

Foundations for Life

*Developing learning opportunities
for children with multiple
disabilities or sensory impairment*

Presented by Fiona Kemp and Melanie Robartson



Senses Foundation

Senses Foundation is a charitable, not-for-profit organisation providing a range of services for people with disabilities, including unique services for people who are deafblind

Therapy and Specialist Services

- Comprehensive Early Childhood Programme
- Comprehensive Adult Therapy Programme
- Specialist Communication Programme (consultative services)

Overview

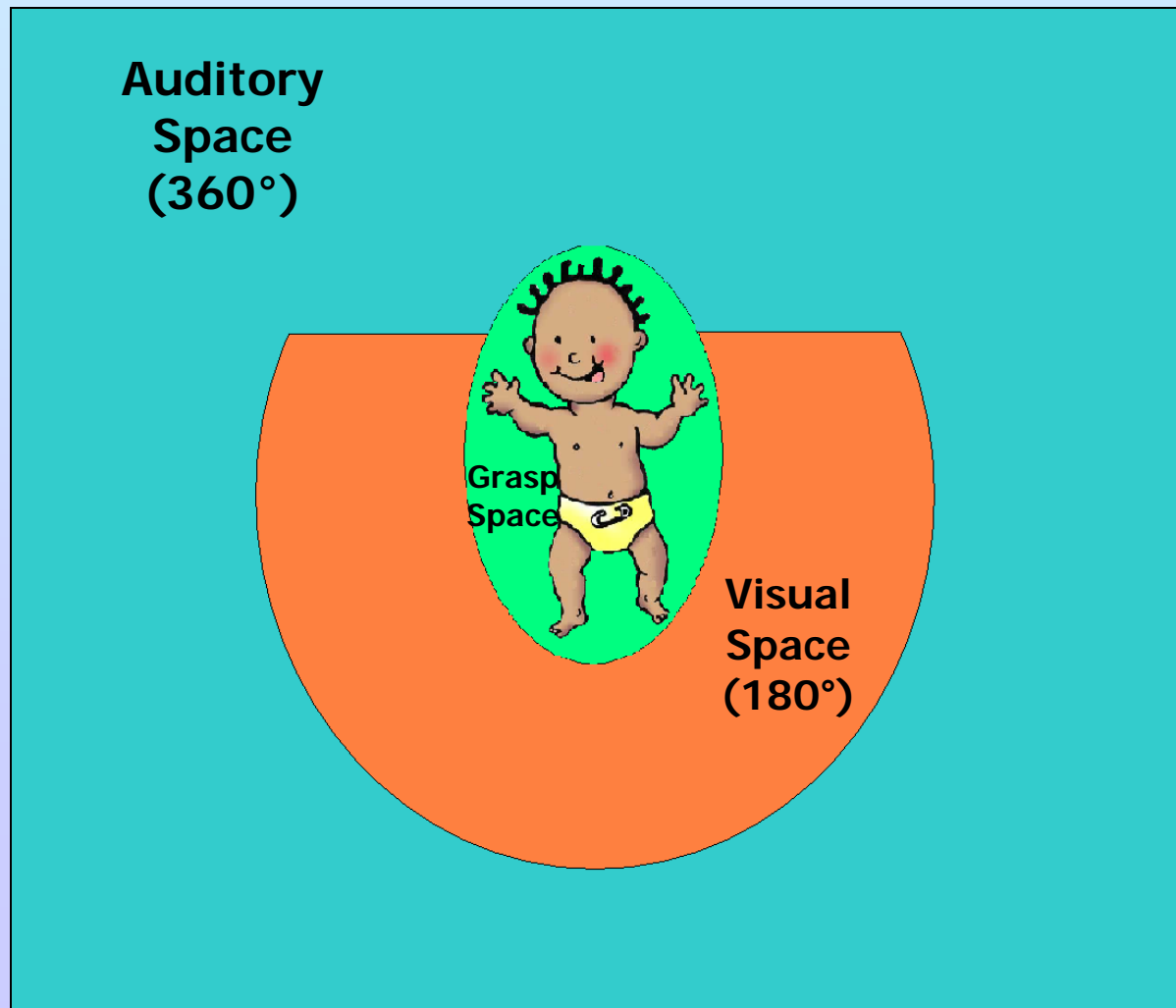
- Senses Foundation
- Client group
- Life Space model
- Defining Assistive Technology
- Why use AT with young children?
- How we introduce AT with our clients
- What we aim to promote
- Characteristics of good AT for this client group
- Environmental modification & supporting sensory loss with technology
- Tools for communication
- Conclusion
- References

Client Group

- Our Early Childhood Programme is made up of:
 - Children 0-6 years
 - Majority of clients have
 - Hearing and vision impairment (Deafblind)
 - Vision impairment with additional disabilities
 - Compounded by neurological and medical conditions

The following information can also be applied to children with other disabilities

Life Space Model



Defining Assistive Technology

“Assistive Technology (AT) is any product or technology-based service that enables disabled or elderly people in their daily lives, education, work or leisure.”

