

# Communication Matters



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**Symbol Vocabulary - Screening System - University Life - Dynamic Goals -  
Spontaneous Communication - Mental Health - Progressive Conditions - 1Voice  
Discussion - Talking to Teachers - Modelling - Literacy - Positive Framework**







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We look forward to welcoming you all to the Communication Matters International AAC Conference 2024 at the University of Leeds. Find out more at <https://bit.ly/cm2024conf>

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# Chair's Report

HELEN WHITTLE

This is the first printed Journal that Communication Matters have produced since the Covid-19 pandemic. We are working with a new print company and have looked at paper quality whilst trying to keep the price down. We hope you like it!

The Communication Matters Trustees continue to represent you at many meetings and many committees across the UK and beyond. We are involved in the rewrite of the AAC Guidance Document that is being organised by the Royal College of Speech and Language Therapists for the benefit of Speech and Language Therapists in the UK.

We are excited to have been chosen as the Charity Partner for the [Medilink Healthcare Business Awards](#) which are being held in Sheffield on 21<sup>st</sup> March. Trustees Beth Moulam and Helen Whittle are giving a presentation during the evening and are hoping to raise awareness of AAC.



We will be running an AAC Information Day in Glasgow on 1<sup>st</sup> May. This is a product demonstration day supported and presented by the UK's leading suppliers of communication aids, equipment, software and symbol systems. The day will consist of five sessions which provide information and up-to-date knowledge on a range of AAC products. Find out more at: <https://www.communicationmatters.org.uk/diary/#information-days>

The rest of this report will be given over to the news from the National Lottery funded projects that Communication Matters have been involved with for the last five years.

The National Lottery operates in England and Wales, Scotland, and Northern Ireland. Each area organises its grant giving in a different way. Communication Matters was fortunate to secure five years of funding to run a Mentoring Project for AAC users in England between 2019 and 2023. This project was run in conjunction with Verity Elliott from Creativity in Practice (CiP) who are an approved centre with NCFE (qualifications awarding body). CiP have a lot of experience in delivering qualifications at different levels and different topics which are suitable for our learners.

The project started with the intention of providing face to face training for small groups of AAC users to work towards mentoring qualifications. Then Covid and lockdowns happened, and we had to re-think the project and how it was delivered. Most of the training for a while was delivered on Zoom along with learning, resources and



materials provided to practitioners and AAC users to complete at home. The underspend from the grant was spent on the development of an animation to more clearly explain what mentoring was and how it could benefit those who took part. There has also been the opportunity to celebrate the successes of the learners who gained certificates which has been invaluable. The National Lottery England has been supportive throughout the five years and has loved what has been achieved by AAC users during the project.

We have spent nearly six months preparing another application for an additional five years of funding to allow us to continue, grow and expand the project (2024-2029). We have just heard that we have been successful, and

we can allow the setting up of communication clubs, alongside the offer of accredited units and qualifications, and the work can be expanded using paid facilitators. So exciting times in England! Watch this space!

In Scotland, during 2023 we ran a successful pilot project with an Awards For All grant from National Lottery Scotland that allowed seven learners from the Straight Talking Group at the University of Dundee to achieve a Level 1 in Mentoring qualification with Creativity in Practice. This was a really successful pilot project, and we are now looking at developing these opportunities across Scotland.

We are conscious that Communication Matters is a UK organisation, and we aim to be relevant for all our members wherever they live in the UK.

We also delivered a successful Awards For All funded project in partnership with the Mae Murray Foundation in Northern Ireland during 2022. Seven AAC learners achieved an Entry Level 3 in Personal & Social Development qualification which included some good preparation towards peer support and mentoring. We applied for a larger grant to allow Communication Matters, the Mae Murray Foundation and Creativity in Practice to run a peer support and mentoring scheme with communication clubs in Northern Ireland. Unfortunately, we were not successful with this application. However, we are now looking at other options with the National Lottery UK Fund with the aim of providing peer support, mentoring and communication clubs in Scotland, Northern Ireland and Wales. This will build on the work we already do in England and the application may take some time, so do look out for further announcements.

You can find out more about the Mentoring Projects on our website: <https://www.communicationmatters.org.uk/what-we-do/projects/>



# Learning a Symbol Vocabulary: A Patient and Public Involvement Perspective

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## Introduction

Communicating with graphic symbols is a form of Augmentative and Alternative Communication (AAC) used by preliterate individuals whose speech cannot meet their full communication needs. Symbol vocabularies have been created to enable individuals to select images which represent their message. Symbols can be presented on electronic devices with voice output or on paper charts and spoken aloud by the communication partner. Symbols may represent distinct words, such as a picture of a house meaning 'house', however when building sentences or expressing more abstract thoughts, symbols may be less iconic and may represent a category, message, grammatical or semantic concept. For example, variations on a house image may mean 'accommodation', 'my home', 'to live' or 'lived' (Lundälv et al., 2014).

Complexities of graphic symbol vocabularies are often described by the number of symbols and the number of hierarchically stored pages linked from a menu page (Judge et al., 2022). Single meaning symbol vocabularies are a widely used option and have thousands of symbols, grouped on hundreds of pages and may require multiple steps through the pages to reach a symbol. Some symbol vocabularies such as Minspeak ([www.minspeak.com](http://www.minspeak.com)) and Blissymbolics ([www.blissymbolics.org](http://www.blissymbolics.org)) actively aim to minimise the number of symbols and steps through using multi-meaning symbols, concept or combination symbols or by attaching linguistic indicators to root symbols.

Learning to communicate using symbols is a demanding and lengthy process (Martin & Newell, 2013). Whilst some users become extremely competent symbol communicators, there are many who have limited success or who abandon this method due to the cognitive challenges of learning the systems (Berenguer et al., 2022).

The work described here explores the cognitive and linguistic demands of using symbol vocabularies and the potential skills required. Findings from Patient and Public Involvement (PPI) sessions are presented below alongside reflections from the author on how this involvement informed the authors' thinking around this topic in terms of research and practice.

## Method

This paper reports on PPI sessions which involved current and past symbol communication users and parents and professionals who have supported symbol users. A purpose made symbol vocabulary was designed as a resource to evoke discussion about the cognitive skills involved in using symbol vocabularies. PPI group members explored the resource whilst the researcher facilitated discussion focussing on the following three areas:

**Symbol meanings:** How symbols and their meanings were identified and differentiated from other visually or semantically related symbols.

**Symbol locations:** How symbolised categories concepts were identified and how they inferred which symbols belong in which category.

**Routes to the symbol:** How they selected routes from the menu through the hierarchical pages to the target symbol.

The PPI members were then asked to verbalise their thoughts and share their views and feelings whilst experiencing using the purpose made system. The following discussion points arose during their decision-making.

## Results

### Symbol Meanings

Discussions around symbol meanings focussed on the features or indicators used to differentiate symbols and the strategies that eliminated, excluded or included symbols from the final selection.

- All the group members used elimination strategies. Symbols were either eliminated one by one or a preferred item chosen and the others eliminated to confirm the choice. Members discussed how they could use this method because of their experience with multiple choice tests.
- Commonalities across multi-part symbols were identified and used for decision-making. However, this was sometimes misleading, for example, an insect category symbol showing flying insects was eliminated when searching for a non-flying insect because “they all fly”. In this case, ‘flying’ was not the intended commonality.
- Knowledge of the category page was key when deciphering meanings. Members stated that without knowing they were on a ‘meat’ page, they would have thought the ‘chicken nuggets’ were ‘potatoes’, ‘wotsits’ or ‘sponges’.
- Features such as a background colour, shading to indicate 3D, black outlining or speech bubbles were all used, however members were unsure when these features carried meaning or not. For example, a brown circle on a white background meant ‘brown’ as the background gave no additional information whereas a brown circle on a beige background meant a ‘mole’ as the background did hold meaning.
- General knowledge, such as relative size, was used but was also found to be misleading if present but without intended meaning. For example, ‘chocolate chip’ and ‘chocolate ice cream’ symbols may be the same size, in which case, the relative size could not be used to infer meaning.
- Metalinguistic knowledge was used for many decisions, for example, commenting that “they are all doing an action so they could be verbs”.

These PPI discussions showed that graphic, linguistic or societal knowledge, inference and deduction are sometimes used to identify symbols. Symbol communication requires an understanding that a symbol represents an object, an action, an abstract concept such as a feeling or preposition, a linguistic marker or a category.

Members of the PPI group described features which gradually included or excluded symbols and narrowed down selections. This process of visually scanning details and rejecting and accepting the options whilst remaining focussed on the target word required continuous attention shifting.

In addition to applying knowledge to infer meanings and make selections, the symbol user also needs to resist fixating on strongly preferred symbols and avoid distraction by symbols which catch their eye. The members discussed symbols which they had already eliminated, for example, commenting that the chicken nuggets looked different to the ones they prefer. From clinical observations, these tendencies are more prevalent in autistic users with intense preferences or in children with attention difficulties.

The PPI discussions allowed the author to consider features in symbol vocabularies through listening to the group describe the strategies they used. Table 1 summarises this reflection on the underlying knowledge, indicators or features which may be used to aid symbol differentiation.

**Table 1**

<b>Type of knowledge</b>	<b>Indicators used</b>	<b>Examples of words or concepts symbolised using these indicators</b>
Graphic Indicators	Arrows for time	Tenses and time words such as ‘yesterday’
	Arrows for direction	Verbs using direction such as ‘climb’ Opposing verbs differentiated by direction e.g. ‘get dressed’ and ‘get undressed’
	Arrows to indicate the focal point	A person with an arrow indicating specific bodyparts
Academic, Social or Cultural	Traffic lights	Green light indicates ‘go’
	Features of animals	Tortoise indicates ‘slow’
	Features of objects	Ice indicates ‘cold’
	Objects to differentiate people	Skirt indicates ‘female’
		Walking stick indicates ‘elderly person’
		Stethoscope to indicate a ‘doctor’
	Monetary symbols e.g. £	Indicates ‘money’, ‘spend’ or ‘expensive’
	Red Cross	Indicates ‘health’ or ‘medical’ Combined with building to indicate ‘hospital’
	Heart	Indicates ‘love’ Combined with symbols such as house to indicate ‘home’
Musical notes	Indicates ‘music’	
	Combined with a person to indicate ‘sing’	
Relative Conceptual Knowledge	Bold or Shading to indicate the differentiating part of the symbol	Indicates the comparative words e.g. ‘big’, ‘bigger’, ‘biggest’
	A line through a symbol to mean ‘not’	A heart with a line through indicates ‘not like’

Linguistic Knowledge	Use of metaphorical language	A green face indicates 'jealous' A light bulb indicates 'an idea'
	Speech bubble	Indicates words such as 'chat', 'argue' or a category such as 'my phrases' A speech bubble may contain symbols such as exclamation marks to indicate swearing.
	Thought bubble	Indicates words such as 'think' 'idea' 'dream' A thought bubble may contain a symbol such as an apple to indicate 'hunger'
	Exclamation mark	Indicates increased intensity for example to differentiate 'good' from 'amazing'

### Symbol Locations

During the PPI sessions, the author observed body language such as eye rolls, giggles and sighs when a new page of category symbols was revealed. When asked to give meaning to these, the members described finding the eight symbol pages (figure 1) as busy and overwhelming and one described learning a symbol vocabulary as "soul-destroying".

Figure 1



Several discussions in the PPI groups questioned assumptions made about a person's knowledge. One member described looking at a page of symbols as "looking at a brick wall", another commented "I'd hate to admit how old I was when I actually knew what a verb was" and another stated "I honestly have just been selecting things to see where they went".

Members commented that they thought the linguistic categorisation was designed by speech and language therapists and one stated that "a category which is logical for us may not be for the user". The individual nature of language was described through comments such as "I think of words differently to other people" and "things are gonna look different to different people... if you only ever seen white chickens, chickens are white you know".

The PPI discussions allowed the author to consider how symbol vocabularies vary in their organisation and may categorise the words and messages according to taxonomic, semantic, linguistic or pragmatic features. In addition to these, idiosyncratic categories may be created for person specific vocabulary using activity or location. These reflections are illustrated in table 2.

Table 2

Type of Categorisation	Example of categorisation
Taxonomic	Animals → insects → 'beetle'
Semantic	Food → fruit and vegetables → fruit → 'banana'
Linguistic	Verbs → past tense verbs → 'ate'
Pragmatic	Chat → greetings → 'see you later'
Situation	School → lessons → art → 'glitter'
Location	Home → lounge → 'TV'
Person Specific	Places → My Places → 'name of town' → 'name of local shop'

To use symbol vocabularies, users need to understand hierarchical categorisations and the potential systems being used. Words may have conflicting reasons for belonging to different categories and the user needs to deduce the item's differentiating features. For example, 'dragon' could belong in a wild animal, zoo animal, pet, toy or mythical creature category depending on the individual's experience. Personal rationales need to be put to one side in favour of more widely socially accepted, often adult oriented rationales. This is a challenging task for those who have not yet learnt standard categorisation systems and for those who have not developed theory of mind and therefore will always default to their personal categorisation system. Items categorised as transport are defined by the common feature that they move from A to B, however to a person who has never learnt this, the commonality of a submarine, an aeroplane and their own scooter is unlikely to be transparent. On the other hand, the commonality between their own scooter, football and trampoline as garden toys may be unequivocal.

### Route to the Symbol

Members discussed the steps needed to navigate to a symbol and that there would be a limit to how many steps a user would manage. One member commented that "it would be easy to get completely lost" whilst another reflected on a route they had taken saying "I couldn't remember where my first step was...it was only two jumps but I couldn't remember".

Navigating hierarchical menus are a frequent part of modern technology use. To navigate a music app, we select broad genres, narrower fields, artists, albums and finally songs. We can change our direction, go back up levels or explore sideways themes. Some routes are learnt, some evolve and some are negotiated with the information that is presented. The parent group discussed the assumption that users automatically understand the concept of a menu page and hierarchy when, in reality, users may have never experienced this.

The use of visual or motor patterns was discussed and how automaticity of these can significantly reduce the cognitive load for retrieving familiar, frequently selected symbols. Use of motor planning (Thistle & Wilkinson, 2015) and colour coding (Thistle & Wilkinson, 2017) are factored into the design of some systems. They are effective strategies for supporting the retrieval of frequently used symbols however they are less effective when locating novel or low frequency symbols.

### Discussion

This paper presents reflections from PPI work regarding learning and using symbol vocabularies. The discussions in the PPI group challenged the design of symbol vocabularies and the assumptions made about users' thought processes and knowledge.

There was an underlying narrative through the PPI discussions that the concept of hierarchical categories, the category groupings and the symbolic representations had been designed by professionals and based on social knowledge or linguistic principles as opposed to being designed from a user perspective and with a personal element. One speech and language therapist commented "if you haven't got the speech therapy knowledge of maybe word categories and stuff, you're coming at it a very different way to say the speechies amongst us" and "We don't know what semantic connections children have in terms of their own context, their own lifestyles". The implications of this narrative and the principles of user centred design, user collaboration, user co-construction and ongoing patient and public involvement will be embedded in future research and innovative design carried out by the author.

A strong potential bias was exposed in this work towards assuming users could and would assimilate to using standardised visual indicators, categorisation systems and linguistic concepts as opposed to the system being adaptable to reflect the user's unique language profile. Future research by the author aims to focus on the challenges of reducing the learning demands imposed by a system embedded in these assumptions and to explore methods of respecting and incorporating the individual user's language profile. This project provides the context for further PPI discussions exploring alternative language representations which will be published in a future edition of the *Communication Matters* Journal.

