

## **Module: Speech Generating Devices (SGD)**

### **Overview of Speech Generating Devices**

Franzone, E., & Collet-Klingenberg, L. (2008). *Overview of speech generating devices for children and youth with autism spectrum disorders*. Madison, WI: The National Professional Development Center on Autism Spectrum Disorders, Waisman Center, University of Wisconsin.

Speech generating devices (SGD) are electronic devices that are portable in nature and can produce either synthetic or digital speech for the user. SGD may be used with graphic symbols, as well as with alphabet keys.

#### **Evidence**

SGD meets the evidence-based practice criteria with a total of five single-subject studies.

#### **With what ages is SGD effective?**

SGD can be used effectively with children and youth with ASD who have limited or no verbal speech from early childhood through high school. The evidence base indicates that SGD are effective with learners ranging from 3 to 20 years of age.

#### **What skills or intervention goals can be addressed by SGD?**

SGD target skills that help children and youth with ASD effectively communicate with others in a variety of situations and settings. The evidence base suggests that within the communication domain, a variety of skills can be targeted for intervention, including initiation, expressive language (verbal), joint attention/gestures (non-verbal), and pragmatics (conversation skills). The research also demonstrates that reading and math skills can be addressed using SGD.

#### **In what settings can SGD be effectively used?**

The evidence-based research studies were conducted in clinical or school settings. Although there is little evidence for this practice being implemented at home, application of SGD in this setting seems logical.

#### **Evidence Base**

The studies cited in this section document that this practice meets the NPDC on ASD's criteria for an evidence-based practice. This list is not exhaustive; other quality studies may exist that were not included.

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### **Early Childhood**

- Olive, M. L., de la Cruz, B., Davis, T. N., Chan, J. M., Lang, R. B., O'Reilly M. F., & Dickson, S. M. (2007). The effects of enhanced milieu teaching and a voice output communication aid on the requesting of three children with autism. *Journal of Autism and Developmental Disorders, 37*, 1505-1513.
- Olive, M., Lang, R., & Davis, T. (2008). An analysis of the effects of functional communication and a voice output communication aid for a child with autism spectrum disorder. *Research in Autism Spectrum Disorders, 2*(2), 223-236.
- Schepis, M. M., Reid, D. H., Behrmann, M. M., & Sutton, K. A. (1998). Increasing communicative interactions of young children with autism using a voice output communication aid and naturalistic teaching. *Journal of Applied Behavior Analysis, 31*(4), 561-578.

### **Elementary**

- Parsons, C., & La Sorte, D. (1993). The effects of computers with synthesized speech and no speech on the spontaneous communication of children with autism. *Australian Journal of Human Communication Disorders, 21*, 12-31.
- Van Acker, R., & Grant, S. (1995). An effective computer-based requesting system for persons with Rett syndrome. *Journal of Childhood Communication Disorders, 16*, 31-38.

### **Selected Additional References**

- Sigafoos, J., O'Reilly, M. F., Seely-York, S., Weru, J., Son, S. H., Green, V. A., et al. (2004). Transferring AAC intervention to the home. *Disability & Rehabilitation, 26*(21/22), 1330-1334.
- Light, J. C., Roberts, D. B., Dimarco, R., & Greiner, N. (1998). Augmentative and alternative communication to support receptive and expressive communication for people with autism. *Journal of Communication Disorders, 31*, 153-178.
- Mirenda, P., Wilk, D., & Carson, P. (2000). A Retrospective analysis of technology use patterns of students with autism over a five-year period. *Journal of Special Education Technology, 15*, 5-16.
- Romski, M. A., Sevcik, R. A., Adamson, L. B., Cheslock, M., Smith, A., Barker, R., et al., (in press). Randomized comparison of augmented and non-augmented language interventions for toddlers with developmental delays and their parents. *Journal of Speech Language Hearing Research*.

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- Schlosser, R. W., & Blischak, D. M. (2001). Is there a role for speech output in interventions for persons with autism? A review. *Focus on Autism and Other Developmental Disabilities*, 16(3), 170-178.
- Sigafoos, J., & Drasgow, E. (2001). Conditional use of aided and unaided AAC: A review and clinical case demonstration. *Focus on Autism and Other Developmental Disabilities*, 16(3), 152-162.
- Sigafoos, J., O'Reilly, M. F., Seely-York, S., Weru, J., Son, S. H., Green, V. A., & Lancioni, G. E. (2004). Transferring AAC intervention to the home. *Disability & Rehabilitation*, 26(21/22), 1330-1334.