



“Using Augmentative and Alternative Communication (AAC) systems with students with vision impairment and additional disabilities in an educational setting”

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Overview

- Overview of the Kilparrin journey to AAC
- Individualising AAC systems for learners
- Practical application of AAC in a classroom setting



Overview of the Kilparrin Journey to AAC

- Exploring general language development
- Symbolic Communication
- Communicating with learners who are Deafblind
- Intensive Interaction



Kilparrin's journey to implementing AAC has evolved over time. The staff at Kilparrin have worked relentlessly over the last 12 years to research, implement and assess a variety of communication methods for learners who have vision impairment and additional disabilities.

In 2003 professional learning for all teachers in general language development provided by existing service providers including the Department for Education and Child Development, Autism SA, Novita, Disability SA

The focus of our work centred on what language development looked like in typically developing children.

Staff incorporated visual schedules, visual choice systems, PECS™ and Personal Communication Dictionaries into the classroom and playground environments. We have copies of PCDs if you would like a copy after the presentation.

Staff attended professional development by Dolly Bhargava, a Disability Specialist Speech Pathologist, who provided training for all teachers in using a range of visual systems to promote communication.

In 2008 Sharon Barry Grassick provided professional development for all teachers in communicating with learners who are deafblind primarily through the use of tactile signs, body signs and personal tactile signature.

In 2008 & 2009 Dr Mark Barber provided training in the *Intensive Interaction* approach and supported staff in developing communicative interactions with pre-intentional communicators.

.....'s Personal Communication Information:

Important things to know about communicating with him/her

Formal Communication System (brief description)

How does the learner say 'yes' and 'no'

Informal or easily misunderstood communicative behaviours that you need to know now.

Communicative Action (What the learner does)	Perceived Meaning (What it may mean)	Response (What you might try)

Modifications you need to make to your communication

Things you can 'chat' withabout	(Photo)

*‘What is the next step once you
have developed intentional
communicators?’*



We needed to find ways to support learners at the earliest stages of communication. Communicators at the pre-intentional level we felt were at-risk of failure because often it is difficult to include them in meaningful ways in classroom and community activities.

Overview of the Kilparrin Journey to AAC cont...

- AGOSCI Literacy Intensive & Other Professional Learning focusing on Communication
- Spectronics Inclusive Learning Technologies Conference



So what changed for us? We found that all of the professional development we had undertaken had no real impact until we linked communication to literacy!

In 2008 staff attended the AGOSCI conference and one coordinator attended the week-long AGOSCI Literacy Intensive in Victoria in 2010. This was led by Karen Erikson and David Koppenhaver authors of ***Children with Disabilities: Reading and Writing the Four-Blocks Way***

Following on from this, 4 staff members attended the 2010 Inclusive Learning Technologies Conference and all teachers attended in 2012 and 2014. Guest speakers included Gretchen Hanser, Caroline Musselwhite, Gayle Porter, Jane Farrall and Linda Burkhart, all professionals in the disability field who work in either literacy and/or AAC.

AAC and the Four Blocks® Approach

- 2012 Jane Farrall became the Kilparrin Educator-in-Residence, spending 10 weeks (40 days) over the year working with staff and learners
- Jane introduced the Four Blocks approach to all staff
- All learners were assessed to establish a preferred and consistent mode of communication that has been relentlessly supported across the school
- Janelle Sampson, speech Pathologist- Two Way Street, has also supported all staff with training on the use of the PODD

In 2012 Kilparrin started a whole school commitment to implementing the Four Blocks Approach to Literacy and integrating AAC into daily lessons to support communication and access to the curriculum.

Jane Farrall worked with all learners to establish a preferred and consistent mode of communication.

Once PODDs or Pragmatic Organised Dynamic Display books were created for each learner who needed them, training was provided by Janelle Sampson and Jane.

AAC and Vision Impairment

Most AAC approaches rely heavily on the use of vision:

- graphic symbol sets
- communication boards and books
- manual signs
- computer displays
- gestures and body language



Because most AAC approaches rely heavily on the use of vision it is a necessary, early first-step in the AAC assessment process is to consider each individual's visual capabilities. Vision will either contribute to, or detract from, the success of AAC interventions.

