Transforming Non~Writers into Writers with Word Prediction

By Valerie Chernek with Ms. Murphy McBride, SCORES Teacher, Joe Dan Mills Elementary School, Austin, TX (SCORES ~ Social Communication Resources and Services)

Students of all ages with developmental delays, physical disabilities and learning challenges walk into Murphy McBride's classroom seeking assistance with reading and writing. Some students cannot speak or write words; some speak non-stop and have difficulty staying on track. Others cannot organize their thoughts and are poor spellers. Many are paralyzed by a fear of looking stupid. Others can barely lift their arms due to a physical disability. These are students labeled as slow; incapable of learning and certainly not able to learn in a traditional classroom.

Sadly, some teachers and parents still believe that students like these will never learn to write or communicate their thoughts, but not Murphy McBride. For students with varying challenges and disabilities, it takes an extraordinary educator to help them experience real writing success and Ms. McBride is one of those educators. Murphy is known in her Texas community for breaking through the learning barriers of students with disabilities. How does she do this time and time again? With the help of a proven assistive technology (AT) intelligent word prediction tool, called Co:Writer developed by a long-standing AT company, Don Johnston Incorporated. Co:Writer can help students connect their thoughts with the words they want to write. Ultimately, Ms. McBride says this writing tool enables students to become independent writers.

In this article we will discuss linguistic word prediction and how Ms. McBride used this assistive technology to support different learners; from students diagnosed with ASD (autism spectrum disorders) to struggling students falling below grade level, to students with special needs such as mental retardation, autism, traumatic brain injuries, cerebral palsy or dysgraphia. Some of these students are also challenged with a combination of learning difficulties such as a print disability, and learning English as a second language (ESL). She will tell you what you need to know about word prediction and how to use the tool to help your students find their voice and jump-start their writing skills to achieve a goal every teacher dreams of, i.e. to put their students on the road to learning independence.

Ms. McBride says, "Assistive technology can open a world of learning opportunities never thought possible for students with learning challenges. I've used Co:Writer for years with students from kindergarten to high school and credit the software for helping lots of students write and communicate for the first time."

ANN'S STORY – WORD PREDICTION GIVES SECOND CHANCES

Ann was a bright student (16 years old) who suffered from traumatic brain injuries. She had wonderful language skills before a car accident changed the course of her life. Due to limited mobility and damaged vocal chords, Ann was restricted to write and communicate. Ann was put on the computer using Co:Writer and she quickly was able to express her thoughts again.

Now, Ann could envision herself with more opportunities to learn and be understood. For the first time, she could put into words what she felt. This assistive technology tool became the voice Ann used to communicate with teachers, friends and parents. It gave her back thoughts and vocabulary she thought were lost and sped up her ability to type. As she typed, she wrote. Nothing is better for a student with disabilities than to see their learning progress take flight. Ann eventually regained her voice with the continued use of Co:Writer; her written work assignments continued to grow and became more age appropriate.

Student uses Co:Writer to communicate thoughts.

Mrs. Murphy McBride, special education teacher SCORES Texas.

THREE COMMON TYPES OF WORD PREDICTION PROGRAMS

Ann needed a significant amount of assistance from word prediction to write. She had a physical disability and also struggled with grammar and spelling. In the AT education world, there are three common word prediction programs: 1) word completion, 2) predictable word patterns, and 3) linguistic word prediction.

1. Word Completion – Simplest Form

This type of word prediction is when you type the date in applications like MS Word and Excel and the application predicts today's date. Or when Word learns your school's name and after a few times, it will fill in the whole school name after you type a few letters. For Ann, simple word completion is not effective since she often struggles with the first few letters of the word.

2. Bigram/Trigram Prediction (Based on Patterns and Frequency)

This type of prediction is a step up from word completion. It utilizes word patterns and the frequency in which two or three words commonly appear together in newspapers. Pattern prediction is the most common word prediction. This prediction is effective when students need a little writing support, but they generally don't need grammar assistance. Pattern prediction is not effective when new words or topic words are entered because it is dependent on the word patterns established by analyzing other writing examples. Since Ann has significant grammar and spelling and word recall issues, this type of prediction isn't sufficient to make her an independent writer.

3. Linguistic Word Prediction

Linguistic word prediction uses the grammar from each word to predict the words a student is trying to write and the words that will come next. This type of work prediction program will help students with the most significant writing needs to write successfully.

