=44&TopicID=16&DocumentID=371

GUIDES

Twelve Essentials for Technology Integration
By Richard Byrne
Yudo.com (2009)
This technology resource guide from Richard Byrne (creator of freetech4teachers.com) describes a dozen free education technology resources for teachers. The guide focuses on four major purposes for education technology: creating documents and presentations; communicating with students and parents; creating collaborative projects; and using educational videos. Byrne provides brief summaries for each resource included in the guide and offers examples of how each can be used. Links to each resource and to additional related resources are included.
http://content.yudu.com/Library/A18dcc/TwelveEssentialsforT/resources/index.htm?referrerUr l=http%3A%2F%2Fwww.yudu.com%2Fitem%2Fembedded_reader%2F59772%2FTwelve-Essentials-for-Techn ology-Integration%3Frefid%3D19189

WEBSITES

Max and Friends
Launch into Learning
Max and Friends is a multimedia educational program designed for young children with autism, but can be used by children and adults of any age who experience developmental delays. The program is based on Applied Behavioral Analysis (ABA), a methodology that has been successfully used in educational settings. The series of books and DVDs incorporate ABA training methods with television-type viewing, breaking down each task to be learned into components that are then practiced in various applications. Interested users can order a promotional DVD to sample Volume 1 of the series. A parent manual accompanies each set of materials. Cost: $79.99.
http://www.launchintolearning.org/index.php?focus=max

EBOOK DOWNLOADS

WikiBooks
Wikimedia Foundation
Affiliated with the Wikimedia Foundation, par-

ent of Wikipedia, Wikibooks was created in 2003 as an online repository of educational textbooks that anyone can add to or edit. As with Wikipedia, the content is monitored and refereed by thousands of editors around the world. More than 31,000 textbook pages have been added.
http://en.wikibooks.org/wiki/Main_Page

OverDrive School Download Library
Overdrive
Cleveland, Ohio-based OverDrive, perhaps best known for its widespread distribution of ebooks to 7,500 public libraries worldwide, maintains an online library of about 600 books geared toward K-12 students, ranging from abstract algebra workbooks to William Golding's novel, Lord of the Flies. This download library provides a way for schools to experiment with e-content and expand their own school libraries. Cost: Varies by product.
http://www.overdrive.com/products/sdl/

APPLICATIONS

iPrompts
iPrompts is a prompting tool designed for individuals with developmental challenges and language impairments. Developed by the family of a four-year old boy with autism, this application is designed for use with iPhone and iPod Touch. The application provides picture schedules that can be sequenced and captioned, a visual countdown timer to aid in transitioning from one activity to another, choice prompts that can be rotated to enlarge the graphic for users requiring visual support, and an image library equipped with hundreds of graphics and digital pictures. Users can take their own photos and import them into the application. The iPrompt website enables users to share photos. Cost: $49.99.
http://www.handholdadaptive.com/

FCTD AT Glossary

Here at the Family Center, we understand that it is important for parents to understand the "language" of assistive technology so they can beinformed advocates for their child's technology needs.

The **FCTD AT Glossary** can help parents learn about the kinds of assistive technologies that are currently available. An updated 2010 version is now availble on our website. To access the glossary, please visit http://www.fctd.info/factsheet/glossary

KNOWLEDGE NETWORK MEMBERS

Colligo: Digital Content and Assistive Technology

Colligo partners with several agencies, libraries and schools to publish books in formats that aid people with low vision, dyslexia, learning disabilities, reading obstacles and other disabilities. For more information, contact:

Colligo Corporation
1304 Meador Ave, Ste B5
Bellingham, WA 98229
Phone: (360) 239-9815
Fax: (360) 239-4427
Email: info@colligo.us
http://www.colligo.us/

DAISY (Digital Accessible Information SYstem) Consortium

The consortium was formed in 1996 by talking book libraries to help guide the global transition from analog to digital talking books. DAISY is a globally recognized technical standard to facilitate the creation of accessible content for Digital Talking Books, digital text books, or a combination of synchronized audio and text books. The standard was originally developed to benefit people who are unable to read print due to a disability, but it also has broad applications for improved access to text in the mainstream.

The DAISY Standard is based on several recommendations of the World Wide Web Consortium (WC3). Currently, these include the Extensible Markup Language (XML) and the Synchronized Multimedia Integration Language (SMIL). Both are internationally recognized standards accepted in the technology industry. The DAISY Standard allows the producing agency full flexibility regarding the mix of text and audio ranging from audio-only, to full text and audio, to text-only. Using the DAISY Standard, content creators, such as libraries serving individuals who are blind or visually impaired, or a book publisher, can produce accessible and navigable books to meet a variety of reading needs. In general, organizations can:

- Produce a Digital Talking Book (DTB) that enables a person to navigate through it in a way comparable to how a print book would be used. For example, readers can examine the book by page, section, or chapter, or use a table of contents or an index. In general, this goal may be accomplished by creating a structured text file integrated with a human-narrated audio file
- Synchronize an electronic text file with an audio file to provide readers with the choice to examine the text and/or listen to the audio version of it
- Generate an electronic Braille file from the electronic text used to create the DAISY book
- Produce a structured digital ''text-only'' document which can be read with a DAISY software player in combination with a Braille display or speech synthesizer.

