Chapter 51

Voice/Speech Recognition Software:
A Discussion of the Promise for Success and Practical Suggestions for Implementation

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ABSTRACT

In this chapter, the authors discuss the promise of speech or voice recognition software and provide practical suggestions for the teacher or any stakeholder working with a disabled child. The authors begin the chapter with a brief overview of the legislation mandating the accommodation of special needs students in the classroom and discuss the implications of assistive technology. The authors then move on to an examination of the promise of the software. The authors end the chapter with practical ideas for implementation should the caregiver believe that voice recognition software will assist the disabled child in the learning process.

INTRODUCTION

Assistive technologies hold much promise for students with disabilities. In fact, it is guaranteed in federal law in both Canada and the United States as well as in myriad countries around the world. Specially, Section 15.1 of the 1982 Canadian Charter of Rights and Freedoms and Section 602.1 of the 2004 American Individuals with Disabilities Act (IDEA) mandate that students with special needs have the right to assistive technology in their classrooms and cannot be denied that right. In fact, Canada appears to be the first nation to constitutionally guarantee the right to education for students with special needs in its federal law that

Every child is equal before and under the law and has the right to the equal protection and equal benefit of the law without discrimination and, in particular, without discrimination based on

race, national or ethnic origin, religion, sex, age, or mental or physical disability (Government of Canada, 1982, emphasis added).

Generally, assistive technology is separated into assistive devices and assistive services. The former refers to "any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of a child with a disability" and the latter "means any service that directly assists a child with a disability in the selection, acquisition, or use of an assistive technology device" (US Department of Education, 2004). Additionally, both Universal Design and Universal Design for Learning (UDL) literature support the idea that all students, disabled or not, require assistance in the classroom so that products can be used by all in the classroom (Center for Universal Design, 1997; Center on Applied Special Technology, 2006; Rose & Meyer, 2002); however, the need for specialized devices and services for students with special needs, in particular, will always be strong (Bowes, 1999; Dell, Newton, & Perroff, 2008).

It is important to note that the device in and of itself is not enough to ensure successful integration of assistive technology since there also needs to be training for and maintenance of the device. To wit, the Individuals with Disabilities Act (IDEA) (1994) definition of service includes

- Assessing the child in his or her learning environment,
- Providing the device to the child through purchasing, leasing, or any other means necessary, such as donation,
- Ensuring that the device is kept up and continues to serve the needs of the user,
- Augmenting the device with services provided by other paraprofessionals such as speech and language pathologists and occupational therapists,

- Providing training or technical assistance to the child and his or her caregivers, and
- Training or technical assistance for persons working with the child in a variety of learning situations.

In other words, the statutes allow for any device or service needed by a student with a disability to be provided in the classroom with appropriate training for the student, teacher aide, or teacher and so forth. These devices and services can range from supplying, modifying, repairing or upgrading a device to an augmentative speech device to training of professional and paraprofessionals to the use of predictive software to a pencil grip. One specific device that the authors would like to discuss is speech or voice recognition software.

Since the point of assistive technology is to impact the functioning of the child (Bowes, 1999; Dell, Newton, & Perroff, 2008), speech recognition software is a welcome addition to the repertoire of support systems for students with the disabilities (MacArthur, 1999a, 1999b; Speaking to Write, 1999). The most common software speech recognition software package is Nuance™'s Dragon NaturallySpeaking. Other packages include Quillsoft's SpeakQ and Microsoft Word's voice recognition feature. Each involves the student dictating words into the computer through an internal or external microphone or integrated headset. In this way, students who struggle with keyboards or handwriting can bypass the keyboard and learn to write by saying their words into the computer. The process of actually physically creating words is not an issue; however, the student's task does carry a much higher cognitive load since the student is required to not only say the words and punctuation but also read the words on the screen to check for accuracy, correct any errors that might have occurred in syntax or semantics, revise the words, and gather the train of thought to continue the process for each word or sentence.

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