Vision Conditions and Implications for AAC

- Person is near sighted
- Person is longsighted
- Person has astigmatism
- Person has ocular motor problems:
strabismus or nystagmus
- Person has visual field difficulties
- Person has light sensitivity
- Person is colourblind



It is important to remember that certain vision conditions will effect a users access to AAC. For example a person with ocular motor problems may have difficulty scanning, locating or tracking objects therefore their body position or the configuration of symbols or placement of the symbols on a display may be critical.

A person with light sensitivity may need to have non-reflective surfaces such as matte laminate or monsoon paper to decrease the glare.

Vision Conditions and Implications for AAC

Person is near sighted	Requires the use of corrective lenses for distance. May require modifications of materials re: size, colour etc.
Person is farsighted	Requires glasses to use AAC displays. Need to consider size, colour and arrangement of graphic symbols. Illumination of displays can help.
Person has astigmatism	Both near and far objects appear blurry. Requires glasses to use AAC display.
Person has ocular motor problems: strabismus or nystagmus	May affect ability to scan, locate and track objects. May interfere with interaction and use of AAC approaches. May need to adjust head and body positions to compensate. Location/orientation of display, configuration on a symbol array and placement of items on the display may be critical.
Person has visual field difficulties	Person may need to be constantly shifting positions to see. Affects positioning of person and placement and arrangement of symbols, devices and materials. Note: peripheral vision is less clear than central vision.
Person has light sensitivity	May need to use non-reflective surfaces to decrease glare. Retinal problems and CVI may require low light conditions. Myopia/presbyopia may require increases illumination.
Person is colourblind	Be careful when choosing colour codes. Provide contrast when using colour.

It is important to remember that certain vision conditions will effect a users access to AAC. For example a person with ocular motor problems may have difficulty scanning, locating or tracking objects therefore their body position or the configuration of symbols or placement of the symbols on a display may be critical.

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Underlying assumptions

- The importance of yes/no
- All children have something to say
- Learners benefit from visual support (residual vision)
- Communication partners benefit from visual support (consistency)
- Allowing time is absolutely crucial (both short term and long term)
- Staff must embrace the use of the system, it's ok to make mistakes
- MODEL, MODEL, MODEL!



Angus

14 years old

- Cortical Vision Impairment
- Pupils react to light
- Fundus examination showed marked bilateral optic atrophy
- Normal functional retina
- Highly reduced vision
- No detectable results for visually evoked potential
- Large angle convergent squint
- Pendular nystagmus
- Unable to fix and follow



Electrical potentials, initiated by brief visual stimuli, which are recorded from the scalp. VEP waveforms are extracted from the electro-encephalogram (EEG) by signal averaging. VEPs are used primarily to measure the functional integrity of the visual pathways from retina via the optic nerves to the visual cortex of the brain.

Yes/No

- 3 year process
- Working within his physical range
- Reinforcing familiar actions consistently
- Tactile prompt
- Using residual vision
- Importance of auditory input



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Patrick

16 years old

- Cortical Vision Impairment
- Poor central vision
- Acuity between 6/24 and 6/60
- Cortical damage to occipital lobe causing vision loss in both eyes
- Better vision toward the right side
- Left downward may cause double vision
- Myopia, esotropia, hemianopia



Yes/No

- Remove distractions from communication space
- Look left for yes, right for no
- Ask learner for clarification
- Watch for response
- Reiterate choices to learner and group



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PODD

- Context: descriptions for “*the duck rode the bike*”
- Learner had previously made the same communication choices
- Navigate to the correct page for the task
- Reiterate learner choices
- Ask for clarification when unsure
- Follow student lead
- Validate learner choices



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Tom

11 years old

- Cortical Vision Impairment
- Difficult to assess
- Significant reduced vision
- Variable angle left convergent squint



Yes/No

- 3 year process
- Consistency of placement left and right
- Tap for auditory/kinesthetic cues
- Accept learner communication choices



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PODD

- Model question with the PODD
- Give all choices before partner assisted scanning
- Tapping for auditory/kinesthetic cues
- Yes/no consistent placement
- Move through choices quickly to avoid disengagement
- Processing time



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How I make the PODD work for me



Background Information:

- Senior class (ages 13 –19)
- 8 learners
- 3 learners with Cortical Vision Impairment
- These are the learners that benefit most from PODD use



So first up I'm going to give you a quick overview of my classroom context. I teach the senior class at Kilparrin and have 8 learners. In total I have 5 PODD users in my class, 2 of which have hearing impairments, and 3 with Cortical Vision Impairment. These are the 3 that I will mainly be focusing on.