(Association for the Advancement of Assistive Technology in Europe)

Why use AT with young children?

Why not incorporate AT within Early Intervention?

Common misconceptions about introducing AT early

- The child needs prerequisite skills.
- AT requires extra effort and it is easier to just do things for the child.
- It prevents the child doing it the 'natural way' and may prevent skill development
- AT is expensive, so it is best to wait and see what they will need for the long term

Other reasons include; lack of confidence or training in AT with therapists, lack of discussion between therapists and families, lack of education around AT options

How we introduce AT with our clients

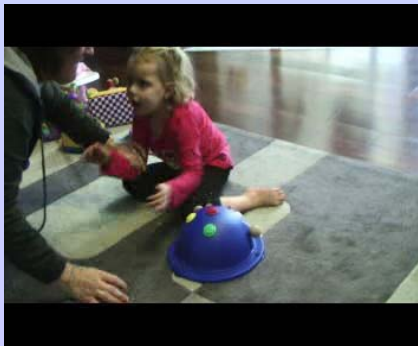
- Introduce AT examples from an early age
- Being open about options available from an early age
- Encouraging parents to ask questions
- Visits to the ILC for different equipment needs
- Through playgroup activities
- Through parents talking to each other

What we aim to promote

Experience: Through AT, the children are afforded the chance to experience sensory input within their life space

Participate: AT allows a child to be involved in an activity that otherwise would be very difficult or impossible to be involved in. Even if they cannot be independent in the task, they can still participate

Initiate: By making the AT accessible, the child has the opportunity to initiate and control an aspect of what is happening around them



What we aim to promote

Development of specific skills, including:-

- cause and effect
- visual skills
- hearing and listening skills
- attention
- play skills
- motor skills



Creating a social environment that encourages the child to experience, participate and initiate

Characteristics of good AT for this client group

- Allows the child to get 'close to the action' and is within their life space
- Target what motivates the child
- Appeal to the senses
 - Vision – colour, reflective, contrast and movement
 - Hearing – music, noise, voice
 - Tactile – vibration, texture, different mediums
- Option to isolate or combine sensory experiences
- Easy to activate with a range of planned or incidental movements



Equipment & Environmental Adaptations to Support Vision



- Ensure there is adequate lighting
- Utilise colour and texture contrasts
- Reduce clutter
- Increase font size
- Reduce background noise
- Reduce visual and auditory distractions (remove this)
- Create a social environment that expects the child to be an active participant

Environmental Modification to Support Hearing



- Reduce background and competing noises
- Reduce echo by minimising hard surface areas
- Gain person's attention before speaking
- Face person when speaking
- Use short sentences
- Use everyday, commonly used words
- Allow extra time to process

Supporting Sensory Loss with AT: New developments



- Cochlear Implants
 - Considering children with multiple disability for implants
 - Preliminary research pointing towards benefits
 - Emotional development
 - Attention
 - Interaction with environment and people
 - Non verbal communication
- Neck loop system for iPod and other audio devices

Tools for Communication: Foundations



- Our innate ability
- A motivator
- A shared experience
- A shared symbol or “code” (language)
 - No tech
 - Low tech
 - High tech



Tools for Communication: Voice Output Communication Aids (VOCA)



- A huge place for no and low tech communication options in this population
- A place for higher tech options that take accommodate hearing, vision and physical impairment
- A look at some...

