

Organizing Vocabulary for Paper Communication Books and Electronic Dynamic Display Devices: Similarities and Differences

Dynamic display communication books and page sets for speech generating devices (SGDs) are used to provide access to larger vocabularies than can be presented on a static display. The challenge is how to organize vocabulary across multiple pages/screens in a way that supports people to most efficiently meet their varied communication requirements. SGDs can support more independent communication with speech and print output. However, the operational parameters of SGDs can also present some significant limitations. They need to be charged, may break down and cannot be used in all environments. Some individuals are also only able to operate their SGD in a restricted range of physical positions and set ups. It is therefore not possible to depend on an electronic device as the only option for communication. All people who use aided communication require a light-tech (paper) option to ensure they have a method to communicate using all their language at any time in all situations. The availability of multiple systems provides the individual with possibilities to select the most effective / preferred method they have available to communicate in any situation.

In an attempt to ensure similarity for the individual between their SGD and communication book layouts, and reduce programming time, people often suggest making a direct copy of the already completed layout into the other system. Recommendations to *"Just print out the pages from the SGD to make a book"* or *"Copy the PODD communication book into the SGD"* are frequently heard. But is a direct copy the most appropriate option to support efficient communication when electronic devices and paper books have different physical parameters and functionalities?

This presentation will explore the similarities and differences between dynamic display communication books and SGDs. Experiences gained over the last 15 years applying Pragmatic Organization Dynamic Display (PODD) principles to both (paper) communication books and page sets for dynamic display SGDs will be used to illustrate variations in vocabulary organizations needed to capitalize on, and accommodate for, innate differences between paper books and electronic devices. PODD is one approach to organizing vocabulary in dynamic displays (Porter, 2007/2008; Mirenda, 2009; Porter & Cafiero 2009). In PODD, vocabulary is organized with consideration to communication function and conversational discourse requirements. A range of vocabulary organizations may be used, with efficiency to meet varying communication requirements being the determining factor. There is a focus on supporting the individual's communication autonomy and accessibility to (learn to) communicate at any time. There are a number of differences that

need to be considered when applying these principles to both paper communication books and electronic SGDs.

Smart-partner operating system versus a computer operating system

Human partners can observe and problem solve in ways a computer operating system cannot. For example, a partner can interpret which of the fingers touching a paper display is pointing to a symbol and which are resting. A touch screen device will respond to any touch, intentional or not. This difference may necessitate a reduced number of items an individual can have available on any one page. For example, in order to achieve accurate access on a touchscreen with a keyguard, one child who can use a two-page opening book with 100+symbols on each page opening, is limited to 24 items per page on her SGD. She still requires the same complexity of language, so different organizational strategies will need to be applied between her two systems.

Smart-partners can extrapolate the meaning of key-word messages using contextual cues. Multiple word options may be included on the same button in paper communication aids, with the partner using either context or scanning to identify the specific word. On a SGD each word form would need a separate button.

For some individuals the 'smart-partner operating system' has additional advantages in the earlier stages of learning. Partners can provide extra processing time, before turning pages to support learning navigation patterns. For some children, the partner's role in operating the paper-tech system also supports learning about human interaction and the purpose of communication. The focus shifts to interacting with their partner rather than the device. Individuals who are still learning to operate a high-tech system may be able to access and use more complex vocabulary organizations with the support of a smart-partner.

Differences in size and shape of display, paper page turns, and SGD pop ups

Speech generating devices are generally square or rectangular in shape and cannot fold and open like a book or have a side panel. This may result in less items on each page of their SGD for individuals who use two-page opening PODD communication books.

Page changes in a paper communication book involve a physical page turn away from, and maybe back to, the current page. It takes partners extra time to locate and turn to a page that is distant from the current page. Predicting likely vocabulary usage patterns to support more efficient communication is a feature of PODD. In PODD communication books, (core) vocabulary is repeated (predictably associated) in multiple sections to avoid time-consuming page changes to produce multiple word sentences, expansions and discourse. A SGD with popup capabilities enables pages to appear and automatically close after an item is selected. Using pop-ups for

predictably associated vocabulary can also accommodate for less items on a page.

Speech and other SGD functions – multi-modal communication with paper books

SGDs may have a range of functions, e.g. message windows, environmental control, speech output to call out, that are not present with paper communication books.

PODD page sets for speech generating devices are not identical to the corresponding communication book. Merely copying a page set designed for a paper book onto a SGD will not meet the overriding principle of PODD design – that is, to always select the most efficient option to meet the individual's communication requirements. Overall the PODD vocabulary organizations for books and SGDs have been found to have sufficient similarities, or transparency, to reduce teaching-learning time and facilitate easy transition between the two systems for the individual who uses AAC and their communication partners.

Mirenda, P. (2009) Promising innovations in AAC for individuals with Autism Spectrum Disorders. *Perspectives on Augmentative and Alternative Communication Vol 18, No. 4, pp 112-113.*

Porter, G. (2007 / 2008) *Pragmatic Organization Dynamic Display (PODD) communication books: Direct access templates* Melbourne: Cerebral Palsy Education Centre

Porter, G & Cafiero, J. (2009) Pragmatic Organization Dynamic Display (PODD) Communication Books: A Promising Practice for Individuals with Autism Spectrum Disorders. *Perspectives on Augmentative and Alternative Communication Vol 18, No. 4, pp 121-129.*