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### References

- Berenguer, C., Martínez, E. R., De Stasio, S., & Baixauli, I. (2022). Parents' Perceptions and Experiences with Their Children's Use of Augmentative/Alternative Communication: A Systematic Review and Qualitative Meta-Synthesis. In *International Journal of Environmental Research and Public Health* (Vol. 19, Issue 13). MDPI. <https://doi.org/10.3390/ijerph19138091>
- Judge, S., Murray, J., Lynch, Y., Meredith, S., Moulam, L., Randall, N., Whittle, H., & Goldbart, J. (2022). Attributes of communication aids as described by those supporting children and young people with AAC. *International Journal of Language and Communication Disorders*. <https://doi.org/10.1111/1460-6984.12833>
- Lundälv, M., Derbring, S., Mühlenbock, K. H., Brännström, A., Farre, B., & Nordberg, L. (2014). Inclusive AAC: Multi-modal and multilingual language support for all. *Technology and Disability*, 26(2–3), 93–103. <https://doi.org/10.3233/TAD-140407>
- Martin, A., & Newell, C. (2013). Living through a computer voice: A personal account. *Logopedics Phoniatrics Vocology*, 38(3), 96–104. <https://doi.org/10.3109/14015439.2013.809145>
- Thistle, J. J., & Wilkinson, K. (2017). Effects of background color and symbol arrangement cues on construction of multi-symbol messages by young children without disabilities: implications for aided AAC design. *AAC: Augmentative and Alternative Communication*, 33(3), 160–169. <https://doi.org/10.1080/07434618.2017.1336571>
- Thistle, J. J., & Wilkinson, K. M. (2015). Building evidence-based practice in AAC display design for young children: Current practices and future directions. *AAC: Augmentative and Alternative Communication*, 31(2), 124–136. <https://doi.org/10.3109/07434618.2015.1035798>



# Development of an Interactive Computer-based Language Screening System for People with Learning and Physical Disabilities who Require AAC

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## Introduction

Accurate assessment of a person's language and physical skills is important for the selection of an appropriate augmentative and alternative communication (AAC) system. Assessment of communication for someone with intellectual, physical and communication impairments can be challenging. Demonstration of understanding may require the physical manipulation of test items by a person who has physical impairments. Clinicians may have to adapt assessments or rely on observations to estimate language skills, possibly risking an inaccurate estimation which can impact on the choice of AAC system provided. The work described here investigates the development of a computer-based system for communication screening assessment which eliminates the need for direct manipulation of physical objects. It is based on a commonly used language assessment scheme.

## Language Assessment Scheme

The Derbyshire Language Scheme (DLS) is an assessment scheme (Knowles & Masidlover, 1982) for appraising the needs of people with intellectual, physical and communication impairments for provision of augmentative and alternative communication (AAC). It is used typically with physical objects which a person can be asked to lift, move, or point to in response to instructions from a speech and language therapist (SLT). Interaction between, or positioning of, objects relative to each other is an important aspect of assessment, however someone with physical impairments may not be able to perform such actions, making assessment challenging for the SLT (Chadwick *et al.*, 2019, Moseley *et al.*, 2021).

## Computer-based Assessment

Assessment designs are needed for people with learning disabilities and communication and physical impairments. Some computer-based language assessments have been designed for children with physical disabilities (Bates & Macleod, 2017), including CARLA: Computer Based Accessible Receptive Language Assessment (Kirton *et al.*, 2015) and C-BILLT: Computer Based Instrument for Low Motor Language Testing (Geytenbeek *et al.*, 2014), the latter having been standardised for young children with cerebral palsy. There is scope for more investigation of on-screen interactive tasks which simulate the real-life DLS actions that people with physical disabilities may not be able to perform, with assessment augmented or replaced by a computer-based series of tasks.

The project described here was designed for adults with learning disabilities who have communication difficulties and some physical difficulties which require them to use alternative forms of access. Moseley *et al.* (2021) note limitations of assessments for people who are non-verbal and have physical impairments. They provide a description of computer-based assessments and note the limitations of using static images when investigating spatial and movement concepts such as 'forward'. They have thus investigated the use of video sequences in this context. Their assessment process was accessible to users who use alternative forms of access including eye gaze and touch screens. The approach of making test items more closely match the real world appears to be helpful in engaging people with physical impairments in such assessment procedures.

## Language Interface for Interaction

A language interface must be designed to enable people with multiple challenges to undertake such an assessment. Three key aspects are: providing the user with technological means of responding to a spoken request; making on-screen communication tasks more closely match real-world actions; and enabling these actions to be carried out using alternative access methods such as switches or touch screens.

Major design requirements were identified for the system, which would be:

- a program or website, generally accessible through a computer or tablet device;
- compatible with different input methods, e.g., mouse, touch screen, joystick, switches;
- based on the principles of the DLS screening assessment (with multiple objects represented by symbols and pictures, movable and able to overlap).

and would have a symbol library of everyday items, with multiple presentation options for each symbol or image and appropriate accessibility features.

## Prototype Development

A prototype assessment system was developed containing a library of photographs, symbols and text words representing everyday objects (e.g., spoon, cup, ball, plate) for display on the screen. These could be selected and moved into position on a display canvas in response to verbal instructions from a clinician (SLT), using any of a selection of input devices, e.g., joystick, switches, rollerball, touchscreen. The prototype was thus made accessible for people with physical disabilities to interact with and move on-screen objects in ways which they would not be able to do with real physical objects.

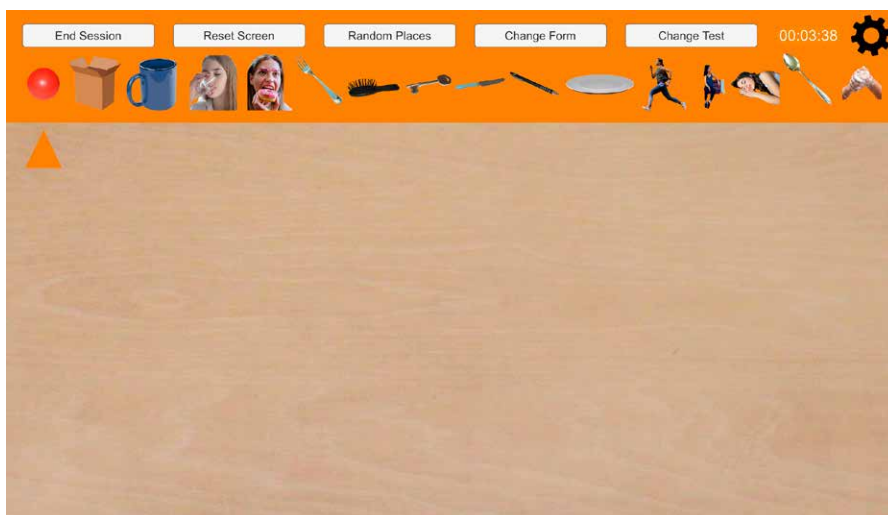
**Appraisal:** An appraisal of the prototype system by a focus group of seven SLTs responsible for the language screening of communication impaired people produced suggestions for: expanding the number and quality of access modes (e.g., eye gaze detection); enhancing visual clarity and contrast of objects on the display (e.g., through colour scheme, object size); and augmenting the user interface (e.g., with a large touchscreen). Questionnaire data from the group revealed a unanimous view that a system like this would be useful for clinical purposes. A majority indicated that they would use it if available, and all thought it could be used with people with learning disabilities. They gave the prototype an average score of 8.6/10 for ease of use and 8.1/10 for comprehensibility. The task workload was rated as relatively low (good). The prototype was considered a positive development that addressed an original need from the SLT perspective.

## Interface Development

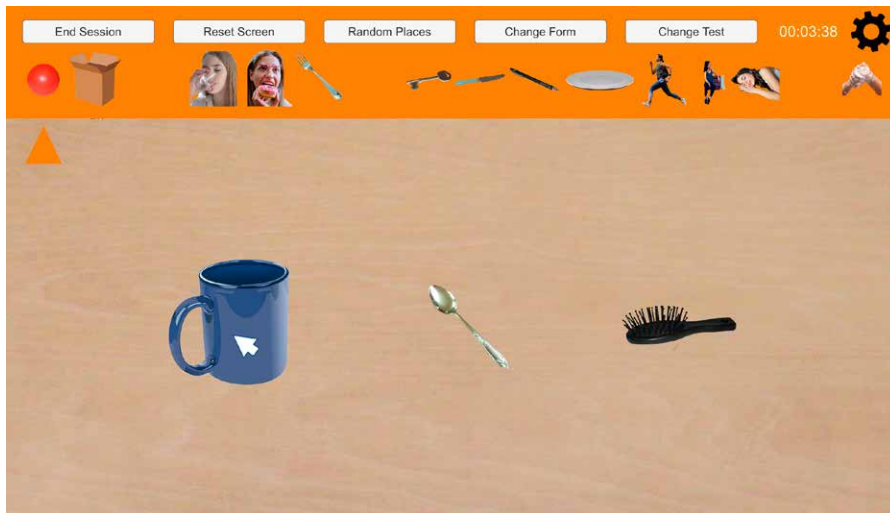
Modifications were made in response to feedback from the focus group, with the user interface undergoing continuing development. An example of an enhanced assessment screen is seen in Figure 1, with an empty 'tabletop' canvas and a ribbon of items for selection by an SLT for positioning on the tabletop. Items can then be moved around the tabletop by a client in response to assessment instructions from the SLT, e.g., 'Put the spoon in the cup'. Some of the ribbon items represent the actions drinking, eating, running, sitting, sleeping, and washing, while the objects represented are ball, box, cup, fork, brush, key, knife, pen, plate, and spoon. The top of the screen also displays a row of system control buttons, such as 'Change Test', 'Reset' and 'End Session'.

## 'Show Me' Assessment

A 'Show Me' assessment would commence with an empty tabletop, as in Figure 1, onto which an SLT can place items from the ribbon, as in Figure 2. The client can then demonstrate that they can identify and select a particular item, using the cursor, in response to an instruction from the SLT. The 'Show Me' screen also has a 'Change Form' button so the SLT can change the items in the ribbon to different forms of symbolic representation, e.g., photos with a background, photos without a background, symbolized images, or text labels.



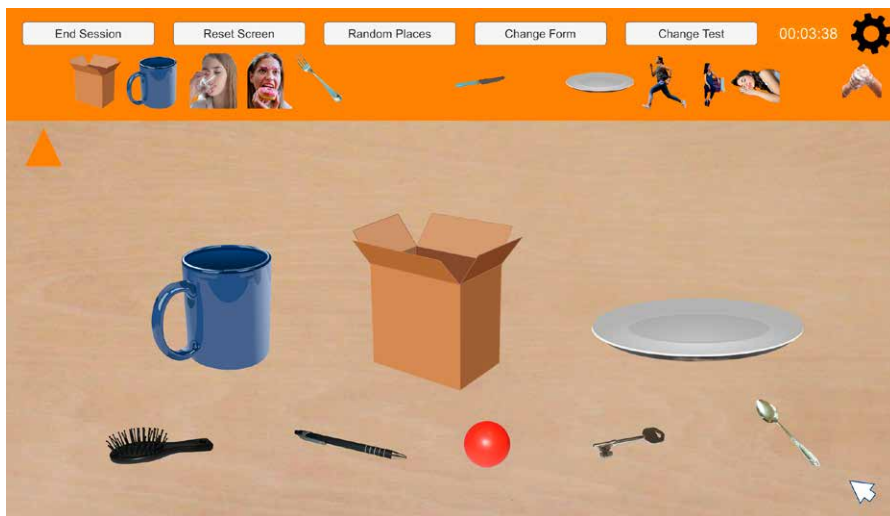
**Figure 1:** An example 'Show Me' screen, with a blank 'tabletop' canvas for populating by an SLT with items (objects or actions) from the ribbon above. (Objects: ball, box, cup, fork, brush, key, knife, pen, plate, spoon. Actions: drinking, eating, running, sitting, sleeping, washing.)



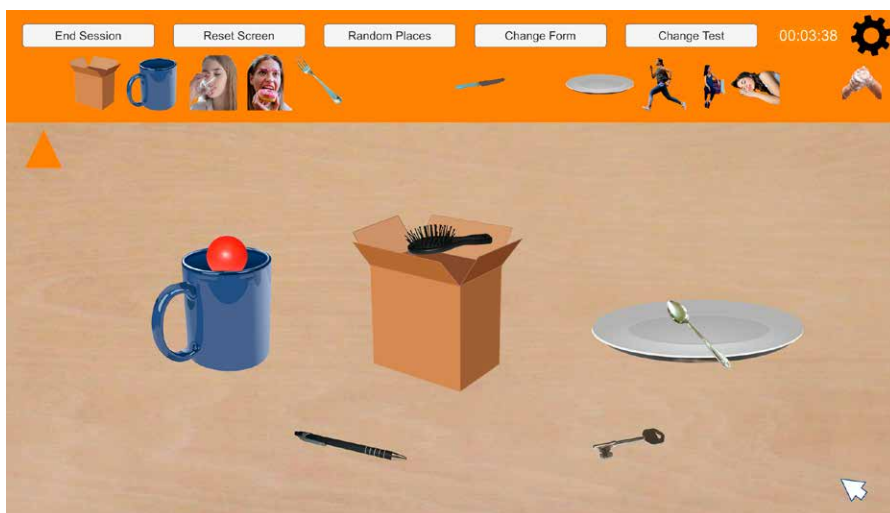
**Figure 2:** ‘Show Me’ screen with a cup, spoon and brush on the ‘tabletop’. An SLT can ask (‘Show me ...’) a client to identify an item; in response the client can point to, select, or move (using the cursor) that item on the tabletop to show they can identify it. The client is using the cursor here to point to the cup.

### Prepositions Assessment

An example screen for a Prepositions assessment shows three ‘containers’ (cup, box, and plate) on the tabletop (Figure 3). Items can be placed in or on a container by dragging and dropping them over it, leaving them visible on or near the top of that container. The lower part of the tabletop in Figure 3 has been populated with five objects from the ribbon. The SLT would arrange the objects on the tabletop like this, then ask the client to move some of them into or onto the containers, as in Figure 4, using instructions such as ‘Put the brush **in** the box’ or ‘Put the spoon **on** the plate’. Such use of containers is important in the assessment as it enables the client to demonstrate an understanding of prepositions through moving and positioning items relative to the containers.



**Figure 3:** An example Prepositions screen, with containers cup, box and plate on the tabletop. Other items may be placed in or on these containers. The SLT has placed five objects along the lower area of the tabletop; the client can be asked to reposition any of these five objects in relation to the containers.



**Figure 4:** The example Prepositions screen with containers cup, box and plate on the tabletop. The client has moved three objects (ball, brush and spoon) into or onto these containers, in response to instructions from the SLT, so demonstrating an understanding of prepositions and their meanings.



## Matching Assessment

An SLT can set up a 'Matching' screen and instruct a client to match one visual representation (e.g., a photograph) of an item with another representation (e.g., a symbol, text label) of the same item, in order to assess recognition and understanding of different visual representations of the same thing.

## Trial with Clients

A trial was conducted with two clients who had learning disabilities, using a prototype of the modified interface. They were invited individually to follow assessment instructions using the system; tasks were those found in a typical DLS screening assessment. The clients were able to carry out their instructions successfully and a Talking Mats® exercise showed that they both felt very positive about the system. It was noted by the researcher that availability of a wide range of access methods was important for different clients; also, that a tablet would be a good operating platform for the assessment to be performed on.

## Conclusions and Further Work

An interactive on-screen language assessment system based on the Derbyshire Language Scheme (DLS) has been investigated for people with cognitive impairments and communication difficulties. It is seen to offer a promising approach to on-screen assessment from the perspectives of clients and clinicians, with particular potential benefit for clients who cannot manipulate or interact with real physical objects.

Further investigation could include increasing the system accessibility through an expanded range of access methods, evaluating the system with a greater number of clients with a wider range of language levels, and providing speech output in response to user actions to provide users with feedback. This in turn could be explored as a training or teaching facility to enhance understanding. Some AAC users who have difficulties in expression or understanding may be able to communicate messages and requests through manipulation of items on the screen, using the system as a conversation medium rather than as a language screening system. Some features of conversational structure (Alm *et al.*, 1987) might also be introduced to it to help give structure to such interaction. A significant enhancement would be the use of three-dimensional imagery to improve authenticity; items could be rotated and adjusted relative to each other, giving a greater level of realism and making a more detailed assessment of language level possible for the SLT.

Further investigation could be undertaken to explore these possibilities. The present study was viewed as successful and instructive with positive indications for future exploration.

## Acknowledgements

The authors gratefully acknowledge the contributions of all participants in the conduct of this work.

