Inclusive School Practices Toolkit

An Introduction to Augmentative and Alternative Communication (AAC)

This tool has been developed as part of the *Inclusive School Communities Project*. The project is led by JFA Purple Orange.

Introduction

This tool is intended to provide foundational information about augmentative and alternative communication (AAC). This tool introduces AAC, the concept of a robust communication system (sometimes referred to as a comprehensive system), and examples of some commonly used robust communication systems. This tool also discusses some key concepts related to AAC, including system availability, and modelling with a student’s communication system.

It is important for educators to have an understanding of AAC, so they understand how to create equitable and inclusive learning environments for students with complex communication needs (CCN). This tool can be used to build the professional knowledge and skills of educators relating to AAC.

Ideas

*What is AAC?*

Individuals with complex communication needs (CCN) cannot meet their daily communication requirements using speech alone.[[1]](#footnote-1) This may be due to a physical disability (e.g., cerebral palsy) or a neurodevelopmental disability (e.g., autism spectrum disorder). Individuals with CCN can learn to use augmentative and alternative communication (AAC). AAC refers to the set of tools and strategies that an individual uses to solve their everyday communication challenges.[[2]](#footnote-2) AAC can be used in conjunction with speech, or as an alternative to speech for individuals with CCN.

AAC tools can broadly be divided into two categories: aided AAC and unaided AAC.

**Unaided AAC** does not require the use of any external tools, and can include facial expression, body language, sign language and finger spelling.[[3]](#footnote-3)

**Aided AAC** involves the use of an external communication tool, such as a communication board, community request cards, communication books and speech-generating devices.[[4]](#footnote-4)

No one communication tool will meet every communication need in every situation.[[5]](#footnote-5) Therefore, it is important that AAC users are provided with multi-modal communication. This means that an AAC user has different tools and strategies available to them depending on their communication requirements at any one time. This may also include speech (refer ‘AAC in the Classroom’ tool for practical examples of how to use different communication tools in the classroom depending on the purpose).

The long term, overarching goal for individuals with complex communication needs is that they can say “what they want to say, when they want to say it, whenever and however they choose to say it”.[[6]](#footnote-6) In order for this to be achieved, individuals with complex communication needs must have a robust communication system as part of their multi-modal toolkit.

*What is a robust communication system and why do we need it?*

A communication system is robust (or comprehensive) if it has four key elements:

1. allow the user to communicate a range of functions of communication
2. provide access to core vocabulary
3. provide access to fringe vocabulary
4. provide access to the alphabet.[[7]](#footnote-7)

Each of these components will be explained in further detail below.

1. **Range of communication functions**

Everyone communicates for a range of different purposes. Sometimes it is to share an opinion or ask a question; sometimes it is to complain or protest; sometimes it is to connect with other people (for social closeness). This is the same for individuals with CCN, and therefore they need to have access to an AAC system that allows them to communicate for a range of purposes. If an AAC system is designed or used predominantly around making requests, this impacts on the ability of the user to say the things that they want to say, and to connect with other people. When looking at options for a robust AAC system, consider whether the system allows the user to:

* Request assistance (help), recurrence (more), and cessation (finished, stop)
* Share an opinion
* Complain and protest
* Request activities, actions, and places
* Ask and answer questions
* Engage in social routines, such as using greetings and manners

If it is not possible to communicate these functions of communication, then it may not be a robust communication system.

1. **Core vocabulary**

Core vocabulary are the most frequently used words in language. There are approximately 200 core words that comprises around 80% of what we say.[[8]](#footnote-8) Core words are highly powerful in both academic and social contexts.[[9]](#footnote-9) Examples of core words include:

* Pronouns e.g., I, me, you, he, she, it
* Adjectives e.g., good, bad, different
* Verbs e.g., go, not, stop, help, want, make
* Prepositions e.g., up, on, in
* Articles e.g., the, a
* Conjunctions e.g., and, but

By having core words in an AAC system, users can use a relatively small set of words to construct a range of novel phrases and sentences (e.g., “he did it,” “my turn,” “you go,” “put it there,” “I like it”). When looking at options for a robust AAC system, consider whether the system:

