Demystifying Speech to Text Services: CART, C-Print, and TypeWell

By Valerie Stafford-Mallis

Many parents and students have never heard about CART, C-Print and TypeWell. Others have many questions about these speech-to-text services. What are they, what are their differences and similarities, and how they can be accessed?

1. **What are speech-to-text services, or CART, C-Print and TypeWell?**

CART (Communication Access Realtime Translation) C-Print, and TypeWell belong to a class of communication accommodations for persons who are deaf and hard of hearing known as text-based accommodations, or speech-to-text services.

Speech-to-text services are often used in place of sign language interpreters for students who do not use sign language or when the classroom content may contain specific vocabulary that is more easily presented in print.

All three systems can function either with the service provider at a remote location or in the classroom with the student. The transcription can be projected for a large audience or the student may view text on an individual computer screen, whether using the student's own or the service provider's computer. All three services are considered real-time accommodations to support communication access.

CART is a word-for-word (verbatim) speech-to-text service produced by a stenographer using a steno-graphic machine, software, and technique. The stenographer transcribes 100% of what gets said at speeds of up to 225 words per minute. The stenographic equipment is connected to a computer where the words appear in English for the student to read. This accommodation is appropriate for students who demonstrate strong reading skills.

C-Print and Typewell are meaning-for-meaning interpretations of what gets said in a classroom by typists specially trained in text-condensing strategies. Fewer words are produced than with CART. A regular laptop computer is used by a typist trained in either a phonetic or alphabetic text-condensing strategy. Similar to CART, the typist's laptop is connected to screen where the student reads the words typed. From the standpoint of the student and what they read, the particular text-condensing strategy chosen will make absolutely no difference in what the student reads. They will see regular English words condensing the discussion or instruction in class. The minimum reading grade level for text-interpreting to be useful is at least fourth grade.

Here is an example of verbatim text from CART, and the same speaker transcribed through text inter-preting.

> *Phil: (CART) You recognize, it's like, I've done lots of fun things, and I've had lots of fun opportuni-ties, but this morning is the first day of the rest of my life. And so I look forward to sharing with you a little bit this morning, and I look forward continuing to grow in this industry. It's pretty exciting. Pretty unique opportunity. Name is Phil Hyssong. My work within NCRA is certified manager of reporting services. "I will tell you right up front I am not a steno writer. I have the utmost respect for the work that you do. I think the work you do is a gift and I wake up every day excited to be able to be a part of this fun profession."*

> *Phil: (Text-interpreting) I've done lots of fun things, but this morning is the first day of the rest of my life. My name is Phil Hyssong. I am a certified manager of reporting services. I'm not a steno writer. I think the work you do is a gift and it's a fun profession to be a part of.*

2. What issues are at the forefront of accessing CART, C-Print, and TypeWell?

The first issue is documenting the need for the accommodation being requested in the student's IEP. Exactly when CART, C-Print, and TypeWell are considered necessary to support student learning and achievement is a topic often debated by parents, students, and schools.

One family shared the perspective that when classroom content shifted to a more conversational, discussion-based format, it was more difficult to keep up with classroom information. For Logan and his mom Julie Wood of Wisconsin, this shift happened in sixth or seventh grade and both felt that this was the time when real-time speech-to-text services became necessary to support Logan's ability to follow and fully participate in classroom discussions.

A second issue is cost. Because CART requires stenographically trained practitioners with additional training in real-time technique, it is the more costly service to deploy. But, for complex subject matter where capturing every word is essential to understanding, it is the preferred method. Text interpreting

(C-Print and TypeWell) is less costly to deliver because the training is not as extensive and the equipment is not specialized. Text interpreting does not capture every word. Text interpreting is considered when the subject matter lends itself well to an interpretation as opposed to a word-for-word translation. Logan Wood used both systems as a student. He started off with text-interpreting but as he moved into more challenging material he found that CART better supported his comprehension and learning. Only highly skilled service providers with the requisite certifications should be considered, because of student safety and confidentiality. Using unqualified providers will wind up costing more in the long run than it saves.