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## References

- Alm, N., Newell, A.F., & Arnott, J.L. (1987). A communication aid which models conversational patterns. Proc. 10<sup>th</sup> Annual Conference on Rehabilitation Technology (RESNA '87), San Jose, CA., USA, 19<sup>th</sup>-23<sup>rd</sup> June, 127-129. Washington, D.C. : RESNA - Association for the Advancement of Rehabilitation Technology.
- Bates, K. & Macleod, K. (2017). Assessing communication for children with movement disorders e a practical approach. *Paediatrics and Child Health*, 27(10), 465-469. <https://doi.org/10.1016/j.paed.2017.06.006>
- Chadwick, D., Buell, S., & Goldbart, J. (2019). Approaches to communication assessment with children and adults with profound intellectual and multiple disabilities. *Journal of Applied Research in Intellectual Disabilities*, 32(2), 336-358.
- Geytenbeek, J.J., Mokkink, L.B., Knol, D.L., Vermeulen, R.J., & Oostrom, K.J. (2014). Reliability and validity of the C-BiLLT: A new instrument to assess comprehension of spoken language in young children with cerebral palsy and complex communication needs. *Augmentative and Alternative Communication*, 30(3), 252-266. <https://doi.org/10.3109/07434618.2014.924992>
- Kirton, A., Judge, S., Clarke, Z., & Friday, M. (2015). A Computer Based Accessible Receptive Language Assessment. CARLA Resource Guide. Barnsley Assistive Technology Team, Barnsley Hospital NHS FT, Barnsley S75 2EP, Yorkshire, UK. [https://www.jabblasoft.com/files/misc/CARLA\\_documentation.zip](https://www.jabblasoft.com/files/misc/CARLA_documentation.zip)
- Knowles, W. & Masidlover, M. (1982). Derbyshire Language Scheme, Derbyshire County Council, Matlock, UK.
- Moseley, M., Howart, L., McLoughlin, L., Gilling, S., & Lewis, D. (2021). Accessible digital assessments of temporal, spatial, or movement concepts for profoundly motor impaired and non-verbal individuals: a pilot study. *Disability and Rehabilitation: Assistive technology*, 16(3), 350-360. <https://doi.org/10.1080/17483107.2019.1683240>



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# An AAC User's Experience Transitioning Into University Life

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## Introduction

In this article, I discuss my experience as an AAC user transitioning into university life, including:

- a little bit about me;
- why I chose to study at the University of Dundee;
- some of the barriers I faced when I started;
- some of the solutions to those barriers;
- one of the creative solutions in my assistive technology set-up, an eye gaze coding keyboard that has speeded up my work significantly;
- staff who are essential for supporting me in my university journey;
- advice for any future students who use AAC who are thinking of going to university.

## About Me

I am 21 years old. I am studying Applied Computing at the University of Dundee. I have quadriplegic cerebral palsy, and I also have dyslexia. I access my communication aid using eye gaze technology. Eye gaze technology has opened up my world to computer access, communication and education, and I love to paint pictures with my eyes and play video games.

## From Sussex to Dundee

In 2014, I wanted to be able to play Minecraft with eye gaze, so I worked with the gamers' charity SpecialEffect to develop and test an eye gaze interface for the game. EyeMine was released in 2018, and in January 2019, I was invited to give a talk at the prestigious V&A museum in London at their video game design conference (see Figure 1). This was very well received, and in the audience were some staff members from the V&A Dundee. So a few months later, I received an invitation to speak at their summer technology event which was run in collaboration with the university. So I received another invitation to speak at the university where I met some awesome staff, and my fate was sealed!

## Why Dundee?

Dundee University is one of the top universities in the UK, and its computing course is very well regarded. As a disabled student, the campus and school of computing is very accessible, there are



Figure 1 : Speaking at the V&A Museum in London, January 2019

multiple changing places toilets with hoists both on campus and in the city and surrounding areas and, most importantly, the staff at the university have an unparalleled knowledge of AAC and its challenges.

## University Entry Requirements

My education at secondary school was unfortunately very poor. There was a lack of knowledge among teaching staff about how to teach students who use AAC, and a lack of reasonable adjustments to ensure the access to examinations was fair. So I was home-schooled with a tutor who was able to work with me to improve my literacy despite my dyslexia. However, I still didn't have sufficient GCSEs and A-level qualifications to access university by the usual route. Thankfully, the university has a summer school, and in 2021, I successfully gained a place and was able to prove that I was able to succeed at undergraduate level with the right adjustments.

## About My Course: BSc Applied Computing

My degree course is usually a 4-year course where students take 6 modules per year, 3 modules per semester. My work takes me much longer using eye gaze, so I take just one module at a time. This means that my degree may take up to 3 times longer to complete. I completed my first year online from my home in Sussex due to Covid-19 and the complexities of moving 500 miles to Dundee. I then did my second year in person which was much better.

## Initial Barriers to Inclusion

It wasn't surprising that I faced a number of barriers to my inclusion especially as I was doing my first year remotely online. These included:

- Communication challenges
- Administrative concerns
- IT problems

## Communication Challenges

- Getting up-to-date vocabulary of specialist topic-specific words on my AAC device is a continual challenge. This was especially important for me as a dyslexic user with poor spelling.
- Instructors and students needed to understand the way I communicate so that they could adapt their communication to give me the time I needed to respond.
- When I was working online in my first year:
  - Staff didn't get to know me well and couldn't see when I was trying to communicate;
  - The computer lab sessions didn't work well as I was the only student online while other students were collaborating together in person in the lab;
  - Teamwork was very frustrating because I was remote from the rest of my group.

## Administrative Concerns

I faced some administrative issues in my second year when I started to study on campus for the first time:

- All students are expected to check-in to sessions using a mobile phone app called Seats. Unfortunately, this app is very poorly designed and is largely inaccessible to disabled students who can't physically access a mobile phone.
- I often struggled to connect my device to the campus internet, possibly due to the large number of mobile devices already connected. This hindered and limited the effective use of my communication aid and made me waste huge amounts of time trying to sort it out during a session.
- I don't always 'fit' the university's administrative systems because it will take me many more years than a standard student to complete my degree, and some of the administrative software does not take account of this.

## IT Problems

I faced a number of IT-related problems:

- Because of my dyslexia, I rely on a screen reader to read text out loud to me. However my screen reader did not work on the university's e-learning platform.
- Each module would have a weekly session in the computer lab to try out all the new material we had learnt and to work on our group projects. I have an eye tracker installed on one of the lab PC's, but I also need my assistive technology software installed and configured which meant that the PC I use has a different set-up from all the others in the lab. Unfortunately on more than one occasion this software was wiped from the PC, meaning I had to install and configure it all over again.
- Another issue was related to logging on to my lab account without sharing my password with my support worker.
- I need to use an integrated development environment (IDE) for writing my code. Unfortunately most IDEs are not very accessible with eye gaze and the menus and buttons are very small to target, which makes coding very time-consuming.
- Time is always a big limiting factor for me when producing my work, so my speed of coding and writing in general was very tiring and frustrating.



### Communication: Solutions

- To overcome initial communication barriers, I gave a presentation to tell staff and students about my disability and communication. This was successful and interactions with my peers were much improved after this.
- I devised a way to use word clouds and transcripts from online videos to keep specialist vocabulary up to date.
- Whenever I find my adjustments do not cover the task involved, I work with disability services to get my adjustments updated and circulated to staff.
- I check in with lecturers and instructors regularly, usually via email, to make sure that I am properly included.
- Group projects are much better now in person. Also online communications, particularly in Discord, work well for me when everyone is online.

### Administrative Solutions

The administrative issues were less easy to solve.

- My new TD Pilot communication aid (an iPad Pro with built-in eye gaze) has given me direct access to the Seats check-in app, and also to other mobile apps that are commonly used by other students. It is important I have access to a mobile platform as there is an assumption that all students can access a mobile phone.
- Connection to the campus internet is seamless on my iPad.
- I have become more accomplished at email communications with administrative staff to advocate for my different situations when the standard systems let me down.

### IT Solutions

With the help of my assistive technology expert Kirsty McNaught, we were able to find solutions to my IT problems.

- I now use a screen reader called SwiftRead that successfully reads the text on the university’s e-learning platform.
- I have administrator access to my lab PC, so that I can install my own software and control the setup independently.
- I can log into my lab PC without sharing my password by using an AccessIT3 USB dongle from Tobii Dynavox. I can send my username and password to the lab PC from my communication aid using Bluetooth.
- Microsoft Visual Studio Code is much more accessible using eye gaze than the IDE software I had previously been using. VS-Code has bigger buttons and menu items plus keyboard shortcuts that make access much quicker.

### Speeding Up Coding and Writing

My biggest challenge and frustration was with how time-consuming and tiring it was to write code. I would type using my AAC page of coding keywords and then use copy and paste to put my code into the IDE. It was a labour-intensive process that required a lot of repetitive eye gaze actions, and I was not able to make use of the functionality of the IDE. My IT expert Kirsty and I wondered if we could use Optikey to make a specialist coding keyboard for me that uses predictive text and allows me to type directly into VS-Code or any other IDE or text editor. Figures 2 and 3 show what we came up with. The keyboard has separate dictionaries for each programming language so the predictive text functionality can predict the next coding keyword as I type. The colour coding of the keys makes them easier to find.



Figure 2 : Coding Keyboard in Optikey



Figure 3 : Optikey Coding keyboard – Navigation and Shortcut Keys

To speed up further, I experimented with using a head switch to select a cell in the keyboard instead of using the eye gaze dwell functionality. This was very successful and also gave me the ability to do multiple key presses by holding down my switch while looking at what I am typing. There is also a customisable snippet function which inserts a template of a repeatable block of code, plus shortcut keys which access some of the VS-Code menu items such as copy and paste. This keyboard together with the head switch has been very successful at speeding up my coding and I hope it will be useful for speeding up my English language writing in the future too.

### Essential Support Staff at University

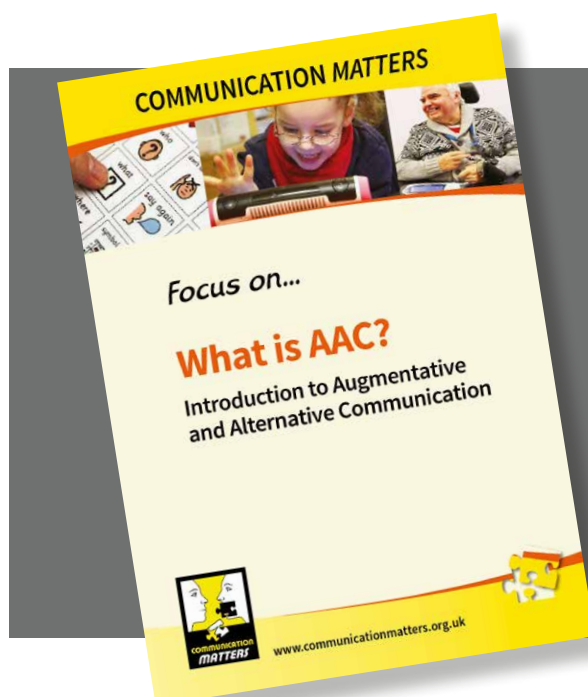
My talk wouldn't be complete if I didn't mention all the people who support me at university. These people are essential for me to be able to succeed:

- School of Computing Leadership & Administrative Staff
- Advisor of Studies
- Disability Services
- IT Support and Problem Solving
- Study Skills: English/Dyslexia Support
- Note Takers
- Study Support Workers

I am very grateful for all of these people at Dundee who have worked with me in these roles either as standard or via my Disabled Student Allowance. Students at other universities may find they need to advocate for more assistance if this help is not provided.

### Advice for Disabled Students Starting Their University Journey

- Find out if the university has an alternative access route if you don't have the standard secondary school qualifications and research what is needed to get on this access route.
- Don't be put off or discouraged when you start your course, as inevitably things will go wrong, and it will take time to get things right.
- Be determined and advocate for yourself and don't give up.
- Get your disability adjustments well defined and documented, and make sure staff understand and apply them appropriately.
- Talk with staff to ensure they understand your communication and any additional needs.
- Be prepared to educate others about your disability and communication needs.
- Have access to good AT/IT people for problem solving any technical issues.
- But most of all, follow your dreams and have fun!



## 'What is AAC?' Focus On leaflet

Please contact us on  
[admin@communicationmatters.org.uk](mailto:admin@communicationmatters.org.uk)  
to place an order.

CM is very happy to distribute these leaflets to spread awareness of AAC free of charge, but donations are always welcome!

# Dynamic AAC Goals Grid-3: Updates and Uses

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The Dynamic AAC Goals Grid has been a part of the repertoire of many clinicians providing AAC services since its initial publication in 2010. It supported systematic assessment (and reassessment), development of communicative skills across competencies, and effective goal writing. DAGG-2 (2014) added a means of tracking progress as well as more extensive instructions for use.

In the intervening years since publication of the DAGG and DAGG-2, the AAC community has seen new research and best practices, and DAGG users have shared feedback that would enhance the benefit of the tool. Clarke and the clinical team at Tobii Dynavox aimed to incorporate this content while not changing what has made the DAGG so popular since its inception.

- Developmental goals applicable across AAC tools
- Goals targeting linguistic, operational, social, and strategic competencies (Light, 1989)
- Goals addressing five communication ability levels from emergent to independent (expanded from the original three in Dowden, 2002)
- Tools to track progress

## DAGG-3

### Dynamic AAC Goals Grid Third Edition



Developed by Tobii Dynavox in conjunction with Vicki Clarke, MS, CCC-SLP (2023) based on the original DAGG created by Clarke and Schneider, 2009. Informed by the works of Patricia Dowden, PhD (1999), and Janice Light, PhD (1989, 2014).

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Name: \_\_\_\_\_ Language Spoken at Home: \_\_\_\_\_  
 Address: \_\_\_\_\_ Gender: \_\_\_\_\_ ID# \_\_\_\_\_  
 City: \_\_\_\_\_ Current Grade: \_\_\_\_\_  
 State: \_\_\_\_\_ Zip: \_\_\_\_\_ School/Agency: \_\_\_\_\_  
 Home Phone: \_\_\_\_\_ Examiner: \_\_\_\_\_

#### Progress Summary

Review Date: \_\_\_\_\_ Review Date: \_\_\_\_\_

Skills	Ability Level				
	Emergent	Emergent Transitional	Context Dependent	Transitional Independent	Independent
Linguistic	%	%	%	%	%
Operational	%	%	%	%	%
Social	%	%	%	%	%
Strategic	%	%	%	%	%

Skills	Ability Level				
	Emergent	Emergent Transitional	Context Dependent	Transitional Independent	Independent
Linguistic	%	%	%	%	%
Operational	%	%	%	%	%
Social	%	%	%	%	%
Strategic	%	%	%	%	%

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Among the revisions incorporated into DAGG-3, users will note improvements in readability of both goals and instructions as well as simplified descriptions of communication ability levels. Instructions have been separated from the DAGG-3's goals to increase usability of the tool overall.

Goals in the DAGG-3 have been added or modified to reflect Light & McNaughton's addition of the psychosocial competency in 2014 (just after DAGG-2 was published) and the importance of access and literacy for people who use AAC.

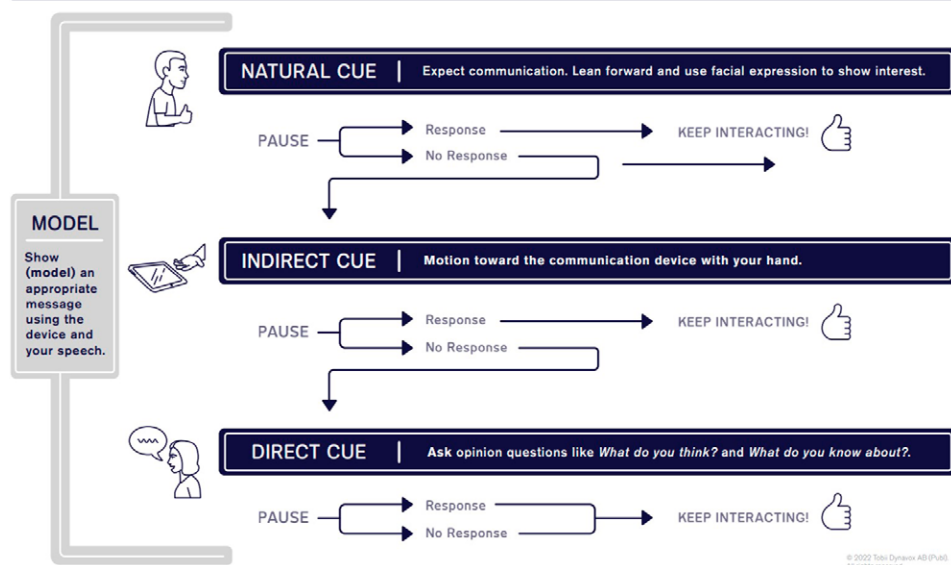
- Psychosocial skills are in parentheses after specific goals under the social competency.
- Access goals focusing on accuracy and efficiency appear in the operational section.
- Literacy skills, like psychosocial, are in parentheses but after pertinent goals in the linguistic section.