* Provides access to a range of core words
* Has the core words consistently positioned (the location does not change every time the page changes)

1. **Fringe vocabulary**

In an AAC system, users also need to have access to fringe vocabulary. These words provide specificity, that is, the ability to communicate about specific topics in specific environments.[[10]](#footnote-10) It also allows topic setting or changing a topic which is not possible with just core words. Fringe vocabulary includes the personalised words (e.g., names of friends and family members) and words that fit into categories (e.g., transport, animals, food and drink, colours). Fringe vocabulary will vary from person to person and will depend on their interests and their environment.[[11]](#footnote-11) For example, if a student loves Australian Rules Football (AFL), it may be important to include the names of all the different AFL teams in their AAC system, so that they can chat with their friends about what games they watched on the weekend or participate in their family’s footy tipping competition. When looking at options for a robust AAC system, consider whether the system:

* Includes a range of fringe vocabulary, including vocabulary that will support participation and social interaction at school
* Includes some pre-programed phrases/sentences to allow the student to quickly take a turn when needed for participation within their social networks

1. **Alphabet**

A robust communication system provides users with access to the alphabet. This should be accessible even for students who cannot read or write (yet!). Students with CCN need to be able to explore the alphabet, in the same way that neurotypical students scribble with a pencil before they learn to write.*[[12]](#footnote-12)* “No student is too anything to be able to read and write”.[[13]](#footnote-13)

*What are some commonly used robust AAC systems?*

The following section provides information about some AAC systems that are available at the time of writing, however this is not an exhaustive list.

**PODD Books**

Pragmatic Organisation Dynamic Display (PODD) communication books were developed by Gayle Porter. Within a PODD book, vocabulary is available to express a full range of pragmatic functions, and vocabulary has been organised to cater for different communication purposes.[[14]](#footnote-14) There are different PODD books available depending on the language level and access method of the AAC user, which supports language development. PODD page sets are also available for communication devices, meaning that PODD is the only AAC system with both comprehensive electronic and non-electronic options. This allows users to communicate autonomously at any time.

*Electronic PODD pagesets*

At the time of writing, the following PODD pagesets options are available:

* Snap Core First with PODD (for speech generating devices and iOS) <https://apps.apple.com/au/app/snap-core-first-aac/id1257753762>
* Grid 3 with PODD (for speech generating devices) <https://thinksmartbox.com/product/podd/>
* Grid for iPad with PODD (for iOS) <https://apps.apple.com/au/app/grid-for-ipad-aac/id1064332378>
* SimPODD (for iOS) (allows for printing of SimPODD books, with SymbolStix symbols) <https://apps.apple.com/au/app/simpodd/id1464489596>

**Proloquo2Go**

[*https://apps.apple.com/au/app/proloquo2go/id308368164*](https://apps.apple.com/au/app/proloquo2go/id308368164)

Proloquo2Go is available on iOS devices, and is produced by AssistiveWare. Proloquo2Go is designed to provide users with quick access to core vocabulary, and the core vocabulary is consistently positioned on pages. There is no equivalent non-electronic system for Proloquo2Go but there are some communication boards available for free download: <https://download.assistiveware.com/aac/quick-communication-boards.pdf>

**Snap Core First**

<https://apps.apple.com/au/app/snap-core-first-aac/id1257753762>

Snap Core First is available on both iOS devices and speech generating devices, and is produced by Tobii Dynavox. It is based on a core word framework, and provides access to fringe vocabulary in categories. There is no equivalent non-electronic system for Snap Core First but there are some communication boards available for free download: <https://www.tobiidynavox.com/support-training/downloads/snap/printable-core-first-communication-boards/>

***LAMP: Words for Life***

<https://apps.apple.com/au/app/lamp-words-for-life/id909628118>

LAMP: Words for Life is available on iOS devices, and LAMP vocabulary is also available on PRC communication devices. LAMP stands for ‘Language Acquisition through Motor Planning,’ and it has been designed to support consistent motor patterns when users are accessing vocabulary words.