Partner Plus



Image from “www.spectronicsinoz.com”

Big Talk (Triple Play)



Taken from Enabling Devices

Choice 4 Communicator



Symbol Communicator for the Blind



Cheap Talk



Tools for Communication:



Using AT to resource the caregiver

- Signing is commonly recommended for Senses clients
- Families/Teachers report that learning signs to use with a child is a cumbersome process
 - Predicting vocabulary you need
 - Looking up vocabulary afterwards
 - Limited ability to respond spontaneously
 - Static pictures of signs are difficult to interpret
- Royal Institute for Deaf & Blind Children has provided a solution

Signing application for the iPhone & iPod Touch



Images taken from RIDBC website

Auslan Tutor iTouch demonstration



Tools for Communication: Using AT to inform



- Using everyday technology to keep people informed
- Individual Communication Guide (ICG)
- Powerpoint presentation that documents and demonstrates a person's communication system
- Ensures a consistent approach among caregivers and service providers

Jacob



April 2008

Conclusion

- For a copy of this PowerPoint or for more information about Senses Foundation, please visit www.senses.asn.au
- Any Questions?
- Your chance to touch and feel any of the devices we have brought along

Thank you

We would like to thank all the families that allowed us to film and use photos of their little ones. And a **big thank you** for all the parents that agreed to be filmed and photographed too!

References

- Association for the Advancement of Assistive Technology in Europe. (2008, November). AAATE: Association for the Advancement of Assistive Technology in Europe. (Available: http://139.91.151.134/docs/AAATE_folder_November_2008.pdf).
- Brown, D. (2009). Helping children want to do things: Identifying and using motivators *reSources*, 14 (2), 3-13.
- Campbell, P. H., Milbourne, S., Dugan, L. M. & Wilcox, M. J. (2006). A review of evidence on practices for teaching young children to use assistive technology devices. *Topics in Early Childhood Special Education*, 26 (1), 3-13.
- Carter, M. (2002). Communicative Spontaneity in individuals with high support needs: An exploratory consideration of causation *International Journal of Disability, Development and Education*, 49 (3), 225-242.
- Chen, D. (2004). Young children who are deaf-blind: Implications for professionals in deaf and hard of hearing services. *The Volta Review*, 104 (4), 273-284.
- Chen, D. Klein, M.D. & Haney, M. (2007). Promoting interactions with infants who have complex multiple disabilities: Development and field-testing of the PLAI Curriculum. *Infants and Young Children*, 20 (2), 149.
- Cohen-Maitre, S. & Haerich, P. (2005). Visual attention to movement and colour in children with cortical visual impairment. *Journal of Visual Impairment and Blindness*, 99 (7), 389-402.
- Crawford, M.R. & Schuster, J.W. (1993). Using microswitches to teach toy use. *Journal of Developmental and Physical Disabilities*, 5 (4), 349-368.
- Dammeyer, J. (2009). Congenitally deafblind children and cochlear implants: Effects on communication. *Journal of Deaf Studies and Deaf Education*, 14 (2), 278-288.
- Dugan, M. L., Campbell, P. H. & Wilcox, M. J (2006). Making technology decisions about assistive technology with infants and toddlers. *Topics in Early Childhood Special Education*, 26 (1), 25-32.

References

- Haughton, L. & Mackevicius, S. (2004) *Little steps for learning: Play in the home for children who are blind or vision impaired 0-3 years*. Melbourne, Victoria: Royal Victorian Institute for the Blind.
- Hamm, E. M., Mistrett, S. G. & Goetz Ruffino, A. (2006). Play outcomes and satisfaction with toys and technology of young children with special needs. *Journal of Special Education Technology*, 21 (1), 29-35.
- Hourcade, J. et al. (2004). A history of Augmentative and Alternative Communication for individuals with severe and profound disabilities *Focus on Autism and Other Developmental Disabilities*, 19 (4), 235-244.
- Kangas, K.A. & Lloyd, L.L. (1988). Early cognitive skills as prerequisites to Augmentative and Alternative Communication use: What are we waiting for? *Augmentative and Alternative Communication*, 4 (4), 221-221.
- Lancioni, G.E. et al. (2004). Technological aids to promote basic developmental achievements by children with multiple disabilities: Evaluation of two cases. *Cognitive Processing*, 5, 232-238.
- Schweigert, P. (1989). Use of microswitch technology to facilitate social contingency awareness as a basis for early communication skills. *Augmentative and Alternative Communication*, 5 (3), 192-198.
- Shull, J. et al. (2004). Assistive technology programming for a young child with profound disabilities. *Physical and Occupational Therapy in Pediatrics*, 24 (4), 47-62.
- Sevcik, R.A et al (2008). Early intervention, AAC and transition to school for young children with significant spoken communication disorders and their families. *Seminars in Speech and Language*, 29, 92-100.
- Wilcox, M. J., Dugan, L. M., Campbell, P. H. & Guimond, A. (2006). Recommended practices and parent perspective regarding AT use in early intervention. *Journal of Special Education Technology*, 21 (4), 7-16.