The third issue is actually deploying the service in the classroom. The student has to learn how to use the service. The teacher has to be willing to be transcribed, to speak in such a way that they can be transcribed (diction, pace, and possibly wearing a lapel microphone). The teacher and the student need to be working together to make speech to text successful.

When asked if there were anything he wished teachers working with students who are deaf and hard of hearing and using technology could know and understand, Logan shared, "This is what I would offer... 1) When a student tries to advocate for themselves, they are not trying to criticize the teaching style, but rather offering suggestions that allow them (the student) to succeed in that teacher's class. 2) It helps to have a teacher willing to be accommodating to the student's needs. 3) Know that a modification in teaching style for one student may benefit the whole classroom. 4) You can create a willingness to "do the best they can" attitude from your students. What I mean by that is by having a teacher who is committed to working with you, the student may feel more committed to the class."

The fourth issue is that technology has to be present to allow the service to be used (internet access, audio capture for the speaker, equipment is in place and ready to go, etc.). None of these things are difficult, but they do require coordination between the school's personnel, the student, the parent, the teachers, and the support or information technology staff. Some trial and error is to be expected at the beginning. The service provider should take the lead in offering technical support and trouble shooting. Thousands of students in hundreds of school districts successfully use this service remotely every day across the nation. It can be done.

3. What should every parent know about advocating for speech-to-text services for their child?

Every parent should understand that accommodations for students who are deaf and hard of hearing definitely are NOT one-size-fits-all and speech-to-text services are no exception. Is your child sharing in effective communication in the classroom? If using interpreting, are qualified interpreters available and able to deliver content in each subject area at the grade level needed? If using residual hearing, do teachers implement preferential seating, check frequently for understanding, and utilize visual supports and different instructional methods for diverse learners? Don't wait until the student is hopelessly behind to begin considering speech-to-text services in the IEP planning process. Assessments like the Functional Listening Evaluation can document speech comprehension in the classroom with and without speech-to-text services (with noise and distance) for comparison purposes for IEP or 504 planning. Objective data is priceless in any discussion about accommodation needs. Logan Wood also kept a log to record when he encountered specific challenges and how those challenges affected his learning and inclusion.

Parents may be interested to know that the IDEA law does state that…"almost 30 years of research and experience has demonstrated that the education of children with disabilities can be made more effective by: (H) Supporting the development and use of technology, including assistive technology devices and assistive technology services, to *maximize* accessibility for children with disabilities." (IDEA Assistive Technology Requirements, 20 U.S.C. 1400(c)(5)(H) (italics added.)

4. Where else can I find information about speech-to-text accommodations?

A Guide to Speech-to-Text Services in the Postsecondary Environment,
http://www.pepnet.org/SpeechtoTextResources.pdf

Maryland Governor's Office of the Deaf and Hard of Hearing
http://www.odhh.maryland.gov/icctcscs.html

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Valerie Stafford-Mallis is an oral, late-deafened adult. Her bi-lateral sensorineural hearing loss was first noticed during her college years. She earned her MBA from Webster University, after losing most of her hearing. She now uses bilateral cochlear implants, and utilizes many types of assistive technology, including CART. Stafford-Mallis is the Business Development Manager for Alternative Communication Services (ACS) LLC, a full-service speech-to-text service provider that currently delivers over 1000 hours of speech-to-text services to school districts and post-secondary institutions throughout the United States each week. Reach the author at Valerie@acscaptions.com through www.acscaptions.com.

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Communication Considerations A to Z™ is a series from Hands & Voices that's designed to help families and the professionals working with them access information and further resources to assist them in raising and educating children who are deaf or hard of hearing. We've recruited some of the best in the business to share their insights on the many diverse considerations that play into communication modes & methods, and so many other variables that are part of informed decision making. We hope you find the time to read them all!