A DAISY book is defined as a set of digital files that includes:

- One or more digital audio files containing a human narration of part or all of the source text

- A marked-up file containing some or all of the text (this marked-up text file is optional)
- A synchronization file to relate markings in the text file with time points in the audio file
- A navigation control file which enables the user to move smoothly between files while synchronization between text and audio is maintained.

http://www.daisy.org/about-us

Florida Instructional Materials Center (FIMC-VI)

A unit of the Florida Department of Education, FIMC-VI acquires, produces and disseminates Braille, large print and audio books for the visually impaired (VI) and blind students in Florida. For more information, contact:

FIMC-VI
4210 West Bay Villa Avenue, Room 26
Tampa, FL 33611-1206
Fax: 813-837-7979
Contact: Suzanne A. Dalton, Supervisor
Email: sdalton@fimcvi.org
http://www.fimcvi.org/

Fraser Family and Child Center

Since 1935, the Fraser center has provided the following services to Twin Cities area children, adolescents and adults:

- Diagnostic evaluations
- Comprehensive mental health services including individual and group therapy
- Rehabilitation services the include physical, occupational, speech-language, and music therapy
- Child care and education for children with special and typical needs
- Housing for adults and children with developmental disabilities
- Workshops and seminars for parents, caregivers and professionals

The center administers the Fraser Project, which utilizes these iPods and iTunes devices and applications to create social stories and other necessary supports for individuals with autism and Asperger's Syndrome. For further information on the center, contact:

Fraser Family and Child Center
3333 University Ave SE
Minneapolis, MN 55414
Phone: 612-331-9413
Fax 612-728-5301
http://www.fraser.org/

Nevada Talking Book Services

The Nevada Libraries for the Blind and Physically Handicapped are part of the Library of Congress' National Library Service for the Blind and Physically Handicapped (NLS) network of libraries providing services to blind, visually or physically handicapped individuals. Books and magazines are available on cassette, disc or in Braille. Recorded books and magazines and special playback equipment are loaned to eligible readers free of charge. All reading materials are sent to and returned by readers through postage-free mail. The Regional Library in Carson City also provides reference and information services about sources of spoken-word recordings, special format materials, Braille instruction and other

resources available to individuals unable to use regular print materials. For further information, contact:
Nevada Talking Book Services
Nevada State Library and Archives
100 N. Stewart Street
Carson City, NV 89701
Phone: (775) 684-3354; (800)922-9334 (toll free); (775) 687-8338 (TDD)
Fax: (775) 684-3355
Contact: Keri E. Putnam, Regional Librarian
Email: kputnam@nevadaculture.org
http://nevadaculture.org/nsla/index.php?option=com_content&task=view&id=568&Itemid=110

Open Electronic Book Forum (OEBF)

Affiliated with the International Digital Publishing Forum (IDPF), OEBF creates and maintains standards and promotes the successful adoption of electronic books. The OEBF is an association of hardware and software companies, publishers and users of electronic books and related organizations whose goals are to establish common specifications for electronic book systems, applications and products that will benefit creators of content, makers of reading systems and consumers. The OEBF urges adoption of electronic books and encourages the broad acceptance of these specifications on a worldwide basis among members of the Forum, related industries and the public. For more information, contact:
International Digital Publishing Forum/Open Electronic Book Forum
PO Box #215
Toronto, Ontario M3C 2S2, Canada
Phone: (905) 235-IDPF (4373)
Fax: (905) 235-3002
Contact: Michael Smith, Executive Director
Email: msmith@idpf.org
http://www.openebook.org/

Recording for the Blind & Dyslexic (RFB&D)

Founded in 1948, RFB&D serves nearly 240,000 members worldwide, circulating 534,000 titles last year. Seventy percent of the organization's membership, which includes students in kindergarten through graduate school, is recognized with learning disabilities. RFB&D transitioned to an all-digital library collection in 2007. In 2008 the organization introduced AudioAccess, which facilitates computer downloads of audio textbooks directly to a user's computer. For more information, contact:
Recording for the Blind & Dyslexic
20 Roszel Road
Princeton, NJ 08540
Phone: (800) 221-4792 (toll free); (609) 720-8408 (custom recording service)
http://www.rfbd.org/

U.S. Access Board

The Access Board is an independent federal agency focused on accessibility issues. The Access Board operates with about 30 staff and a governing board of

representatives from federal departments and public members appointed by the President. Board responsibilities include: developing and maintaining accessibility requirements for the built environment, transit vehicles, telecommunications equipment, and for electronic and information technology, providing technical assistance and training on these guidelines and standards and enforcing accessibility standards for federally funded facilities. For additional information, contact:
The Access Board
1331 F Street, NW, Suite 1000
Washington, DC 20004-1111
Phone: (202) 272-0080 (202) 272-0082-TTY (800) 872-2253
Fax: (202) 272-0081
Contact: David M. Capozzi, Executive Director
Email: info@access-board.gov
http://www.access-board.gov/index.htm

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Newslettter Editor: Thomas H. Allen
Design and Distribution: Ana-Maria Gutierrez

Family Center on Technology and Disability
1825 Connecticut Avenue, NW
Washington, DC 20009
Phone 202-884-8068 Fax (202) 884-8441
fctd@aed.org www.fctd.info