Taking the scenic tour

Charlene Cullen
Speech Language Pathologist and AAC Consultant
Spectronics Inclusive Learning Technologies

Visual Scene Displays

- A visual scene display (VSD) is a picture, photograph, or virtual environment that depicts and represents a situation, place or experience. Individual elements such as people, actions and objects appear within the visual scene (Blackstone, 2004).

Visual Scene Displays

- Different from a traditional grid display
- The visual scene shows elements such as people, actions and objects in a visually integrated image.
- Messages can be accessed from the picture.
- Additional displays might also be triggered from the visual scene display

Visual Scene Displays

- Visual scene displays (VSDs) are meant primarily to address the needs of beginning communicators and individuals with significant cognitive and/or linguistic limitations. These groups are unserved or underserved by current AAC technologies. (Blackstone, 2004)
Why so common now?

- VSDs are much easier to do on dynamic display touch screens
- Dynamic display touch screens have become more common and with a range of software options
- Dynamic display touch screens are more portable

Areas of VSD research

- People with aphasia
- Children with Autism Spectrum Disorder
- Young children with Complex Communication Needs
- Majority (but not all) of this research has been conducted by members of AAC RERC [www.aac-rerc.com](http://www.aac-rerc.com)

VSDs and people with Aphasia

- Research primarily conducted by David Beukelman and colleagues. Summary webcast available at [www.aac-rerc.com](http://www.aac-rerc.com)
- Looked at research which showed that AAC and Speech Generating Devices (SGDs) were most successful with people who retained literacy
- Wanted to look at ways of allowing people without literacy skills to retain social networks

VSDs and people with Aphasia

- VSDs have been very successful with people with chronic aphasia
- Need to be customised, real photos from their life. Higher uptake if individual is involved in selection of pictures and generation of utterances
"After her stroke, our mother refused to attend (social) functions due to embarrassment of the challenges she faced when interacting with people outside of her immediate family . . . Her success (with a Visual Scenes Display AAC device) led to a renewed interest in attending family gatherings. Six weeks after the introduction of (the AAC device), she left her house for the first time (after her stroke), to engage socially – she went to a family holiday gathering" (Personal communication with the adult daughter of a woman with severe, chronic aphasia, Beukelman et al 2007)

**VSDs and people with Aphasia**

- **The most successful VSDs:**
  - Provide context (setting, people, objects and activities)
  - Show Interaction with people or the environment
  - Are personally relevant
  - Are clear photos
  - Have the ability to be used for personal story telling

**VSDs and people with Aphasia**

- **Provide context (setting, people, objects and activities)**
- **Show Interaction with people or the environment**
- **Are personally relevant**
- **Are clear photos**
- **Have the ability to be used for personal story telling**
VSD for Aphasia Resources

- Lots of Publisher templates available with tested formats
- From aac.uni.edu/intervention.html
- Visual Scene Display – Adult (Aphasia/TBI) user and InterAACt pages in DynaVox Series 5 devices
Research primarily conducted by Howard Shane and colleagues.

Looked at VSDs as
- Visual Expressive Mode
- Visual Organizational Mode
- Visual Instructional Mode

Called VSDs “Maps”

VSDs and children with autism
Visual Maps

- Maps can be more successful than traditional schedules or charts because they convey more information.
- Can convey not just that the individual will be going to McDonalds but also when, who will attend and what will happen.

Visual Organisation Mode

- Visual scenes compensated for the child's comprehension or auditory processing difficulties (helped them to understand better what was being said by others).
- Built comprehension.

Visual Instructional Mode
Further research was conducted using animated characters as an interface to guide children with ASD around VSDs to promote language development.

This followed success therapists had had at Boston Children’s Hospital using toys or play figures as an intermediary in therapy.

An interactive virtual environment for children to learn language.

Drager et al. (2005) repeated some of the studies done with children with developmental disabilities and found similar results in a study of preschoolers with autism (ages 3 – 5).

Research primarily conducted by Janice Light and colleagues. Summary webcast available at www.aac-erc.com

Idea partly came from a AAC RERC meeting where the feedback from parents was that SGDs needed to:

- Decrease learning demands
- Increase appeal
Children and symbols

- The children’s pictures were:
  - Grounded in context
  - Involved familiar experiences
  - Used entire scenes
- This was mostly consistent across a variety of ethnic/cultural groups.

Generic VSD for young child

Hybrid VSD for young child

VSDs and young children

- Drager et al (2003) found that 2.5 year olds were most accurate locating vocabulary on VSDs even if displays were not customised for them
- Drager et al (2004) found that 3 year olds had trouble with all forms of vocabulary arrangement on initial exposure, but after just one session performed significantly better with the visual scenes than a grid format.
Light et al (2004) found that by ages 4 and 5, the children were able to locate vocabulary within the visual scene displays and the grid layouts with similar levels of accuracy, but they had significant difficulty learning to use iconic encoding.

Light and Drager (2008) reported on a study using VSDs with young children with developmental disabilities, aged 1 – 3. They concluded:

- Preliminary results show very positive language and communication outcomes as a result of the AAC intervention.

All the children were able to use VSDs to participate in social interactions with only one session of modelling.

- The children demonstrated significant increases in turn taking immediately.
- The children sustained these turn taking and social communication gains.
- Children tended to plateau, but improved again following introduction of hybrid scenes and then grid displays.

A lot of this research has had small sample sizes and in some studies children were only exposed to SGDs for short periods each time.

- Focus has been on making AAC easier, acknowledging limited intervention many children receive.
VSDs on mobile devices

Scene Speak

VSDs the good and the bad

Advantages
• Meaningful to individual and so they are more motivated to use a device
• Look ‘pretty’ and appeal to other people, making them more motivated to use the device

Disadvantages
• Takes a long time to scan to parts of the visual scene
• Adds an extra cognitive step to the process (i.e. remembering where in the visual scene things are placed) particularly because of moving between PODD and VSDs
VSDs the good and the bad

Disadvantages

• difficult for other people to model the device as it is difficult to tell where things are placed on the visual scene
• the visual scene itself can be a distraction
• multi-level communication books must be organised differently - may mean learning and remembering two systems

References

References


References


References