The goals in the DAGG-3 provide a way to move toward communicative competence, but we know that this progress can be incremental. Therefore, the DAGG has historically provided a way to document cueing required for each skill and a description of a cueing hierarchy. The original cueing hierarchy included physical assistance (hand-over-hand) which is no longer recommended by experts in the field. As a result, we have removed it from the chain of cues. Our revised cueing hierarchy depicted below maintains the importance of modeling. It remains a top-down approach offering the individual the opportunity to respond independently, then providing increasingly direct cues without ever requiring a specific response.

In addition to the modifications to DAGG-3, it offers new features to support the unique needs of each person. First, a table has been provided for personal goals such as those focusing on specific grammatical structures, Gestalt Language Processing goals, etc. Second, each goal has a link to a straightforward activity to target that particular goal. Some DAGG-3 users will not need such activities, but user testing indicated that some would benefit from input on where to start addressing goals.

## CHAIN OF CUES

Use this tool to encourage independence in all environments.



On the subject of input, the DAGG-3 has benefited from contributions from a variety of sources. It began with feedback on previous versions of the DAGG and continued throughout the development process of DAGG-3. Over 30 novice and expert professionals participated in testing of the DAGG-3, including SLTs and educators from the UK, US, and Europe, which we anticipate will make the DAGG-3 an even more useful tool for:

- Identifying your client's skills across competencies.
- Planning next steps in intervention.
- Highlighting competencies which are strengths and those requiring additional attention.
- Acknowledging long-term goals suggested by the team and the skills required to attain them.
- Understanding differences in skills across environments.
- Encouraging team unity in planning and carrying out intervention.

Download the DAGG-3 yourself as a writable PDF which can be used online (no printing needed) at <https://uk.tobiidynavox.com/products/dagg-3>.

## References

Clarke, V. & Tobii Dynavox (2014). DAGG2: Dynamic AAC Goals Grid and Planning Guide 2nd edition.

Dowden, P.A. & Cook, A. M. (2002). Selection Techniques for Individuals with Motor Impairments. In J. Reichle, D. Beukelman & J. Light (Eds.). *Implementing an Augmentative Communication System: Exemplary Strategies for Beginning Communicators*. Baltimore, MD. Brookes P. 395-432

Light, J. (1989). Toward a Definition of Communicative Competence for Individuals Using Augmentative and Alternative Communication Systems. *Augmentative and Alternative Communication*, 5, (2):137-144

Light, J., & McNaughton, D. (2014). Communicative competence for individuals who require augmentative and alternative communication: A new definition for a new era of communication? *AAC: Augmentative and Alternative Communication*, 30(1)

Schneider, H., & Clarke, V. (2010). The original DAGG. *Dynamic AAC Goals Grid and Planning Guide: Addressing Competence across Ability Levels*.

# The Route from Playful Interactions to AAC for Pupils with High Support Needs: Enabling the Development of Authentic and Spontaneous Communication

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## Introduction

Children with severe and complex needs experience communication challenges and require the opportunity to develop methods of communication that are alternative to speech. However, there are many barriers that impact upon the successful implementation and development of alternative and augmented communication (AAC) (Lorang et al, 2022). The majority of these barriers are related to communication partner skill and expertise, access to AAC resources and opportunities for authentic and meaningful communication embedded throughout the day. In practice, children are often taught to request for objects using symbols or signing during designated communication sessions and communication skills are often considered in isolation of all other developmental areas (Porter & Burkhart, 2010; Gevarter et al, 2021). By gathering evidence of children's learning and communication development over time, we documented a route from playful interactions to symbol-based AAC for pupils with high support needs that develops authentic, spontaneous communication that is generalised to different contexts and communication partners (Millward & Osman, 2022).

## The Route

This is a summary of the route the children take from responding to interactions initiated by others to being functional AAC users, accessing a personalised or commercial index-based communication system.

Pre-symbolic communication is split into pre-intentional and intentional communication - at the pre-intentional stage, responses are not intentional communication and will need to be interpreted and responded to by the adult and may be very subtle. As children develop, their communication becomes intentional. For example, vocalising purposefully for the interaction to continue or taking an adult's hands to indicate a particular action that they want repeated.

We then move from introducing single symbols to symbol boards to personalised communication books. Personalised books contain carefully selected and organised child-and setting-specific vocabulary to index-based commercial symbol-based communication systems giving access to much wider vocabulary.

As children progress through the levels, they will demonstrate increased communicative functions. For example from responding, to initiating to requesting, commenting and beyond. They will also have access to an increasing range of vocabulary. It is important that adults offer and model vocabulary one step ahead of where the child is currently working.

At any stage, access can be via any means - it might be a single symbol exchange, pointing, eye pointing, auditory scanning. Access should be selected to be the most accurate and efficient for the pupil.

Children can enter the route at any point, based on their current skills, but it is important that educators are modelling the next step. Some children may be at the earliest stages of pre-intentional communication; other children may begin by using symbol boards following an adult model. In order to do this, educators need to have options for all of the different communication methods available. The skillfulness of the adults is key and either inhibits or facilitates the children's communication development.

### Route to Functional Symbol-based Communication

Communication Strategy	Pre-symbolic Communication		Symbolic Communication			
	Pre-Intentional Communication	Intentional Communication	Single Symbols	Symbol Boards	Personalised Index-based Communication Books	Commercial Index-based Systems
<b>Communicative Functions</b>	<ul style="list-style-type: none"> <li>* Responding to interactions initiated by others</li> </ul>	<ul style="list-style-type: none"> <li>* Responding to,</li> <li>* Sustaining,</li> <li>* Controlling,</li> <li>* Initiating interactions</li> </ul>	<ul style="list-style-type: none"> <li>* Controlling interactions</li> <li>* Requesting 'more'</li> <li>* Request</li> <li>* Choose</li> <li>* Initiate</li> <li>* Persevere</li> </ul>	<ul style="list-style-type: none"> <li>* Extend symbol vocabulary - nouns, verbs, adjectives, other words</li> <li>* Request</li> <li>* Choose</li> <li>* Comment</li> <li>* Direct</li> </ul>	<ul style="list-style-type: none"> <li>* Extend core vocabulary - carefully chosen relevant to pupil + activities in the day</li> <li>* Further extend symbol vocabulary</li> <li>* Locate vocabulary using an index</li> <li>* Request, choose, comment, direct, label, answer questions, interact</li> </ul>	<ul style="list-style-type: none"> <li>* Full range of language functions available: request, choose, comment, direct, label, answer questions, interact, negotiate</li> <li>* Index-based access to a wide vocabulary</li> </ul>
<b>Learning outcomes through observations</b> (The Springboard Curriculum Assessment Framework)	<ul style="list-style-type: none"> <li>* Awareness</li> <li>* Facial expression</li> <li>* Body movement</li> <li>* Vocalisation</li> </ul>	<ul style="list-style-type: none"> <li>* Facial expression</li> <li>* Body movement</li> <li>* Vocalisation</li> <li>* Gesture</li> <li>* Action</li> </ul>	<ul style="list-style-type: none"> <li>* Cause and effect of communication (single symbol)</li> <li>* Discriminate</li> <li>* Early symbol vocabulary which can be used spontaneously - nouns, verbs, other words</li> </ul>	<ul style="list-style-type: none"> <li>* Discrimination of many symbols on one page</li> <li>* Using 1KWL expressively</li> <li>* Combining words to create 2, 3 or more KWL symbol phrases</li> </ul>	<ul style="list-style-type: none"> <li>* Locate vocabulary relevant to the activity</li> <li>* Discriminate many symbols on one page</li> <li>* Combining words to create 2, 3 or more KWL symbol phrases</li> </ul>	<ul style="list-style-type: none"> <li>* Locate vocabulary independently to build phrases</li> <li>* Combine words to create 2, 3 or more KWL symbol phrases</li> <li>* Access to a wide and increasing symbol vocabulary</li> </ul>
<b>What adults can do</b>	<ul style="list-style-type: none"> <li>* Create playful interactions based on knowledge of child</li> <li>* Burst-pause presentation</li> <li>* Interpret and act on subtle responses - positive and negative</li> </ul>	<ul style="list-style-type: none"> <li>* Create playful interaction based on knowledge of child and extend these</li> <li>* Burst pause presentation</li> <li>* Create opportunities for child to lead, control + initiate interactions</li> </ul>	<ul style="list-style-type: none"> <li>* Ensure appropriate symbols are available</li> <li>* Model single symbol use</li> <li>* Build up to discrimination from 2, 3, 4 when engaged in highly motivating interactions</li> </ul>	<ul style="list-style-type: none"> <li>* Ensure symbol boards are available and contain motivating/relevant vocabulary for the activity</li> <li>* Model symbol board use at the appropriate level for the child</li> <li>* Model combining words</li> </ul>	<ul style="list-style-type: none"> <li>* Ensure vocabulary is carefully chosen and organised based on child's interests and requirements of school day ie what language do they need access to</li> <li>* Model word location using index</li> <li>* Model combining words</li> </ul>	<ul style="list-style-type: none"> <li>* Model one step ahead of where the child is working ie expand phrases</li> <li>* Model vocabulary location</li> <li>* Model combining words, including when moving between grids</li> </ul>

**Access:** Exchange, pointing (with finger or whole hand), eye-pointing, auditory scanning - access needs to be efficient and the least effort for the pupil, whilst enabling communication to be as rapid and accurate as possible. The access method most appropriate for the child is used throughout this map.

### Playful Interactions

Play is a spontaneous, joyful activity which empowers children to actively explore, experiment and interact with their world (Bundy, 2002). Participating in play is a multi-sensory interaction with the physical and social environment.

We teach all communication via playful interactions. Starting with the child responding to, maintaining and then starting to lead and initiate these interactions. Symbolic communication is taught via these same playful interactions, enabling the child's increasing control, choice and independence within the interaction, from using body language/facial expression to putting symbols together using an index based system. Learning within the context of play and relationships is well documented in research. For example, interventions such as DIRFloortime, the SCERTS model and parent-mediated social communication therapy (PACT) recognise that increasing opportunities for children to engage in developmentally appropriate, responsive interactions with caregivers, therapists and educators have positive developmental effects. Positive developmental effects have been reported in relation to the type and frequency of play, social-emotional functioning, attention, joint engagement, regulation and expressive communication when learning occurs within the context of relationships (Pickles et al., 2016).

Creating high quality playful interactions that are occurring frequently throughout the day, provides the children with the intrinsic motivation to engage and communicate. As educators, creating mutually satisfying interactions (which are fun for both partners) makes it easier to keep doing it and provides the repetition that the children need to learn.

Therefore, the route to AAC starts by developing playful interactions and offering all children a symbol-based total communication environment.

### Carousel Play

Carousel play is part of the universal offer that enables us to provide children with the opportunity to develop a range of vocabulary within the context of motivating and meaningful activities. It is play-based intervention that provides a series of open-ended, developmentally appropriate play activities to develop curiosity, active and spontaneous participation, adaptive responses and social engagement. The activities remain the same throughout the week to increase the children's confidence in participating, to provide them with a range of learning opportunities and to support them to make choices, develop preferences and be in control of their actions and their environment. Educators follow the child's lead and use the child's interests to modify activities and model new ways to play and interact. Educators use their knowledge of individual children and their relationship with them to modify their interaction style to facilitate a child's engagement.

Tabletop and floor based carousel play activities offer sensory-motor opportunities categorised as messy, cause and effect, constructive and manipulative or loose parts play (Piaget, 2007). Floor-based activities include equipment that promotes tactile, proprioceptive and vestibular activity to support sensory integration development.

### Just-right Level of Challenge

Communication and interaction is a complex and dynamic relationship between a child and their environment. A child's communicative functioning fluctuates because of internal and external elements which facilitate or inhibit it. Educators create and



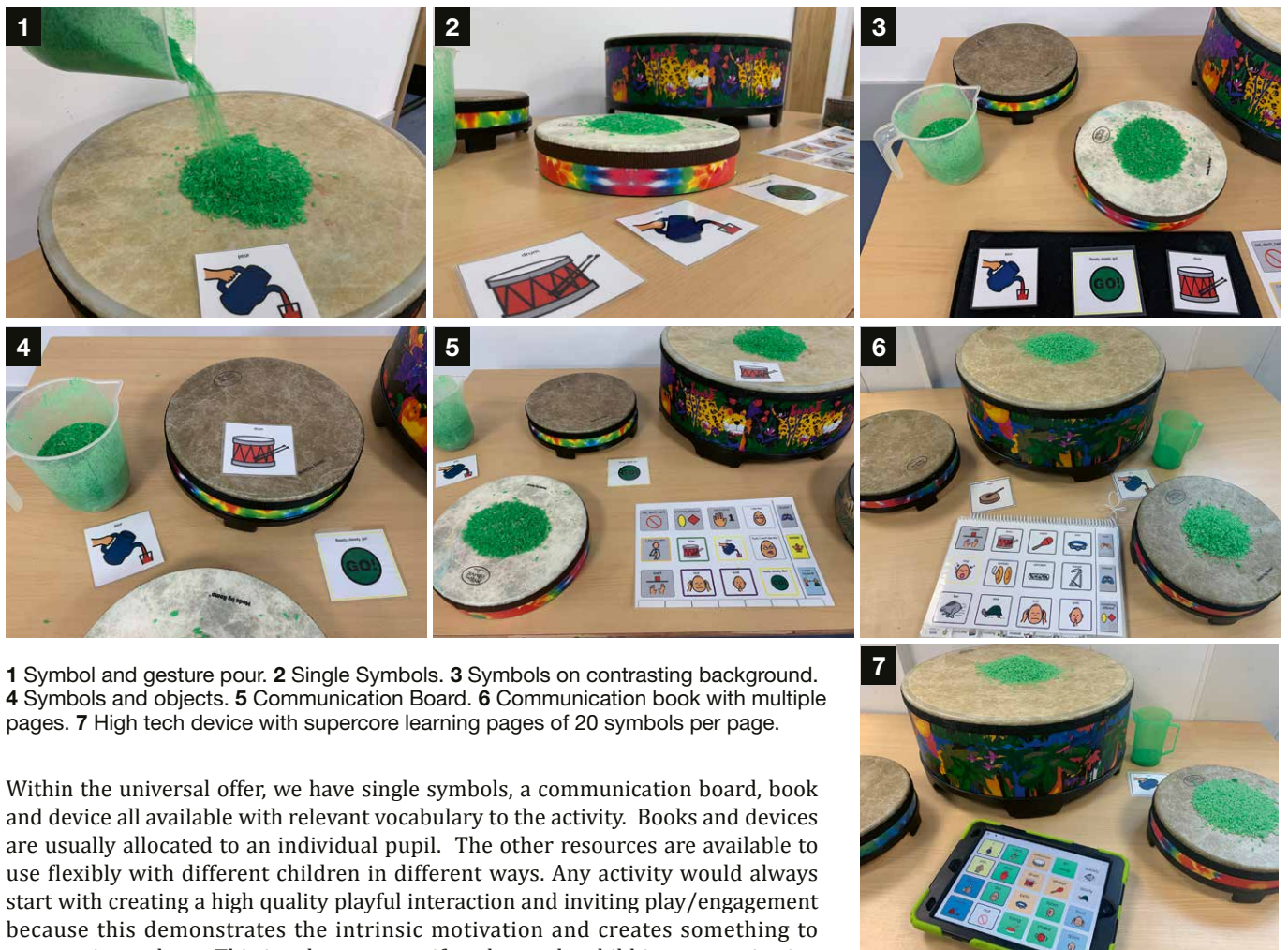
maintain the communication context for children with high support needs. They need to carefully plan activities, ensuring they are conducive to promoting and sustaining playfulness, engagement and therefore communication.

Optimal learning occurs when children are engaged in a socially supportive context (Vygotsky, 2016). Skill acquisition is facilitated when a supportive social environment scaffolds interactions that provide a child with a just-right level of challenge (Bundy, 2002; Vygotsky, 2016). Educators can adapt their interactions and make changes to the physical and social environment to build on a child's current level of development (Vygotsky, 2016).

Successful communication is rewarding and required to achieve, maintain and sustain interactions. The greater the frequency of back and forth communication, the more opportunities there are to practise and therefore learn and develop. Being just-right means that it is not too difficult and not too easy. It must be acknowledged that the "just-right" level of challenge will fluctuate during the day and by day depending on things such as fatigue, health, hunger, emotions, sensory regulation. We can make sure that an activity is pitched to the just-right level by making adaptations and accommodations in the moment of an activity or interaction. This includes being able to select the communication resources that will facilitate quick, responsive and successful interactions and ensure that they are modelled and available.

### Universal Communication Offer

Universal and personal communication resources are available throughout the day, alongside all activities. For example carousel play, physical activities, snack time, music, outdoor play, toileting and self-care. This enables communication to be developed throughout natural classroom activities. The robust "universal offer" is flexible, enabling educators to model and identify language which is meaningful and motivating to each pupil throughout every classroom activity.