What types of PODDs do my learners use?

- 2 learners use a partner assisted scanning PODD
- 1 learner uses a high contrast pull off PODD
- All learners in class are supported with the use of a group PODD



Just to give you a little more detail about these learners I will just tell you what PODDs we use even though I'm aware that you have already seen some of them in action.

2 of my learners use a partner assisted scanning PODD and 1 learner uses a high contrast pull off PODD. All the learners are supported with the use of the group PODD.

How I structure my lesson with the PODD

- Introduce the lesson – group PODD
- Provide questioning – group PODD
- Allow learners to answer – using individual PODDs
- Ask if learners have any questions – individual PODDs



Here is a brief outline of how I use the PODD for all my lessons, whether it is Science, History, English or Maths this is the basic formula that I follow, however we all know that it pays to be flexible.

So first up I will introduce the lesson and discuss what we are going to be doing and what we are going to be talking about. This might involve introducing some key concepts and talking about where they can be found in the PODD. This is done with the group PODD.

After an activity is conducted or I have given the learners some information, I will ask some prepared open ended questions using the group PODD. The learners then get a chance to answer them using their individual PODDs.

At the end of the lesson or whenever I see a gap I will ask the learners if they have any questions or anything to add.

Why use a group PODD?

- Introduce a lesson and key concepts in PODD language
- Provides a language model for PODD users
- Teaches a variety of PODD pathways to a group of learners
- Keeps the language consistent within the classroom and benefits all learners
- Increases learner confidence and increases a sense of belonging

Introducing the group PODD to my class was one of the best things that I ever did. It allows me to introduce topics, lessons, activities, conduct the daily schedule and discuss key concepts. It provides a language model for our PODD users and those that struggle to develop language. It also helps me slow down and work at the learners' pace.

Modeling the group PODD allows me to teach a variety of pathways to a group of learners, it keeps the language consistent amongst all the learners and some of my learners who are blind have also benefited from the structure that the PODD provides. One of the biggest things that I noticed within my class was that the use of the group PODD increased the learners confidence and created a sense of belonging. An example I have is one learner used a PODD and was often removed from the group to use it and no one else used it and this created some anxiety and dislike of the PODD, however when I started using the group PODD his confidence grew and he became more than happy to use the PODD and he became a model for others.

Partner Assisted Scanning PODDs

- Used in class when learners are asked a question or when they simply have 'something to say'
- Patience is key
- Place the PODD in the learner's ideal field of vision
- Just because learners aren't 'looking' at the PODD doesn't mean they aren't paying attention