Action

*We have a system … now what?*

One of the most important habits to establish when getting started with AAC is system availability.[[15]](#footnote-15) This means that wherever your student is, they have access to their robust AAC system. An AAC system is not something that just gets brought out when it is time to do schoolwork. It needs to be accessible all throughout the day, including in the playground, at assembly, during P.E. lessons and on excursions. Only having the student’s AAC system available at certain times sends them the message that you do not value their voice, and that you only expect them to communicate at certain times in the day.

It is not always easy to have an AAC system available, but there are always ways to problem solve. Chat with the student’s family and therapy team about possible solutions to assist with system availability. Consider the following scenario:

*Jane is a five-year-old girl, who has just started in Reception in her local primary school. Jane communicates using an eye gaze device (with a PODD pageset) and a PODD communication book, which she accesses via partner-assisted scanning. Jane’s teacher and teacher aides have not used AAC before, but they are keen to learn! They understand that Jane’s AAC systems are her voice. They decide for the first two weeks, they are going to focus on getting into the habit of having Jane’s AAC systems available. They soon work out:*

* *The eye gaze device works really well when Jane is seated at her table, but in Reception, lots of the day is spent engaged in play-based activities, which means needing to be able to move quickly around the classroom and join peers on the floor*
* *Jane’s teacher aides find it difficult to carry the PODD book around while also supporting Jane as she navigates around the school (e.g., on the playground)*
* *Jane loves painting, but requires physical support to engage in this activity – her teacher aides find it hard to juggle the PODD book while support Jane to paint*

*Jane’s school team, family, and therapy team chat through the current barriers to system availability, and it is decided that:*

* *A carry strap will be added to Jane’s PODD book; this means that Jane’s teacher aides can still carry the PODD book, but it leaves their hands free to help Jane have fun in the playground*
* *Jane’s speech pathologist provides the school with a ‘painting communication board’ which is a single A4 board with words relating to painting (and a message that says, ‘I have more to say, get my PODD book’); a copy of this board is stuck on the painting easel; this allows Jane to quickly chat while she is painting; her PODD book is on the table nearby, so that if she has more to say, she can use her robust AAC system*

System availability is an important first step in supporting students who use AAC. The next step is to create an environment where communication partners are **modelling** with the student’s AAC system.

*What is modelling and why do we do it?*

In order for students to learn how to use AAC, they need other people to use their AAC system too! Modelling means that you use the student’s communication system (by pointing to symbols) when you interact with the student. Modelling not only shows AAC users that you value the system as their voice, but it is also how they will learn to use symbols to communicate. Modelling is not something that just happens during speech pathology sessions; it needs to happen all throughout the day.

*“The typically developing child will have been exposed to oral language for approximately 4,380 waking hours by the time he begins speaking at about 18 months of age. If someone is learning to use symbols to communicate, and only has exposure to it two times a week for 20-30 minutes, each it will take 84 years to have the same experience with his symbols that the typically developing child has with the spoken word in 18 months.”[[16]](#footnote-16)*

To speed this up, we need to provide aided language models as often as possible and in as many situations as possible to give children who use aided language the equivalent number of opportunities to learn language as we do for verbal children.

Within the school environment, a child’s AAC system needs to be modelled throughout the day, to support participation in classroom activities, but also social interaction and building friendships. Consider the following scenario:

*James is five-years-old, and has just started school at his local primary school. James has a developmental disability, and is learning to use Proloquo2Go on an iPad mini. James knows how to make requests using his device and to express when something is wrong. James’ teacher notices that James is very excited to be around his peers, but when he approaches them, he pulls on their clothes or grabs them. James’ teacher realises that James is trying to engage his peers in play, but he does not know how to communicate this with language (yet!). James’s teacher discusses this with James’ therapy team and family, and they decide to try the following:*