1 Symbol and gesture pour. 2 Single Symbols. 3 Symbols on contrasting background. 4 Symbols and objects. 5 Communication Board. 6 Communication book with multiple pages. 7 High tech device with supercore learning pages of 20 symbols per page.

Within the universal offer, we have single symbols, a communication board, book and device all available with relevant vocabulary to the activity. Books and devices are usually allocated to an individual pupil. The other resources are available to use flexibly with different children in different ways. Any activity would always start with creating a high quality playful interaction and inviting play/engagement because this demonstrates the intrinsic motivation and creates something to communicate about. This is relevant, even if we know the child is communicating using symbols. Engagement comes first.

It is essential that we use information regarding a child's preferred communication method and access method to be modelling the appropriate next steps that supports their communication development.

These resources can be used in different ways with different children working at different levels in the moment of the activity. For example, if a child is not yet attending to symbols, an educator would pour the rice and hold up the pour symbol. If a child is learning to discriminate between 2 single symbols, the educator might first model the pour symbol, then do a few single symbol exchanges and then build up to discriminating between more than 1 symbol. If a child points to the more symbol on the communication board after several repetitions of pouring from a height, the adult models 'more pouring'.

These resources can all be used with differing access methods. For example, some children may exchange a symbol from a choice of 2, some may point to it, and others may eye-point to it. Access should be as efficient as possible. This means that it is the most accurate, fastest method for the individual which requires the least effort. This is particularly relevant for children with physical disabilities. Information regarding a child's preferred communication method is gathered which informs the implementation of individualised and comprehensive low or high tech systems.

We do not know the communicative potential of the pupils. Therefore, we ensure that a range of communication options are available so that we can be responsive to what the pupils demonstrate at any given time and model the next step in their development.

### Case Study

Ella (pseudonym) is autistic and has a diagnosis of global developmental delay. She is non-verbal and has high support needs. Ella was 3 years old when she started attending a preschool for children with special educational needs. She was reliant on others interpreting her non-verbal communication.

At the preschool, Ella engaged daily in a play-based curriculum with educators who took on the role of playful interaction partners. Ella's educators knew her current level of learning across all curriculum areas. They planned motivating and open-ended play opportunities which they could adapt to inspire playful interactions.

As Ella's play interests increased, she had more things to communicate about. During play activities, single symbols and symbol boards were available with vocabulary that was meaningful to each activity. This included verbs, nouns and prepositions. Educators modelled communicating with symbols. Ella learnt to exchange a single symbol in a range of motivating activities and then learnt to discriminate between symbols. From here, she learned to point (with her thumb) and generalised her knowledge of symbols to using a symbol board to make requests, choices and control activities, using a range of nouns and verbs appropriately.

Ella then progressed to using a personalised communication book. By the time she left the pre-school, Ella could search through a book to locate relevant vocabulary for the activity and was beginning to put 2 symbols together to make requests, choices and control activities. Ella was resourceful and would communicate using different communication systems interchangeably. This case study demonstrates how she learnt during authentic and spontaneous interactions with skilful educators modelling motivating and meaningful language at the right time.

### Conclusion

Progression through the route from playful interactions to AAC is dependent on highly skilled educators creating playful interactions and offering skilled support to create the 'just-right' level of challenge for each pupil in the moment and across a range of activities (Weisberg et al, 2013; Millward and Osman, 2020). To create the just-right level of challenge, it is essential to understand the child's current communication, cognitive, physical and sensory and personal, social and emotional development (Millward and Osman, 2022). Having a strong universal communication offer and a clear but flexible route that facilitates communication development within the context of meaningful and authentic playful interactions enables educators to support children to reach their potential.

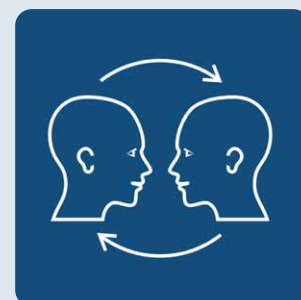
### References

- Bundy, A. C. (2002). Play theory and sensory integration. In Bundy, A., Lane, S. & Murray, E. (Eds.) *Sensory integration: Theory and practice* (second edition., pp. 227–240). F. A. Davis.
- Gevarter, C., Groll, M., Stone, E. & Medina Najjar, A. (2021). A parent-implemented embedded AAC intervention for teaching navigational requests and other communicative functions to children with Autism spectrum disorder, *Augmentative and Alternative Communication*, 37:3, 180-193, DOI: <https://doi.org/10.1080/07434618.2021.1946846>
- Lorang, E., Maltman, N., Venker, C., Eith A. & Sterling, A. (2022) Speech-language pathologists' practices in augmentative and alternative communication during early intervention, *Augmentative and Alternative Communication*, 38:1, 41-52, DOI: <https://doi.org/10.1080/07434618.2022.2046853>
- Millward, C. & Osman, L. (2020). The Springboard Curriculum. Inclusive special education in the early years foundation stage and key stage 1. A framework for integrating therapy and education. <https://thespringboard.gumroad.com/>
- Millward, C. & Osman, L. (2022). The Springboard Curriculum: Assessment Framework. <https://thespringboard.gumroad.com/>
- Piaget, J. (2007). *Play, Dreams and Imitation in Childhood*. Routledge. (Original work published 1951)
- Pickles, A., Le Couteur, A., Leadbitter, K., Salomone, E., Cole-Fletcher, R., Tobin, H., Gammer, I., Lowry, J., Vamvakas, G., Byford, S., Aldred, C., Slonims, V., McConachie, H., Howlin, P., Parr, J. R., Charman, T., & Green, J. (2016). Parent mediated social communication therapy for young children with autism (PACT): Long-term follow-up of a randomised controlled trial. *The Lancet (British Edition)*, 388(10059), 2501–2509. [https://doi.org/10.1016/S0140-6736\(16\)31229-6](https://doi.org/10.1016/S0140-6736(16)31229-6)
- Porter, G. & Burkhart, L. (2010). Limitations with using a representational hierarchy approach for language learning.
- Vygotsky, L. S (2016). Play and its role in the mental development of the child. *International Research in Early Childhood Education*, 7(2), 3–. (Original work published 1966). <https://files.eric.ed.gov/fulltext/EJ1138861.pdf>
- Weisberg, D. S., Hirsh-Pasek, K., & Golinkoff, R. M. (2013). Guided play: Where curricular goals meet a playful pedagogy. *Mind, Brain and Education*, 7(2), 104–112. <https://doi.org/10.1111/mbe.12015>

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# Let's Talk About Mental Health and AAC

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## Introduction

It is increasingly acceptable to talk about our mental health and wellbeing. Asking someone "How are you doing?" goes beyond just physical health. We can talk more openly about our identities and the many aspects within it – sexuality, gender, race, and more. Acknowledging and accepting one's own identity is critical to positive mental health.

But what vocabulary around mental health is available to symbol AAC users, and what opportunities are there to use it? We ran a workshop at Communication Matters Conference 2023 to explore this and related issues.

During the workshop, there were many different thoughts and ideas shared, and thought-provoking discussions which we will outline within this article.

## Why talk about mental health?

Adults with disabilities report experiencing mental distress almost five times as often as adults without disabilities [1] and more specifically, individuals with complex communication needs (CCN) have much higher rates of mental health difficulties [2]. In some cases, it may be as high as 50% of those individuals [3]. It must also be acknowledged that we are all at risk of mental health challenges as humans and that having a disability is adding to a pre-existing risk.

## Why are AAC users at a higher risk?

There are many reasons why someone who uses AAC is at a higher risk of mental health challenges. Firstly, certain conditions leading someone to use AAC are more likely to be accompanied by anxiety, such as Rett Syndrome [4] or autism [5]. Secondly, people with CCN may face discrimination and ableism, may find it harder to form and maintain relationships and may lack trusted and skilled communication partners they can talk to about their mental health [2]. Thirdly, people with disabilities are more likely to experience abuse [6, 7].

## What about the people around the AAC user?

Professionals working with people with communication difficulties say they lack confidence and skills to identify mental health difficulties [8], and similarly, specialists in mental health are unlikely to have experience of working with individuals using AAC. Furthermore, the tools used by professionals to diagnose mental health difficulties and provide support for them rely heavily on the use of language and may refer to abstract concepts which are unfamiliar to someone with CCN.

A recent article by Watson, Raghavendra, and Crocker (2021) concluded that the factors which helped or hindered AAC users in getting help with their mental health and wellbeing related mainly to the skills, attitudes and support they received from their communication partners. Whilst this adds a lot of responsibility to communication partners, it also highlights where we can affect the greatest change. People supporting a symbol AAC user must not be gatekeepers to the vocabulary needed to talk about mental health, and it should not simply be provided at times of mental health crisis.



## The workshop

At CM 2023, a workshop was conducted to explore how to best support AAC users to discuss their mental and psychological health, exploring the following discussion points:

1. What vocabulary do AAC users need to talk about mental health?
2. When and how should vocabulary be introduced?
3. How can AAC vocabularies be used to support positive mental health and engage in therapy?

The rest of this article reflects the contributions of those who attended the workshop as well as further discussions at the conference. Many recommendations were explored, and these are described below.

### What vocabulary do AAC users need to talk about mental health?

It was immediately recognised that the language in AAC vocabularies must go beyond words like “happy” and “sad”, instead providing a range of emotions. Language around what different emotions physically feel like would be useful to help AAC users recognise and discuss their emotional states. Offering users opportunities and language to talk about *why* they are feeling a certain way was seen as good practice. This could include giving access to vocabulary to talk about major life events, health, and bereavement. Interestingly, it was observed that everyday language and conversation can change in response to societal traumas, such as global pandemics or large-scale natural disaster, and we should be updating vocabularies to reflect this. Additionally, the importance of storytelling was highlighted, both in terms of teaching the skill of telling personal and shared narratives and making sure the relevant vocabulary is available to do this.

Presenting this vocabulary in an accessible way was thought to be beneficial not just to AAC users, but also their peers. Feedback suggested that when asking all pupils in a class how they were feeling, using intuitive stimuli such as short animations like Symoji, all members of the class engaged well. Building this into the daily routine could ensure that AAC users are getting regular opportunities to explore language related to emotions and mental health. It was argued that AAC vocabulary should enable someone to discuss not just their own feelings and mental states, but also those of the people around them.

Providing time markers and comparative language such as ‘better’ and ‘worse’ were also deemed important, so that an AAC user could discuss the change of feelings over time. For example, to say “I feel better today” or “I was ok but now I feel worse”. There must also be the capacity to say, “I’m not ok, but I’m coping” or “I’m not okay but I just need some space”, to promote self-advocacy, autonomy and ownership over one’s feelings and coping, leading to improved resilience. This would also be useful when accessing counselling or therapy sessions, in addition to other more specific therapeutic vocabulary which might need to be added and tailored to the individual.

Vocabulary needs to be easily accessible, because we know that finding language can be harder when experiencing mental health crises. An AAC user must also be able to make it clear when communication is intentional versus exploratory or humorous. This is fundamental to safeguarding as users must know that the right vocabulary is available and safe to use if making a disclosure. There should be an option to request to talk to someone different as well as language to encourage self-advocacy.

### When and how should vocabulary be introduced?

The second question explored within the session focused on when and how all the above vocabulary could be introduced. It was widely viewed that more education on mental health – both positive and adverse – was needed, not just in a time of crisis, but pre-taught, pre-learned and integrated into daily conversations and routines. To support someone in crisis, it was felt that a plan of action should have been discussed and consented to before it was required. This could include resources such as a mental health training kit/resources alongside vocabulary, and a plan of how to introduce such themes, when and by whom.

Further to this point of community support, it was suggested that mental health vocabulary should be made available to peers as well as AAC users to promote shared understanding. In this way, an AAC user could then be supported themselves but also support others – meaning it will not just be AAC users who will benefit from the vocabulary, but their community too.

How would we design the vocabulary then? We explored the idea of creating in community, using research and evidence, asking users what they wanted, and including elements of each in the resulting vocabulary set. We then extended the conversation to consider the access needs of users – how would we organise the vocabulary? How could we explore concepts of witnessing versus experiencing? What about tenses – recent or past? Electronic AAC, paper-based or both? This summarises just some of the points to consider in attempting to address this multi-faceted question.

And finally, the conversation moved to consider that discussing mental health can be triggering and may stir up memories and feelings that are deep rooted. Furthermore, this could lead to new disclosures and previously uncommunicated trauma. How would this be supported?

### How can AAC vocabularies be used to support positive mental health and engage in therapy?

The final question focused on supporting AAC users to access mental health services if needed, which raised many important points. The need for consulting with AAC users in the plan for their therapy is paramount. The suggestions below may not be suitable for all individuals, and a one-size-fits all approach is not likely to be successful.

The importance of support and training for mental health professionals with limited to no experience of working with AAC users was highlighted. An example was shared within the workshop of an AAC user working closely with a psychology service to do exactly this.

Similarly, AAC specialists may not have knowledge or expertise in supporting mental health. Collaborative working across services such as psychology and speech and language therapy was suggested to address this, although a disparity in availability of services across ages and geography was noted.

Collaborative therapy sessions including an AAC user, therapist and communication partner could be offered as a solution to support communication needs, though this may not always be appropriate. For example, if an AAC user wishes to discuss personal issues, they may not want to do this with their communication partner present.

Multi-disciplinary working could allow for the sharing of existing resources such as The Feeling Down Guide [9] and the creation of additional shared mental health and communication resources. The need for vocabulary around alternative therapies was also suggested, to not only choose the preferred type of therapy, such as art or music, but also the vocabulary to access it.

Resources to support communication within counselling and therapy sessions may even be beneficial beyond the AAC community, as mental health challenges can often make communication more challenging for anyone.

Beyond the content of a therapy session, simple practicalities such as session time and location could have a significant impact on outcomes. For example, the need for longer therapy sessions to provide AAC users more time and the need for an accessible therapy space.

### Final thoughts

The workshop provided a platform for an engaged and thoughtful conversation - both during and following the presentation. It was encouraging to hear people's enthusiasm for this topic, with many individuals wishing to continue the conversation beyond the workshop. Additionally, a number of professionals described their plans for change, such as introducing mental health vocabulary from the earliest point in an AAC users' journey, to finding more regular opportunities to discuss wellbeing. In summary, there is much that we can do as an AAC community to support positive mental health and we look forward to continuing this discussion.

### References

- Centres for Disease Control and Prevention. (2020). The Mental Health of People with Disabilities. <https://www.cdc.gov/ncbddd/disabilityandhealth/features/mental-health-for-all.html> Accessed 22/08/2023
- Watson, E., Raghavendra, P., & Crocker, R. (2021). Mental health matters: a pilot study exploring the experiences and perspectives of individuals with complex communication needs. *Augmentative and Alternative Communication*, 37(2), 1–11.
- The Australian Institute of Health and Welfare. (2016). Health status and risk factors of Australians with disability 2007–2008 and 2011–2012. Canberra: AIHW.
- Buchanan, C. B., Stallworth, J. L., Joy, A. E. et al. (2022) 'Anxiety-like behavior and anxiolytic treatment in the Rett syndrome natural history study', *Journal of Neurodevelopmental Disorders*, 14(1), pp. 1–11. doi: 10.1186/s11689-022-09432-2.
- Bradley, E. A., Summers, J. A., Wood, H. L., & Bryson, S. E. (2004). Comparing rates of psychiatric and behavior disorders in adolescents and young adults with severe intellectual disability with and without autism. *Journal of autism and developmental disorders*, 34(2), 151–161.
- Public Health England (2015) Disability and domestic abuse: Risks, impacts and response. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/480942/Disability\\_and\\_domestic\\_abuse\\_topic\\_overview\\_FINAL.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/480942/Disability_and_domestic_abuse_topic_overview_FINAL.pdf) Accessed 22/08/2023
- Ottmann, G. et al. (2017) 'Barriers and Enablers to Safeguarding Children and Adults within a Disability Services Context: Insights from an Australian Delphi Study', *Social Policy & Administration*, 51(3), pp. 488–510.
- Fergusson, A., Howley, M., & Rose, R. (2008). Responding to the Mental Health Needs of Young People with Profound and Multiple Learning Disabilities and Autistic Spectrum Disorders: Issues & Challenges. *Mental Health and Learning Disabilities Research and Practice*, 5, 240–251.
- Foundation for People with Learning Disabilities (2014). Feeling Down: Looking After My Mental Health: an easy read guide for people with learning disabilities. Available at: <https://www.mentalhealth.org.uk/sites/default/files/feeling-downguide.pdf>

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# Foundations for Supporting Adult AAC Users with Progressive Conditions

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Adult augmentative and alternative communication (AAC) users with progressive medical conditions have important access and communication goals that need to be considered throughout their AAC assessment and implementation journey. This article is based on my professional experience working as an occupational therapy assistant within an interdisciplinary assistive technology (AT) and AAC service, and is written with a focus on device access, communication methods and engagement in meaningful activities.

