

## **Minspeak with Individuals with Cerebral Palsy**

Individuals with cerebral palsy generally have significant motor problems that influence not only their ability to produce speech, but also their ability to control other motor movements throughout their bodies. Bruce Baker originally conceived Minspeak as an approach that required **MIN**imal effort in order to **SPEAK** through an AAC device – making it a highly efficient system for physically challenged individuals.

Over the years, objective data collected in studies of selection rate and various rate enhancement techniques (Hill & Romich, 2007) has demonstrated that using Minspeak provides a significant savings in time (and energy) over other vocabulary representation methods.

Using a Minspeak system with someone with communication challenges due to cerebral palsy usually involves the following considerations.

### ***Positioning & Access***

Positioning of a person's body and positioning of the Minspeak device are two critical factors in the efficient use of a Minspeak system.

- Work with the person's occupational and/or physical therapists to ensure that the person and the device are properly positioned.
- Consider a range of access methods, including the following:
  - Direct selection (with a body part, with infrared Tracker, with eye tracking).
  - Scanning (with a switch).
  - Partner assisted selection techniques (with a partner helping in the access of the device).
- Consider alternative access methods for various positions, time of day, energy level, etc.
- If using alternative access methods, create simple strategies to quickly and easily change access methods.
- Evaluate access supports needed to improve access skills.
  - Use a keyguard.
  - Adjust selection technique settings.
  - Adjust feedback settings.
- Provide sufficient practice opportunities to develop motor patterns that lead to simplification and automaticity of motor movements.
- Modify the Minspeak Application Program to accommodate motor limitations.
  - Re-arrange the locations of icons.
  - Shorten or simplify icon sequences.

- Add customized phrases, based on the person's natural language patterns, to maximize language output.

### ***Use of a Visi-Voca***

Visi-Voca© is a term coined by Gail Van Tatenhove (1999). It is used to describe a non-electronic, paper-based version of the vocabulary and organization of a person's Minspeak device. It is a **VIS**ual paper-copy of what is in the person's Voice Output Communication Aid (**VOCA**).

Visi-Vocas were introduced by Van Tatenhove as a strategy to teach vocabulary and practice expressive language production when individuals with significant motor impairments were struggling with the physical demands of accessing their Minspeak devices. Using partner assisted scanning or other partner assisted access methods, the individual can focus on practicing language with the Visi-Voca instead of using his/her energy and attention for controlling his/her body to access the device.

For individuals with significant motor impairments (that makes independent access a challenge):

- Make a paper-based version of the vocabulary in the AAC device (a Visi-Voca). Design the Visi-Voca to match the architecture of the vocabulary as closely as possible.
- Practice selecting and using vocabulary through the process of partner assisted scanning.
- Practice with the Visi-Voca and then make a transition to using the AAC device.

### ***Vision Issues***

Children and adults with motor impairments may also have visual challenges. They may have trouble focusing on changing dynamic displays, present field losses, or have other perceptual problems.

- Evaluate the person's visual status.
- Work with an occupational therapist or vision specialist to determine any special accommodations necessary to use a Minspeak system.
  - Re-arrange locations of icons to improve color contrast or accommodate for visual field needs.
  - Change icons on a Minspeak program if the details or colors in the icons present a challenge.
  - Alter color-coding of the parts of speech.
  - Use auditory prompts to help in scanning and/or icon identification.

### ***Hydration & Rest***

Individuals with motor impairments, such as cerebral palsy, need to be well hydrated. According to Bailey (2009), individuals with cerebral palsy may be at risk of mild to moderate dehydration due to feeding/drinking challenges, excessive drooling, and above average sweating while performing everyday motor tasks. This may result in poorer than necessary motor performance and muscle fatigue.

- Consult with a nutritionist to make sure the child/adult is receiving proper hydration. Amount of liquid required during a day is based on body weight of non-physically challenged individuals and must be adjusted for the degree of drooling and sweating presented by the child/adult. A good rule-of-thumb is to make sure the child/adult is given 4 ounces of liquid prior to and after any activities that require significant motor activity, such as access of an AAC device during a 30 – 60 minute therapy session.
- Provide periods of rest and de-stressing as needed.

### ***Summary TO DO List***

1. Check positioning of the person and the device.
2. Devise strategies to change access methods quickly, as needed.
3. Adjust the Minspeak display to accommodate any vision issues.
4. Reduce sequence length to accommodate for access issues.
5. Develop a Visi-Voca as a means to learn vocabulary and build language without access demands.
6. Ensure the person is adequately hydrated and has rest periods.

### ***References***

Bailey, E. (2009). Personal conversation.

Hill, K. & Romich, B. (2007). AAC evidence-based practice: Four steps to optimized communication. *AAC Institute Press*, 6(1), 1-5.

Van Tatenhove, G. (1999). Using Minspeak with Individuals with Physical and Cognitive Disabilities. Presentation.