* *James’ teacher talks to the class, and teaches them to put their hand up for a high-five when James approaches them (to redirect James from grabbing)*
* *When James approaches his peers, James’ teacher or teacher aide model the phrase “can I play?” on his communication device, to teach James how he can communicate this message using language*
* *James’ family also practice this at home when James’ cousins come to visit and with toy figurines*

*After two terms of modelling and opportunities to practice finding the words on his device, James learns how to initiate play with his peers by asking them with words rather than actions. James no longer grabs his peers, and he has formed several friendships. This was achieved because James’ teacher took the time to understand the communicative intent behind James’ behaviour, and because James’ communication partners taught him to communicate this message a different way. James’ team understood that learning symbolic communication takes time, practice and confidence and provided him with the modelling he needed to learn language.*

*Getting started: A checklist*

If a student has complex communication needs, AAC can assist them to solve their everyday communication challenges. It is important to ensure that students have access to a robust communication system as part of the multimodal communication toolkit. The checklist below provides educators with some steps that may be useful in supporting the successful transition of a student using AAC. There are also further practical examples of how to support the learning and communication of an AAC user in the ‘AAC in the Classroom’ tool.

* Arrange a training session for educators to learn about the student’s AAC system – the student’s family or speech pathologist may be able to assist in booking in a training session
* Ensure the names of educators and school places are added into the student’s AAC system before they start school, so that they can talk about school before they start, just like their peers!
* If required, create a ‘Social Story’ to assist the student to understand the upcoming transition (read more about Social Stories here: <https://carolgraysocialstories.com/social-stories/what-is-it/>)
* Start problem solving AAC system availability, to ensure that the student will have access to their AAC system at all times (e.g. during specialist lessons, in the playground)
* Set some modelling goals for both the educators and peers – start small as everyone build’s famirity with the student’s AAC system (e.g., initially, the goal may be to model one pathway within the student’s PODD communication book)
* Establish an efficient yet effective way to engage collaborate and communicate with the student, their family and the team around the student
* Add additional communication tools and strategies to the student’s toolkit over time as needed, in collaboration with the student, their family and speech pathologist (e.g., a playground communication board, to encourage communication in the playground – read more about playground communication boards here: https://twowaystreet.com.au/2021/02/04/dont-forget-to-play-inclusive-playgrounds-for-aac/)

More Information

**AAC**

AGOSCI – Australian inclusive group interested in enhancing the participation of all people with complex communication needs) [https://www.agosci.org.au](https://www.agosci.org.au/)

International Society for Augmentative and Alternative Communication (ISAAC) [https://isaac-online.org](https://isaac-online.org/)

Jane Farrall – Speech pathologist and special educator [https://www.janefarrall.com](https://www.janefarrall.com/)

Linda Burkhart – Teacher and assistive technology specialist <https://lindaburkhart.com/handouts/>

Two Way Street – South Australian group who provide communication solutions for children and adults with complex communication needs, their families, and the organisations in their community) [https://twowaystreet.com.au](https://twowaystreet.com.au/)

**AAC Systems**

AssistiveWare [https://www.assistiveware.com](https://www.assistiveware.com/)

LAMP Words for Life <https://aacapps.com/>

Smartbox [https://thinksmartbox.com](https://thinksmartbox.com/)

Smartbox ‘Getting Start with PODD’ guide <https://thinksmartbox.com/wp/wp-content/uploads/2020/05/PODD-getting-started-June-2020.pdf>

Smartbox ‘PODD Manual’ <https://thinksmartbox.com/wp/wp-content/uploads/2020/05/PODD-manual-v2-April-2020.pdf>

Tobii Dynavox <https://www.tobiidynavox.com/learn/what-is-aac/>

**Modelling/AAC in Action**

Give The Boy A Change – parent led blog of a young child who uses AAC <https://www.facebook.com/givetheboyachance/>

Inclusive EducAACtion – Two Way Street Facebook group about AAC in inclusive settings <https://www.facebook.com/groups/408674263376567>

Positive Partnerships Vimeo – videos of AAC being used in a range of contexts, including inclusive schools <https://vimeo.com/user97184779>