New adult AAC users who have progressive conditions are a unique user group as they often come with many years of experience using computer-based technology in their daily lives. They are familiar with specific operating systems, software, apps and digital tasks. For them, communication is often more layered than face-to-face interactions alone. They may use texting, FaceTime, social media and email as means of communicating and staying connected to their loved ones. When assessing and implementing AAC with this population, it is important to consider access method, operating system, and software.

An access method is the way that the AAC user interacts with their device. This could be using their finger to operate a touchscreen, or it could be using an alternative access method. Alternative access methods are used when an AAC user is not able to use the standard access method. Typically, when we think of computers, keyboard and mouse is the access method, and for our phones and tablets, we use our finger on the touchscreen. People with progressive conditions often start by using the standard access method because it is familiar, easily accessible and the most intuitive. However, as their condition progresses, it may affect their hand function making these standard access methods increasingly difficult. They may struggle with accuracy or become quickly fatigued. This can lead to frustration and abandonment of technology. They may stop doing things they enjoy like reading the news, playing games, using social media or messaging in order to conserve energy for their highest priority task, which may be face to face communication or something else. Often by the time these clients get assessed, they have already reduced their technology usage due to access difficulties. Explaining and offering a trial of alternative access methods, even if not yet needed can help relieve worry about not being able to use a device in the future.

Alternative access methods include:

**Touch:** Using the touch screen of a device with the aid of a stylus. If needed, the stylus can be built-up to make it easier to hold, or a universal cuff can be used.

**Mouse:** Controlling the mouse cursor on the screen of the device. There are many adaptive mouse options including trackpad, joystick, trackball, foot mouse and head mouse. You can click the mouse using a button (switch) or dwell (hovering the mouse over a button for a pre-set time).

**Switch scanning:** Using switch(es) to highlight and select buttons on the screen. Switches come in different shapes, sizes, and sensitivity. It is possible to position the switch next to any body part that has consistent and reliable movement (ex: hand, shoulder, foot, knee, chin, head). Pressing the switch will highlight or activate the highlighted button. It is possible to add auditory feedback to support people with low vision.

**Eye gaze:** Controlling the mouse cursor using eye movements. Look and hold your gaze on a button to select it. The button can be selected using dwell (looking at the button for a pre-set amount of time) or by activating a switch.

Operating systems are the set of programs that control the way a computer works. Common operating systems include Windows, Mac, iOS/iPadOS and Android. A unique part of working with this population is that they have many years of experience using a computer and smart phone to communicate. They will be more familiar with certain operating systems and have developed their own preferences that allow them to achieve their goals.

When working with this population it is important to reflect on our own biases with technology. It is normal to develop our own preferences for the technology we use, for example, choosing an Android or Apple phone. But we must ensure we do not let our preferences affect our recommendations for clients. With the latest advancements in the AT and AAC industry, it is now possible to use most access methods across the most common operating systems, Windows and iPadOS (Apple).

Due to the nature of progressive conditions, we must be prepared to support changing function. It is no secret that change is very difficult. People with progressive conditions are coping with constant change. This change affects not only their ability to communicate, but also can affect their mobility, speech, swallowing, sensation, vision, etc. This means that it will be necessary to monitor and adapt as the AAC user's function changes. These functional changes may change their AAC goals as well as their access method. For example, they may no longer be understood on the phone and now have a goal of using AAC to assist them during phone calls. They may only be able to type on their iPad for 1 minute before their arm fatigues and they need to take a break and have the goal of being able to communicate longer phrases to those around them.

Because of this multitude of change in all areas of their life, it is very important to work collaboratively as a team to minimize the amount of change needed with their AAC solution. Imagine, having recently lost the ability to use your arms, you have now been assessed for eye gaze access. You are familiar with using your iPhone for everything, including communication, iMessage, mobile banking and emails. Yet, you have been given a Windows based eye gaze device. This is a different operating system, different access method and different software than what you were using on your phone requiring new learning and adaptations. Both of which are very stressful. If you want to continue, you must learn new ways of sending messages, emails and using online banking, on top of learning eye gaze and new AAC software. In this example, the amount of change could be reduced by trialing an iPad based eye gaze solution which may have a different communication software (app) and a different access method (eye gaze), however the operating system and apps like iMessage, mobile banking and email remain the same.

Below is a list of important features to consider in an AAC system:

- Reliable- does not require ongoing support and maintenance
- Flexible – able to be used in many environments
- Intuitive – do tasks in a familiar way to the client
- Adaptable – able to be used for many tasks

The best solution depends on the individual user's goals and priorities. Here are some questions you can ask your client:

- What operating system are you used to? Do you have a preference?
- What do you currently use your device (phone/tablet/computer) for?
- Are there functions or activities for which you used it which you can no longer do?

As part of the assessment and trial process, offer choices to your clients. This ensures a client centered approach that is goal directed and allows for informed decision making. There is a lot to stay up to date on in this area. It can be overwhelming. It is impossible to know it all. Here are some ways to help manage this:

- Collaborate with your colleagues
- Attend learning opportunities
- Rely on suppliers for product specific knowledge
- Learn from your clients and AAC user community
- Learn together with your clients

By offering different options to help your clients achieve their goals, they will need less long-term support. Remember there is no one size fits all because we all communicate differently.

## Sign up to Communication Matters E-News

Receive **Communication Matters News** by email and join our **AAC Forum** to share your views and experiences on important AAC topics or read about other people's by emailing [admin@communicationmatters.org.uk](mailto:admin@communicationmatters.org.uk) at any time.



# 1Voice Discussion: How the Charity Has Approached Regional Branches and Community Events for AAC Users in 2023

## DOMINIC CARROLL

Trustee, 1Voice (on behalf of the 1Voice Charity Trustees)

Email: events@1voice.info



*1Voice is a UK charity that creates opportunities to bring together children and adults who use augmentative and alternative communication (AAC) and people important to them (family/PAs/supporters) to share ideas, information, skills, and personal experiences. 1Voice connects members through online events, annual residential events, and local branch activities. The charity aims to increase public awareness of AAC through newsletters and online activities, including its website and social media.*

Connecting AAC users and their families in supportive networks is at the heart of what 1Voice does. In 2023 our focus was:

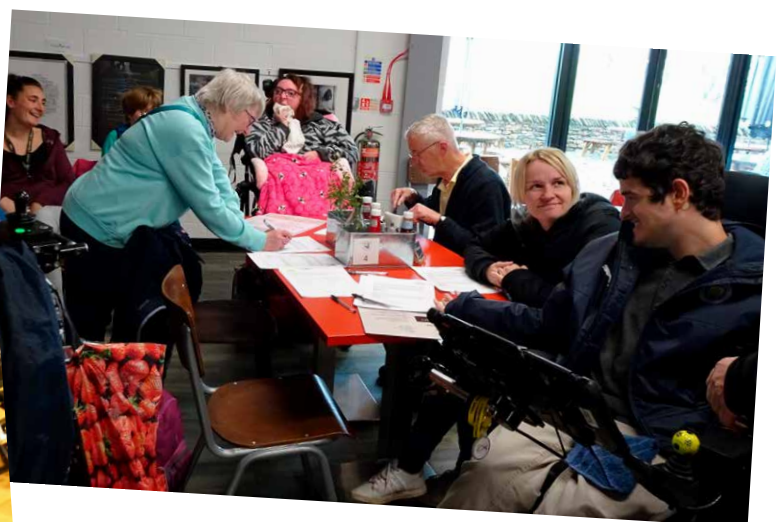
- building up AAC-led local networks - whether that be local meets or establishing regional branches;
- connecting with more families and offering members more opportunities to get together face-to-face, online, and in person;
- supporting the development of our role model project via regional branches.

Lots of people know 1Voice for our National Residential Weekend - but did you know we do more than that? We also have 1Voice Role Models and Regional social events.

Feedback and interest early this year led us to focus initially on the following areas:

- **Lakes & Bay** (which regularly has socials throughout the year.)
- **Lancashire** (which has had socials in the past, but not currently.)
- **Yorkshire & North East** (our first meeting was on 20th May 2023 at York Leisure Centre.)
- **Bedfordshire & Buckinghamshire** (coming soon!)
- **North West**
- **London & South East**
- **South West**

...and you can help us!



## CM 2023 Workshop

At Communication Matters this year, we were pleased to meet with some families and professionals who are already running social events, are interested in setting up some more and starting a discussion about 1Voice events. We look forward to working with them in the future.

Sign up to the [1Voice members list](#) or keep your eye on our [website](#) for more information.

### Would you like to set up a 1Voice Regional Branch?

**Lakes and Bay** is our most successful model, having run for 22 years, but isn't the only way. It is important to recognise that the shape of each group will develop organically, based on the needs and aims of the members.

We think that a good core of a group starts with an AAC user, a family member/parent, and a professional, such as an SLT, but that might work differently for each group.

Our trustees are based all over the country, so get in touch and see if there's anybody nearby, if you'd like us to be more directly involved.

### Challenges

Running regular social events has some obstacles to overcome:

- **Finding venues:** We're always looking for suggestions for accessible venues, with Changing Places bathrooms. This is often the main limiting factor, so we'd encourage you to contact us with any ideas for venues, or to ask us if we know of accessible venues that you can host events in.
- **Maintaining momentum:** Socials are usually driven by a small core of people, willing to meet regularly and to contact local families. Often groups start with good intentions and lose momentum. Booking in a run of dates at the start of the year can help with this, so people have always got something to look forward to.
- **Communication:** It can be tricky communicating between families, and even between groups. We're happy to help with this and can put individuals in touch with each other and amplify your events and requests. The CM Friday Bulletin is also a great place to do this.

### Role Models

1Voice role models help provide examples of what's possible for AAC users and their families. We'd like to encourage them to get involved with regional socials by:

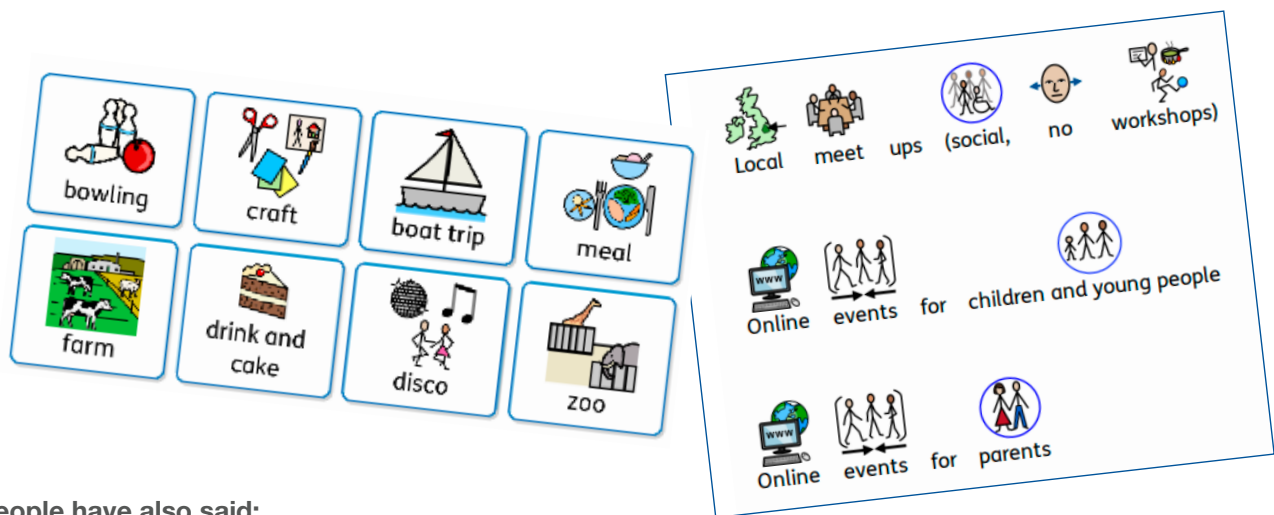
- helping organise events;
- building more formal "Buddy" relationships through face-to-face socials and online meets;
- opportunities to develop public speaking roles, by giving talks to other families about the challenges and opportunities they have encountered, or just about the things they enjoy!

### Impact

At the National Residential Weekend 2023, some of our families spoke with us, aided by filmmaker Howard Vause. Here's what they had to say:

- Link 1 (On 1Voice): <https://youtu.be/7Y4jOwwEHsw>
- Link 2 (On Regional Events): <https://youtu.be/kKAW7kf9aGI>





### People have also said:

- “A good opportunity to socialise”
- “Gives me more opportunities to meet and chat with other AAC users”
- “Social family network. Adds a focus to our lives and is a font of knowledge for everyone in the group”
- “For (my child) to see there is a whole world of AAC and wheelchair users doing both ordinary and amazing things”
- “Would like local events at a local level, local content that build our own communities”
- “The whole experience of knowing we are not alone”

### Why Local Events are Different (and we think important)

While traveling to a larger national event is great, our members talk about it being a highlight in their calendar and having to wait all year is not ideal. For example, more regular opportunities to get together can support sustained connections and help members form closer relationships more quickly. Additionally as learning to use AAC can be so demanding, it increases the number of instances AAC users are in a supportive community where they are given time and opportunity to communicate.

There is also the benefit of local knowledge - regional AAC provision and support is often described as a “postcode lottery”, therefore it is useful to have contact with other families with more local knowledge - whether that is local knowledge about accessible places, clubs, venues, or knowledge of local AAC support services or education systems.

Local events appeal to those people who are unable to attend national events for a variety of reasons, including:

- Distance to travel
- Time available
- Cost
- Feeling it could be ‘too much’ to attend a national weekend event

Local events have the potential to appeal to a broader range of people:

- People who are just starting their AAC journey
- People who are less confident in their use of AAC
- People who prefer fewer people and less structured activities

### So, What’s Next?

We’re keen to see many more 1Voice social events in the future. As we grow as an organisation, we must think carefully about what shape those socials have. We recognise the value of the national residential weekend, but venues that can support large numbers of families with additional needs are rare, which ultimately involves limiting numbers. There is a balance to be found between encouraging new families to get involved, and celebrating those existing relationships that we have built over the years - we want to be open to all AAC users and their families, and help them build their own valuable friendships with others in the community.

Given this, we want feedback from our members and the wider community about how best to approach this balance. Some of the questions that we are considering include:

- Should the National Residential Weekend focus primarily on new families and provide social opportunities for existing members through regional events?
- Should we have a National Residential Weekend at all? Would our efforts be better spent focusing on smaller social events throughout the country?
- If we continue with hosting the 1Voice National Residential Weekend, what should that look like? Where should it take place?
- What groups for AAC users are running already, so that we can amplify the voices of pre-existing networks and support other organisations?
- How best can we support social events to be self-sustaining, and keep momentum? What works?



## Helpful Tips if You're Interested in Setting Up a 1Voice Social Group:

You can run 1Voice events! Here are ways that you can make that easier:

- **Get in touch with us!** You can email us at [events@1voice.info](mailto:events@1voice.info) if you're interested in setting up a 1Voice social or getting involved with any of the regional networks we already have. We can use our networks to spread the word!
- **Join up.** If you're not already a 1Voice member, sign up with us. It's free, and a great way of getting in touch with other AAC users and their families.
- **Keep it simple** to start with – meeting for a coffee and a chat is fine.
- **Don't worry about numbers.** Don't despair if you have twenty people one time and then three the next – if it is helpful for those three, that's fine.
- **It doesn't need to cost.** It does not need to cost much or even any money - if you go bowling or out for a meal people tend to be happy to buy their own. (If you need help with startup costs, get in touch - 1Voice may be able to help you fundraise for events.)
- **It doesn't even need to be local.** Don't worry about geographical boundaries – it is fine if people come to multiple groups, and some families may include a 1Voice social as part of visits to extended family.
- **Get families to spread the word** - we also have our website & email lists to help you.
- **Be welcoming** to anyone using any type of AAC, at whatever level - or even if they are not using it yet but are likely to soon - one member came to local events for several years before they started using a formal AAC system.

You can contact us at [events@1voice.info](mailto:events@1voice.info) if you'd like more information about 1Voice. We're always happy to hear from you.