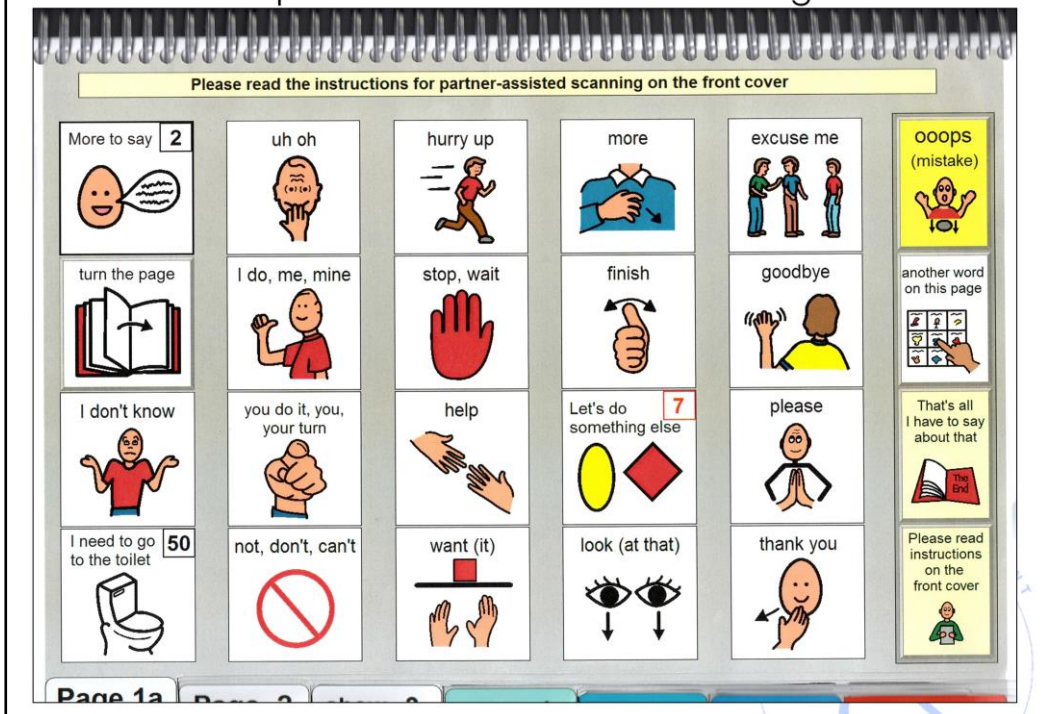


So now I will move on to the partner assisted scanning podds. These are used for questions or general chit chat in the classroom, especially when the learners have something to say. I've found with these PODDs it pays to be patient as the learner navigates through the pages and puts together their sentence, another thing to remember is even though something might not make sense to you, or it sounds silly or off topic it is important to listen to what the learners say as it may make sense to them.

Find a good spot for the learner to access the PODD visually, I have some examples of this in a moment.

And finally just because the learner isn't looking at the podd, doesn't mean they aren't listening. That is the beauty of partner assisted scanning, it's visual and auditory.

Example of Partner Assisted Scanning



Here is a quick demo of how to use the PODD. So first you start on the left and read all four options in the first column. Is it in that column, yes or no, if no move onto the next column if yes, move down the column individually.

High Contrast PODD

- Used to further support the learner in accessing the PODD visually
- Typically used with learners who have Cortical Vision Impairment



I have one learner in my class who uses a high contrast pull off PODD. This learner does not use his vision as well as the others and I find that this is the PODD to best support him in terms of communication and vision.

Useful Resources:

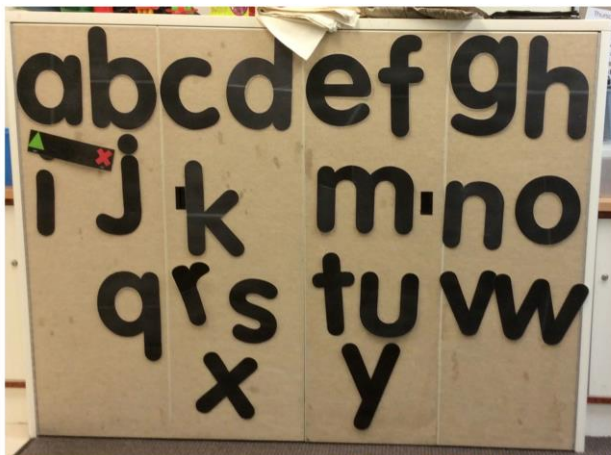
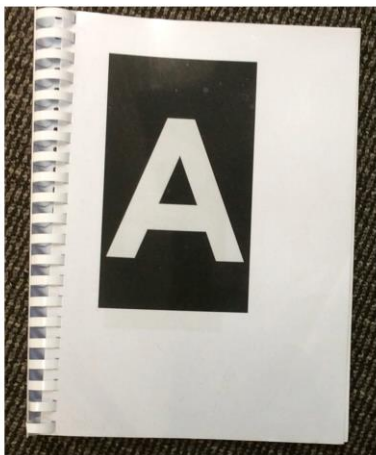
- Kilparrin Teaching & Assessment School and Services
<http://www.kilparrin.sa.edu.au/news-events/68-implementing-four-blocks-approach-to-literacy.html>
- Pragmatic Organisation Dynamic Display (PODD) Communication Books -
<http://www.cpec.org.au/podd.html>
- Jane Farrall Consulting - www.janefarrall.com
- Two Way Street – Janelle Sampson
<http://www.twowaystreet.net.au/>
- Erickson, K. and Koppenhaver, D. (2007) *Children with Disabilities: Reading and Writing the Four Blocks Way*. Greensboro, NC: Carson -Dellosa.



Vision support: High contrast



Vision support: Large print



Vision support: Tactile



photo
angus' tray



Vision support: Braille



★ Alphabet Chart

a	b	c	d	e	f
Aa	Bb	Cc	Dd	Ee	Ff
g	h	i	j	k	l
Gg	Hh	Ii	Jj	Kk	Ll
m	n	o	p	q	r
Mm	Nn	Oo	Pp	Qq	Rr
s	t	u	v	w	x
Ss	Tt	Uu	Vv	Ww	Xx
y	z				
Yy	Zz				

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