Uncommon Sense Blog – parent led blog of a teenager who uses AAC <https://www.facebook.com/people/Uncommon-Sense-Blog/100063465250127/>

We Speak PODD YouTube Channel – videos of a family interacting with PODD <https://www.youtube.com/channel/UCfvD20l2wn-fS2Ar4bdTXZg>

Acknowledgement

This tool was written by Amelia Edwards, Senior Speech Pathologist at Two Way Street with editing by JFA Purple Orange. Two Way Street creates communication solutions for children and adults with complex communication needs (little or no speech), their families, and the organisations in their community. Their team provides intervention services to individuals and groups, and workshops, training, and professional consultation to schools, providers, and businesses. <https://twowaystreet.com.au>



1. Therrien, M.C.S., & Light, J.C. (2018). Promoting peer interaction for preschool children with complex communication needs and autism spectrum disorder. *American Journal of Speech-Language Pathology, 27*, 207-221. <https://doi.org/10.1044/2017_AJSLP-17-0104> [↑](#footnote-ref-1)
2. Burkhart, L.J. (n.d.). *What is AAC?* ISAAC. <https://isaac-online.org/english/what-is-aac/> [↑](#footnote-ref-2)
3. Beukelman, D.R., & Mirenda, P. (2012). *Augmentative and alternative communication: Supporting children and adults with complex communication needs* (4th ed)*.* Brookes Publishing. [↑](#footnote-ref-3)
4. Speech Pathology Australia. (2020). *Clinical guideline: Augmentative and alternative communication.* Speech Pathology Australia. <https://www.speechpathologyaustralia.org.au/SPAweb/Members/Clinical_Guidelines/spaweb/Members/Clinical_Guidelines/Clinical_Guidelines.aspx?hkey=f66634e4-825a-4f1a-910d-644553f59140> [↑](#footnote-ref-4)
5. Beukelman, D.R., & Mirenda, P. (2012). *Augmentative and alternative communication: Supporting children and adults with complex communication needs* (4th ed)*.* Brookes Publishing. [↑](#footnote-ref-5)
6. Porter, G. (2017). *2 Day PODD Introductory Manual*. CPEC. [↑](#footnote-ref-6)
7. AssistiveWare. (2021). *Four things every AAC system needs*. AssistiveWare. <https://www.assistiveware.com/learn-aac/select-a-balanced-aac-system> [↑](#footnote-ref-7)
8. AssistiveWare. (2021). *Four things every AAC system needs*. AssistiveWare. <https://www.assistiveware.com/learn-aac/select-a-balanced-aac-system> [↑](#footnote-ref-8)
9. Dennis, A., Erickson, K., & Hatch, P. (2013). *The Dynamic Learning Maps core vocabulary: Overview [technical review]* <http://www.med.unc.edu/ahs/clds/files/vocabulary-overview> [↑](#footnote-ref-9)
10. Dennis, A., Erickson, K., & Hatch, P. (2013). *The Dynamic Learning Maps core vocabulary: Overview [technical review]* <http://www.med.unc.edu/ahs/clds/files/vocabulary-overview> [↑](#footnote-ref-10)
11. AssistiveWare. (2021). *Four things every AAC system needs*. AssistiveWare. <https://www.assistiveware.com/learn-aac/select-a-balanced-aac-system> [↑](#footnote-ref-11)
12. Farrall, J. (2018). *Emergent writing: Focus on function*. Literacy. <https://www.janefarrall.com/emergent-writing-focus-on-function/> [↑](#footnote-ref-12)
13. Yoder, D. (2000). *DJI-AbleNet Literacy Lecture*. ISAAC Conference. [↑](#footnote-ref-13)
14. Porter, G. (2017). *2 Day PODD Introductory Manual*. CPEC. [↑](#footnote-ref-14)
15. Porter, G. (2017). *2 Day PODD Introductory Manual*. CPEC. [↑](#footnote-ref-15)
16. Korsten, J. (2011). *QIAT Listsev 4th April*. QAIT. [https://qiat.org](https://qiat.org/) [↑](#footnote-ref-16)