# CM International AAC Conference 2024

## CALL FOR PAPERS



You are invited to contribute to the  
**Communication Matters 2024 International AAC Conference**  
 (8–10 September, University of Leeds)

We have three topic areas for your presentations:

**Best Research Evidence**  
**Clinical and Professional Service Delivery**  
**Personal Stories and Preferences**

Papers can be submitted as either a **Platform** presentation (45-minutes), **Workshop** presentation (45-minutes), a **Poster**, or a **Lightning Talk** (6.25 minutes or 12.5 minutes for AAC users).

The deadline for submissions is **19 April 2024**.

Further information can be found on our website: <https://bit.ly/cm2024callforpapers>



# Talking to Teachers: Guidance for Speech and Language Therapists Working with Teachers to Implement Better AAC

**JOSEPH O. DORAN**

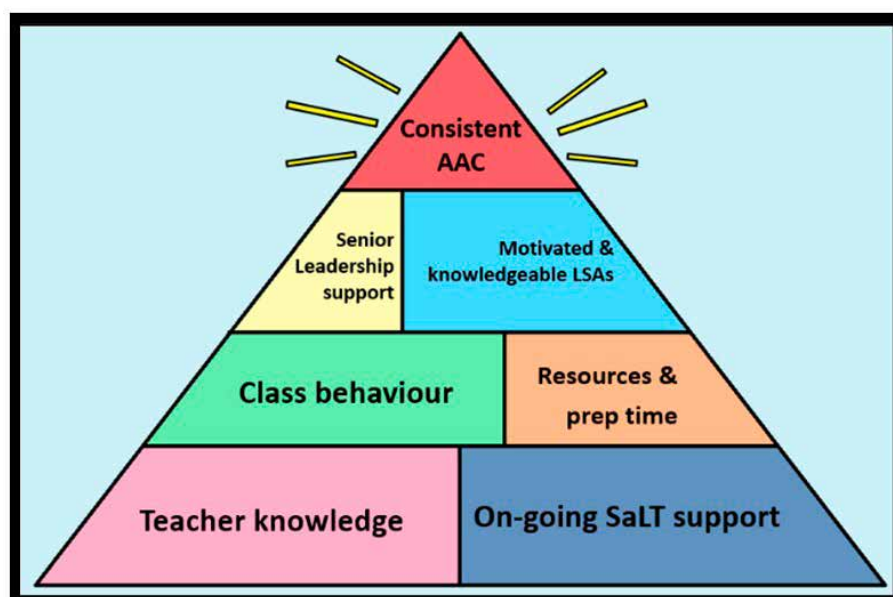
AAC Consultant, Ace Centre

Email: [jdoran@acecentre.org.uk](mailto:jdoran@acecentre.org.uk)

It is a recurring issue that speech and language therapists across the country face: how to implement up-to-date, effective AAC in schools? Armed with specialist knowledge and determined to ensure better practice, speech therapists nonetheless continually run up against the same barrier: the teachers. These professionals, who should be as motivated as the therapists who guide them, frequently seem reluctant to follow said guidance, even though what is being offered would set their pupils on a path towards better communication for the rest of their lives. Why is this?

At time of writing, I work for Ace Centre as an AAC Consultant, working with dozens of speech therapists across the Northwest of England to provide eligible young people with high-tech communication aids. Before that, I did a similar job for the Communication Aid Service East of England (CASEE). I like to think these two roles have given me a degree of oversight as to the nature of the abovementioned problem. Crucially, however, before either of these positions I was a special school teacher. More crucially still, I was the teacher who mainly did PECS with my pupils (even if it wasn't right for them), ignored pupils' Core & Fringe books because I thought they were too complicated, listened to my speech therapist's advice but rarely implemented it fully, and set communication targets around completing discrete activities, rather than thinking about long term skills.

I frequently reflect back on my practice as a teacher. It informs how I interact with teachers now. The most important question I ask is "why was I like that?". I wasn't trying to fall short of meeting my pupils' needs. In reality, my outdated practices were a result of my not knowing better and other pressures preventing me from wanting to try anything new. What follows is my advice to speech therapists, based on my experiences now and in the past, on how to get through to teachers, to speak their language as it were, and in doing so cut through the haze of complexities and outdated assumptions that prevents them from implementing better AAC in their classrooms. This advice will not make things easy, but it is my hope that it will at least give speech therapists the best possible chance of making a difference.



Before we can decide how to act, we must first appreciate the nature of the challenge before us. Consider the above diagram. This is the best representation I have been able to devise as to what exactly it takes to ensure good AAC practice in a single classroom. On the first level, the class teacher must be armed with the appropriate AAC knowledge and will require a continual “topping up” of this knowledge from a more experienced speech therapist. These are the two elements of the pyramid you can reliably control. Once we get to the higher levels, matters become more complicated. Unless you are going to commit to producing all of the low-tech AAC resources required and to the programming of high-tech resources, then this burden will have to fall to the already overworked teacher. As for class behaviour, there is nothing you can do about this. In my experience, if a class is struggling with challenging behaviour from even one pupil, the first thing to be cast aside in favour of managing that behaviour is AAC. Move up a level and things are still challenging. Ensuring a teacher’s learning support assistants are knowledgeable in AAC is not easily arranged – they have very little spare (paid) time to attend your training sessions. Finally, we have the support of senior leadership. This segment could possibly be removed and the pyramid would not come tumbling down, which is to say that in a single classroom with all the other pieces in place you can make do without them. However, if the senior leadership of a school is expecting to see better AAC from their staff, this can go a long way to motivating them.

The purpose of the pyramid is not to dishearten. It is intended to put your efforts into perspective. If you’ve ever wondered why it is so difficult to effect positive change of AAC in a classroom, hopefully you can see now that the fault is not yours, it is simply an innately challenging status quo that you are up against. In response, you must know when to give 110% and when to accept that some things are beyond your control and so choose to conserve your energies.

The place to concentrate your efforts is that first level, specifically the teacher’s knowledge. Here we face the challenge this article aims to address: how to ensure a teacher internalises and applies the knowledge you want to give them. Before we get started, however, it is important to understand why teachers as individuals can be so resistant to change. While circumstances will differ between practitioners, this is my best attempt to sum it up. Firstly, as teachers we face constant competing pressures. Our pupils **must** make progress through the curriculum, as defined by whatever assessment system we are required to use. In mainstream, we must achieve this across multiple subject areas for upwards of thirty pupils. In SEND, we have smaller classes, but each child is an ability group unto themselves with individualised work for every lesson. To compensate for this overwhelming task, we find ways to run our classes that are as straightforward as possible. Once we’ve got this worked out, we are extremely reluctant to change, because this system we’ve devised gives us the best chance of not having to work until 6pm every day and lets us have at least a one-day weekend. Essentially, all teachers struggle with some combination of the following: not having enough time, too much paperwork, worrying about a lack of pupil progress, worrying about a lack of support from school leadership, and most devastating of all: being secretly scared that we’re bad at our jobs. It is this combination of extreme stress and insecurity that makes it such a challenge for us to change how we run our class to include better AAC and makes us so likely to be defensive when you come to us with such guidance.

Where to start? Firstly, consider their class as a whole, including the pupils not on your caseload. It will help you appreciate their wider priorities for their pupils beyond AAC. Once you have the measure of the class and the nuances of running it, set your expectations of the staff accordingly (remember the pyramid!). When the time comes to talk to the teacher about AAC, rather than showing up with targets you’ve decided in advance, invite collaboration with them. Speak to leadership about getting them covered for a decent chunk of time and have a meeting where you ask the teacher what they want for their pupils’ communication. You’re the expert, and possibly you’ll feel the teacher’s expectations fall short, but you’ve got to meet them where they are currently. Scaffold their views on AAC until they start aligning better with what you want.

As much as possible, express your intentions for pupils’ better AAC in the context of the wider AAC landscape. Part of the reason I focused on PECS so much when I was teaching was because it was all I knew. Concepts like Core, Fringe and modelling meant nothing to me, and therefore symbol books were a meaningless hassle. Apps like Proloquo2go were for nothing more than replicating the process of requesting. Had I understood that PECS was simply one part of the spectrum of AAC systems that pupils can learn to use, I would have clung to it less stubbornly.

Crucially, you must **sell** new AAC systems and ideas to teachers. By this I mean they must be excited to give them a go. When you train them in Core and Fringe, encourage that excitement by demonstrating how using a Core and Fringe board across multiple lessons will save them hours of labour creating new PECS symbols or devising discrete activities to contrive a reason for their pupils to communicate. Point out that if they teach AAC via modelling within their existing lessons, that will free up an entire precious timetable slot that had hitherto been reserved for rushed and ineffectual communication aid practice. Once they understand that the new ways of doing things will be easier for them as professionals, you can add that it will also be better for their pupils.

It is vital that your training sessions are done in small groups and are as practical as possible. The worst thing you can do is stand up at a staff meeting and show them a PowerPoint. Staff meetings are held at the end of the day when we are tired and would rather be prepping for tomorrow so we can go home on time. Focus on an individual class team. If you want them to understand the value of Core, give them Core boards and challenge them to make as many combinations as they can in five minutes. This will show them how much more to communication there is than simply “I want”. Once they understand this, start relating it all to their daily practice. Ask them to bring a real lesson plan they use. Work together to find ways to include better AAC practice in ways they genuinely believe they can manage – even if it falls short of what you would ideally expect. See the example overleaf for how minimal your alterations to a lesson can be, while still including improved (but achievable!) AAC practice.

Throughout this process, the teacher **will** fall back into old habits. They will offer to use a Core board, but to allow pupils to request their crisps at snack time. Keep your eyes from rolling and scaffold them away from this redundant thinking. Ask them what Core word they could model that isn’t “want”. Don’t stop until they can give you an acceptable example of what they are going to try.

Follow these principles any time you wish to improve teacher practice with AAC: scaffold their understanding towards your

Birch Class	Lesson: Literacy, Writing	Approx. lesson time: 9:30 – 10:15
Learning Objectives	<ol style="list-style-type: none"> <li>1. To learn how to accurately trace over 2D shapes</li> <li>2. To learn how to trace over single letters</li> <li>3. To learn how to copy underneath single letters</li> </ol>	
Adult-led Activities	<p><b>1. Foundation</b>                      Joey &amp; Phoebe – worksheets of circles, triangles and squares. Adult to support as they trace over shapes in above order. Physical support to be gradually reduced, encouraging independence</p> <p><b>Vocab to model: do, finished</b></p> <p><b>2. Core</b>                      Rachel &amp; Chandler – Following letters blown up on individual sheets of paper: o, c, v, s. Adult to demonstrate tracing process and say letter out loud. Pupil to attempt to trace. Physical support to be increased if pupil struggles to stay on lines.</p> <p><b>Vocab to model: I do, you do, help, finished</b></p> <p><b>3. Extension</b>                      Ross &amp; Monica – Following letter examples on large lined paper: o, c, v, s. Adult to demonstrate copying process, then pupils to attempt. Physical support to be added if pupil struggles to attempt to copy.</p> <p><b>Vocab to model: I do it, you do it, want help, more work, you finished,</b></p>	

expectations, make training as practical as possible, relate key skills to their actual daily routines, make them tell you examples of how they will do what you have just trained them in.

The best word I can use to describe outdated AAC practice in schools is “recrudescent”, which means “to break out into renewed activity, reviving or reappearing.” This is what will likely happen after you have trained staff in better practice and left them to get on with it. The new things they started doing will either have stagnated or degraded in your absence. Expect this to be the case upon your return and you will not be so disheartened that you lack the drive to get them back on course. The most important part here will be maintaining your relationship with the teacher. They need to be completely honest with you about why they stopped doing what you trained them in, and for that they need to like and trust you. Only by identifying which sections of the pyramid have gone wrong will you be able to plan to set things right again. But remember: always be realistic about what change you can effect. There will be times when your hard work has fallen apart and there isn’t a way for you to improve things right away.

As stated, the advice provided here will not make the task of ensuring better AAC in schools easy. It is my hope, however, that it will on occasion make it easier by demystifying the reasons teachers can be so challenging to work with. Systemic barriers remain, not least that the national curriculum, from which many schools still draw their priorities, leaves little room for pupils who require AAC tutelage. Until broader reform occurs, however, we must persist within such confines, adapting when we can and conserving our efforts when we must.



# Save the Date!

## Communication Matters International AAC Conference 2024



# 8-10 September 2024

University of Leeds

# A Universal Approach to Modelling AAC Within a College for Students With Complex Learning Needs

**HELEN HULME**

Speech and Language Therapist, Seashell  
Email: Helen.Hulme@seashelltrust.org.uk

## Introduction

### Setting

Royal College Manchester provides education and support, including an onsite multidisciplinary health service, to students with a range of complex learning needs and disabilities. The majority of students require some form of AAC which may include paper-based and/or electronic resources. The Speech and Language Therapy (SaLT) service supports class teams by providing a range of input, via individual, group and/or universal interventions. This article discusses a universal approach which was implemented in Class A and subsequently in other classes in the setting.

### Previous findings

Research and clinical experience indicate that modelling AAC is essential to support people to learn to use AAC (Biggs et al., 2018; O'Neill et al., 2018). Providing AAC language modelling regularly throughout the day supports the development of independent and functional communication (Dodd and Gorey, 2014). Increased frequency of modelling input may also support greater receptive language growth for children with severe learning disabilities (Laher and Dada, 2023).

However, Biggs and Hacker (2021) found that modelling AAC in education settings can be challenging. Gains in frequency and quality of interactions as well as in staff motivation and engagement were found in Project Core (Dorney et al., 2019; Geist et al., 2020; Geist et al., 2021), which suggests that focusing solely on modelling a consistent range of high frequency core words supports the communication of those with complex communication needs and significant learning disabilities. Nonetheless, shared clinical experience indicates that there remain challenges in achieving consistent AAC modelling across communicative functions in educational settings.

### Background to Class A

Class A consists of students who have severe learning disabilities and are diagnosed as being on the autistic spectrum. Prior to this universal intervention, all students used non-verbal communication as their primary mode of expression, with one individual using a small amount of verbal speech. The students have no identified sensory impairments and have direct access to paper-based communication. All have a developing understanding of core word concepts and of symbols.

Students were previously assessed by a SaLT and provided with individualised communication books. Modelling of the previous communication books was infrequent, and staff tended to use direct verbal prompts and questioning to encourage AAC use. Students demonstrated limited autonomous communication and there was not enough modelling to promote this.



Student is sat with paints, brushes and paper on the table during an art session, SaLT is modelling colour vocabulary to the student, using a communication board



### Barriers to Modelling AAC in Class A:

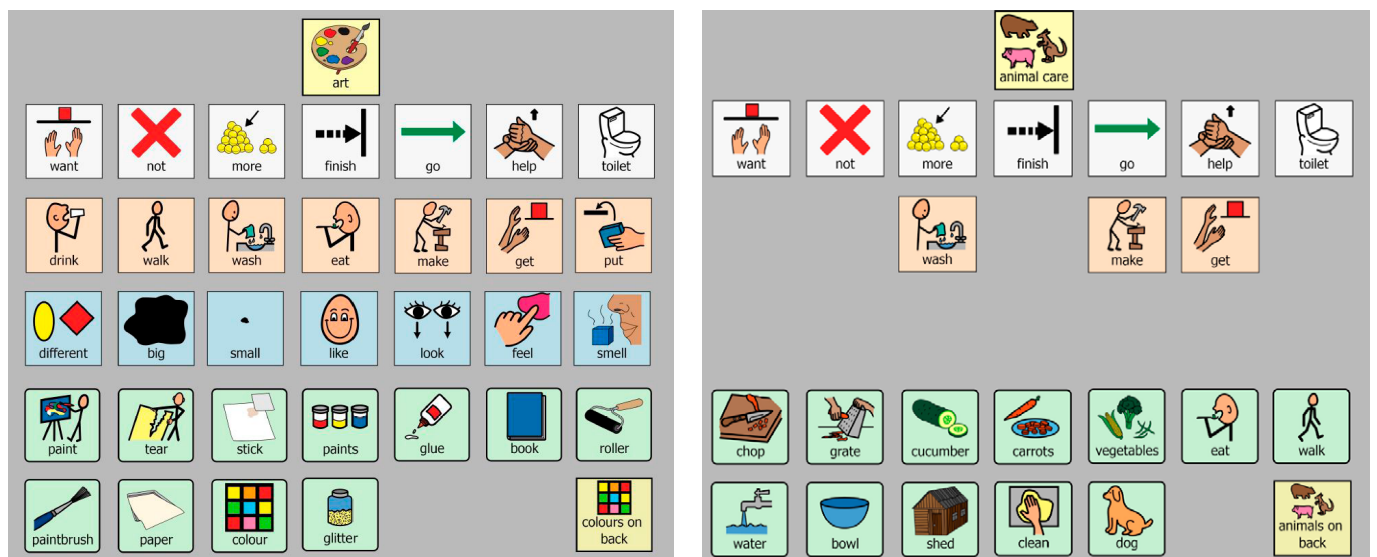
There were several barriers to staff modelling in Class A. Primarily, remembering which students had vocabulary available to model in different sessions was challenging. Some vocabulary sets were insufficient to provide modelling input across the day other than a small range of core words. Additionally, practical management to ensure the availability of AAC throughout a busy day could be challenging (considering other resources required during sessions, room changes). With staff frequently supporting different students and classes, these difficulties were compounded.