Co:Writer falls into this category, offering students and teachers a "thinking dictionary of words" and the ability to create custom dictionaries on the fly. As students write in a word processor, email program, or on the Internet, Co:Writer uses context clues and other information to predict the words they want to write, even when they spell them ph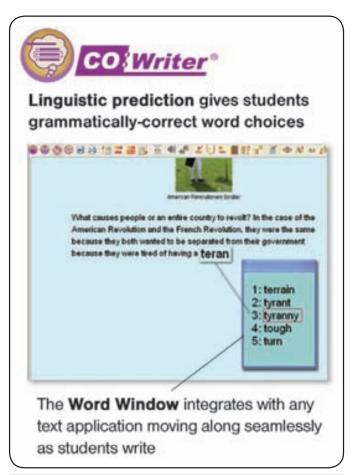onetically or inventively like writing the word 'elephant' as 'lfont'. These predictions are offered in a list that Co:Writer reads aloud. When students hear the word they want, they choose it from the list and the word is placed in their document. The program also gives flexibility to the words it learns by automatically predicting the word in multiple tenses and usages. You might assume that a dictionary that contains 100,000 words has more prediction choices. This is not always the case. The Co:Writer dictionary utilizes root words and understands that words can be used in different capacities, as a noun, as a verb and as an adjective. This intelligence eliminates the necessity of carrying separate entries of the word in the dictionary.

Co:Writer helped Ann find her voice. It helped relieve her anxiety about writing, and physically opened up her ability to communicate through writing. Linguistic word prediction is best for students who need the maximum amount of support with grammar and spelling and gives these types of students the best shot for becoming independent writers.

PRACTICAL TEACHING TIPS FROM MS. MCBRIDE

Structure and Organization for Students with Autism

I don't often use worksheets for my students. I like to provide them with real-life writing experiences that facilitate their communication in socially interactive ways. This helps them connect school with home life and brings about more teachable moments. For students with autism, they often need more structure and organization to manage their daily routine. To get them started with

Co:Writer intelligent linguistic word prediction.

Co:Writer, they type their daily schedule into Microsoft Outlook calendar. This helps them stay on track, learn a common workforce tool and feel successful doing their first assignment.

Using assistive technology to write in real-time is the key to keeping these students from shutting down. Even though they are reluctant to write, they respond to the computer and to keyboarding. This can be especially important for high school students. My older students used a combination of intelligent word prediction and word processing to write letters to local businesses about school events, leave notes for the UPS man with package descriptions and type emails to teachers and parents. One student, whose father traveled, used Co:Writer to stay in touch. What a communication breakthrough! This tool can build confidence by helping students actively participate in their written assignments.

Flexible Spelling and Audio Support for Poor Spellers

Students who have difficulty spelling do not like to write. Misspelling is embarrassing to them, and they get frustrated when they can't spell the word they want to use.

Co:Writer helps these poor spellers break through this barrier. I observed students attempt to write words they would never have tried without the use of word prediction. They saw their dictionaries grow to include their frequently-used terms. As a teacher, I love the topic dictionaries. They are easy to use and you can add custom words to complement your assignments. Some students respond well to hearing a word spoken through a synthetic computer voice. In this software, you can set a default preference that adapts to a student's needs. Tailoring preferences gave my students ownership of the program, making it even more attractive to use.

Frontloading Your Technology – The Learning Curve

Over the years, my refrain has been "Use your technology!" Just like teaching any subject, educators and students both need time to learn how to feel comfortable integrating technology into a daily part of the instruction. I would much rather take the extra time to learn to use a new technology and to create a Universal Design for Learning (UDL) environment than to continually hear students say "how do you spell this word,"

again and again. Using Co:Writer, students will write more, produce longer sentences and have less spelling errors.

Some students are just as reluctant to try new technologies as we are. Don't give up and don't let your students give up! They won't admit they need help; especially older students with autism who have set ways of doing things. With one older student, it took me a year of repeatedly introducing word prediction to get him to use it. The reward came for him when he competently completed an assignment independently using Co:Writer.

This is the true goal for any educator. Independence is a key reason for using assistive technology. Each of my students now keeps an online portfolio of their writing assignments in a folder they access from our school network. This helps them to see real progress and provides a great way for me to impress upon their new writing abilities to show other teachers and parents.

If your students can't speak, spell or write or has trouble with organization or fine motor skills, intelligent word prediction tools, like Co:Writer, will help them succeed. For students who need extra coaching or writing practice, this tool can do the trick. It has improved the writing process for hundreds of my students who were deemed 'unteachable' and opened up a whole new learning channel. I saw a renewed sense of accomplishment and as students wrote more, they built better vocabularies, improved their spelling and become more confident to share ideas.

The bottom line is that intelligent linguistic word prediction sharpens word usage, provides superior prediction as students begin to increase writing productivity and helps students write more descriptive sentences. The sooner you expose students to a tool, like Co:Writer, the faster they will catch on to using technology in real ways and for independent learning.

RESOURCES

About Texas SCORES Program – www.1809group.spaceship.com/SCORES/index.html.

Co:Writer – Intelligent Word Prediction – 5 Minute Demo – www.donjohnston.com/media/flash/product_demo/cowriter/index.html.

WATCH Video Interview with Chauncy Rucker, Editor CONNSense Bulletin ATIA 2009 Conference, Orlando, Florida at www.donjohnston.com/case_studies_alive/murphy_mcbride. ■