**What I wanted to find out:** Will AAC modelling improve with decreased cognitive demands on the staff team? Will a universal approach, that supports inclusive communication using whole class boards, further students' autonomous expression?

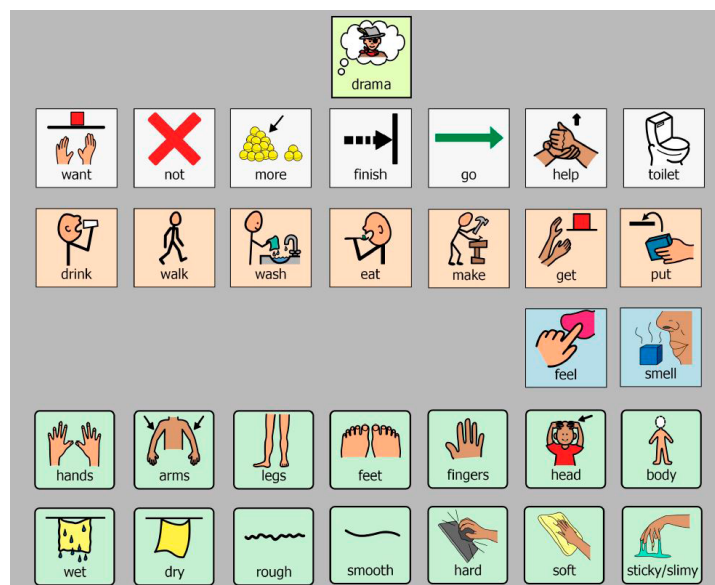
### Universal Approach to Intervention

For an initial trial of universal AAC in Class A, the SaLT and class teacher collaborated to decide vocabulary for specific activities. They chose a set of high frequency core words to be modelled alongside fringe vocabulary. The decision was made to include both core and fringe vocabulary, as fringe is more familiar to staff, potentially more motivating to students, and shared clinical experience within the team indicated that staff and students may struggle more with a purely core vocabulary approach. The boards were A3 sized activity boards, e.g. art, bathroom, cooking, and were divided into colours to aid staff modelling of core, verb, adjective and noun concepts.

The SaLT involved the staff tutor in developing these boards, who fed back that larger boards might be visually overwhelming and agreed a 'staged' vocabulary approach to introduce gradually. The boards were differentiated for a student who struggled with maintaining attention at times, with a detachable core word board to model separately when needed. Training and coaching were provided by the SaLT to staff to support with modelling, including alongside students in class.



'Staged' vocabulary approach with three communication boards, showing how the number of core vocabulary items can be incrementally increased.



The boards were then trialled in other classes, this included one class with both verbal and non-verbal communicators.

### Practical benefits of this universal approach

- Boards readily accessible within the environment, consistent layouts for staff modelling
- Observable differences in students' spontaneous expressive language and communication
- Allowed SaLT more time to work in classroom alongside staff to support with modelling as well as to complete further dynamic assessment, whereas previously more time was spent making resources and completing scheduled assessments
- Collaborative approach to implementation - staff took ownership of modelling the communication boards and were observed to model the boards more often throughout the college day
- Staff were observed modelling a wider range of communicative functions, including how to comment and direct others

### Quotes: Perceived Benefits of this Approach

"[student] previously used behaviours to communicate his needs, but now he is much better at communicating what he wants calmly, sometimes using his communication book and at other times non-verbal communication"- support worker who had not seen a student for a few months.

"staff find it much easier to model. Consistent modelling seems to help students' receptive as well as expressive communication"- SaLT who also introduced the approach in a class.

"[student] is telling us clearly that he has had enough, by pointing to 'finish' and shutting his book"- support worker.

"this approach makes it so much easier for staff to model all day every day to students"- class tutor.

"[student] showed interest in modelling during a social interaction with a staff member, I can see how continued use of this approach will support his holistic engagement"- SaLT.

### Future Considerations and Limitations

Further to implementing a universal approach, it is important to consider the subsequent development of personalised AAC to promote fully autonomous communication. However, within the college setting there can be challenges with having a limited timeframe. Ideally universal approaches should be implemented at a much younger age, to contribute to a dynamic assessment process as the individual develops their language and communication skills.

There is also an ongoing need to prioritise and promote truly autonomous communication within the setting, which is challenged by factors such as high support staff turnover and limited allocated training time.

The implementation of this universal approach is not appropriate to meet the needs of some students in this setting, therefore requiring further consideration.

Furthermore, as this was a small-scale practice analysis, there is a lack of objective measurement of the findings. There is an identified need to further consider measurement of student outcomes. There is also a need for further evidence of how modelling may support different areas of speech, language and communication for this client group.

### References

- Biggs, E. E., Carter, E. W., & Gilson, C. B. 2018. Systematic Review of Interventions Involving Aided AAC Modeling for Children With Complex Communication Needs. *American Journal on Intellectual and Developmental Disabilities*. 123(5), 443– 473.
- Biggs, EE, Hacker, R. 2021. Engaging stakeholders to improve social validity: intervention priorities for students with complex communication needs. *Augmentative and Alternative Communication*. 37(1), 25-38.
- Dodd, JL, Gorey, M. 2014. Intervention as an Immersion Model. *Communication Disorders Quarterly*. 35(2), 103-107.
- Dorney, K. E., & Erickson, K. 2019. Transactions Within a Classroom-Based AAC Intervention Targeting Preschool Students with Autism Spectrum Disorders: A Mixed-Methods Investigation. *Exceptionality Education International*, 29, 42-58.
- Geist, L., Erickson, K., Greer, C., & Hatch, P. 2021. Initial evaluation of the Project Core implementation model. *Assistive Technology Outcomes and Benefits*, 15, 29-47. [https://www.atia.org/wp-content/uploads/2021/03/V15\\_Geist\\_etal.pdf](https://www.atia.org/wp-content/uploads/2021/03/V15_Geist_etal.pdf)
- Geist, L. 2020. Classroom-based communication instruction: The Project Core implementation model. *Closing the Gap Solutions Annual Resource Directory*, 38, 3-8.
- Laher, Z, Dada, S. 2023. The effect of aided language stimulation on the acquisition of receptive vocabulary in children with complex communication needs and severe intellectual disability: a comparison of two dosages. *Augmentative and Alternative Communication*. [Online]. [Accessed 23 April 2023]. Available from: <https://doi.org/10.1080/07434618.2022.2155566>
- O'Neill, JL, Light, J, Pope L. 2018. Effects of Interventions That Include Aided Augmentative and Alternative Communication Input on the Communication of Individuals with Complex Communication Needs: A Meta-Analysis. *Journal of Speech Language and Hearing Research*. 61(3), 1-23.

# The Use of Assistive Technology to Support Literacy for Learners with Complex Communication Needs

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Literacy for learners with Complex Communication Needs is fundamental in enabling fully autonomous communication, empowering learners to say what they want to say, when they want to say it, to whoever they want to say it (Porter, 2007). Previous figures have shown on average in the UK a staggering 90% of individuals with CCN enter adulthood without functional literacy (Foley & Wolter, 2010). The Comprehensive Literacy approach advocates that literacy learning begins at birth, and that 'no student is too anything to learn to read and write' (Yoder, 2000, ISAAC Conference).

Learners with Complex Communication Needs often have physical disabilities and find accessing literacy learning in the traditional way challenging. For these learners, Assistive Technology is essential to allow equality in access to the curriculum. Within my practice as a Specialist Teacher and AAC Consultant, I have used a variety of Assistive Technology to meet the needs of these learners, some of which I have included in this article.

The Comprehensive Literacy for All approach (Erickson & Koppenhaver, 2019) is becoming more widely adopted across educators' practice in the UK, particularly considering emergent literacy. Emergent readers and writers are classified as learners who have not yet learnt the letters of the alphabet, engaged actively during shared reading, have a means of communication and interaction, and understand that print has meaning. The interventions set out within this approach include letters and sounds, developing alphabet knowledge and phonological awareness, shared and independent reading, and shared and independent writing.

## Letters and sounds

There is a wealth of resources available regarding developing alphabet knowledge and phonological awareness, including alphabet songs, books and apps. It is important when you are deciding which resource is appropriate for the learner that you are respectful of their age.

## Reading

The physical manipulation of books can be challenging for learners with physical disabilities, however it is important to give them free choice over what they wish to read rather than giving them access to books you feel may be appropriate. The DfE publication 'Reading for Pleasure' (2012) highlighted that 80% of children stated that the books they enjoyed the most are those they chose for themselves.

You will often find in UK classroom teachers are eager to support reading through the use of symbol-supported text to make learning more accessible for the learner with Complex Communication Needs, however there is a wealth of information that despite good intentions, by symbolising text, this in contrast hinders literacy development (Singer, Samuels and Spiroff, 1974).

There are a range of e-books available for learners who find it challenging to access traditional books. Some of which I have found particularly useful for learners I have worked with have included Tarheel Reader (<https://tarheelreader.org/>). This includes a wide collection of free, easy to read accessible books, which can be read using a range of access methods, including switch. Other examples include Clicker Books, Look to Read, Reading Avenue and CandLE books. Immersive Reader is a free, built in, Microsoft Learning Tool which enables text to be read aloud, for example in Word, PowerPoint and webpages.

## Writing

Learners with physical disabilities may also find it challenging to hold a traditional pencil or to manipulate letters. Alternative pencils, or something that gives full access to the alphabet, are a great resource towards developing writing skills. These can be accessed in a variety of ways, including flipcharts (for example accessed through partner-assisted scanning) and eye gaze. Different examples can be freely downloaded here from the Center for Literacy and Disability Studies website, available here <https://www.med.unc.edu/healthsciences/clds/alternative-pencils/>. These offer the learner the opportunity to 'scribble' using

letters, like what their peers experience or experienced as part of their foundational literacy experience. Jane Farrall's 'Writing With All Tools Continuum', available here <https://www.med.unc.edu/healthsciences/clds/alternative-pencils/> is a great resource to consider progression in writing for learners, irrespective of which tool they use.

There is also a vast array of keyboards which can be accessed in various ways and different layouts. On screen keyboards can easily be adapted in terms of upper and lowercase, colours and arrangement of letters e.g. QWERTY or ABC layout. There is also a variety of hardware keyboards available. I have found within my own practice at times it can feel tempting to use a larger keyboard for learners with physical disabilities, however exploring compact keyboards and the use of keyguards can reduce fatigue and improve direct access.

Software packages, such as Clicker, are particularly helpful in providing a variety of writing support within literacy teaching. These can be easily adapted to differentiate to the needs of the learner.

These are a few examples I have found useful within my own practice to support learners with Complex Communication Needs and is by no means an exhaustive list. For more information visit the Ace Centre's website for information, links and a leaflet on Getting Started with AAC and Literacy available here <https://acecentre.org.uk/resources/aac-and-literacy>.

## References

Department for Education (2012) "Research evidence on reading for pleasure", Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/284286/reading\\_for\\_pleasure.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/284286/reading_for_pleasure.pdf)

Erickson, K., & Koppenhaver, D. (2019). Comprehensive literacy for all: Teaching children with significant disabilities to read and write. Baltimore, MD: Brookes

Foley, B. & Wolter, J.A. (2010). Literacy intervention for transition-aged youth: What is and what could be. In McNaughton, D., & Beukelman, D. (Eds.), Language, Literacy, and AAC Issues for Transition- Age Youth (pp. 35-68). Baltimore, MD: Brookes.

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

Singer, H., Samuels, S. J., & Spiroff, J. (1974). The effects of pictures and contextual conditions on learning responses to printed words. Reading Research Quarterly, 9(4), 555-567.

Yoder, D. (August, 2000) *DJI-AbleNet Literacy Lecture*. Symposium conducted at International Society for Augmentative and Alternative Communication: ISAAC. Conference in Washington D.C.

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# The Positive AAC Framework: A Holistic Approach to Supporting AAC Users

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Success with AAC might often be measured by the communication skills of the AAC user (Beukelman & Mirenda, 2013; Light, 1989). Light's 1989 model of communicative competence was further developed in 2003, when Light proposed that communicative competence also dependent on factors such as confidence and motivation. Additionally, Light suggested that an AAC user's communicative competence was also dependent on environmental supports and barriers, which include policy and practice, amongst other aspects (Light & McNaughton, 2014).

Robinson (2018, 2022) has written about the importance of valuing all forms of communication. This discussion engaged both professionals and AAC users and has gathered pace over recent years, particularly on social media. Building on Light's model of communicative competence (1989, 2003, 2014) and listening to the views of AAC users and those supporting them, the Positive AAC Framework was developed (see figure 1.)

The framework demonstrates that a positive experience of AAC use goes beyond simply the communication skills of the individual and is dependent on a wide range of factors. This framework encourages people to develop a broad view of what goes into creating a positive experience of using AAC.

## A collaborative project

It was important to include the views of a range of people when developing the framework. There were several steps to the collaborative process.

**Initial ideas:** A draft plan of the framework was developed.

**Consultation:** The draft was sent to the parent of an AAC user and shown to two AAC users via video call. Based on this feedback the framework was re-drafted. This group was consulted several times before the statements were chosen. The final statements were sent to a wider group of 43 AAC users, family members, and people working in education and healthcare for comment. The statements were then revised a final time based on their feedback.

## Choosing the graphics

Social media was used to seek opinions of people using and working with AAC to choose the image of the rainbow for the framework and the visual representation of each strand.

There are six strands in the framework: Practice and Play, Preferences, Provision, Planning, People and Pride. There is no hierarchy or order to the strands.

Each strand has four dimensions and each dimension has a statement for consideration. Each strand is accompanied by two key values (figure 2.)



Figure 1. The Positive AAC framework

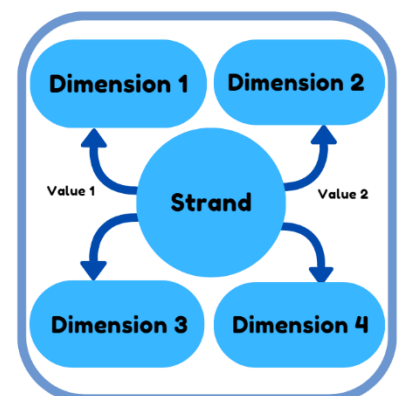


Figure 2. The template for each strand.

The strands are shown in figures 3-8 and are available online via [https://www.canva.com/design/DAFPSLIatnQ/WFzQZAXxXHjySmJJUw6MMg/edit?utm\\_content=DAFPSLIatnQ&utm\\_campaign=designshare&utm\\_medium=link2&utm\\_source=sharebutton](https://www.canva.com/design/DAFPSLIatnQ/WFzQZAXxXHjySmJJUw6MMg/edit?utm_content=DAFPSLIatnQ&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton)



Figure 3. Practice & Play

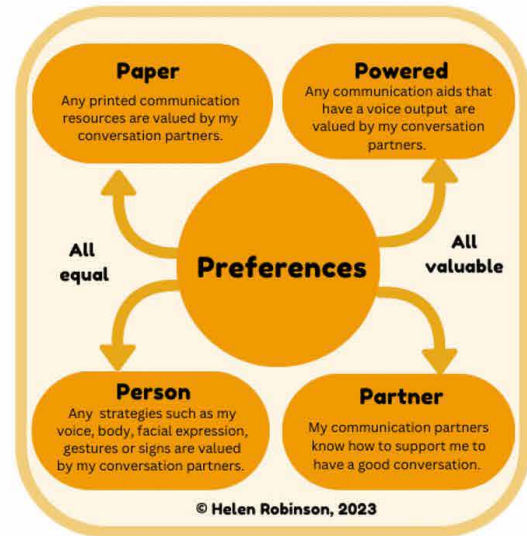


Figure 4. Preferences

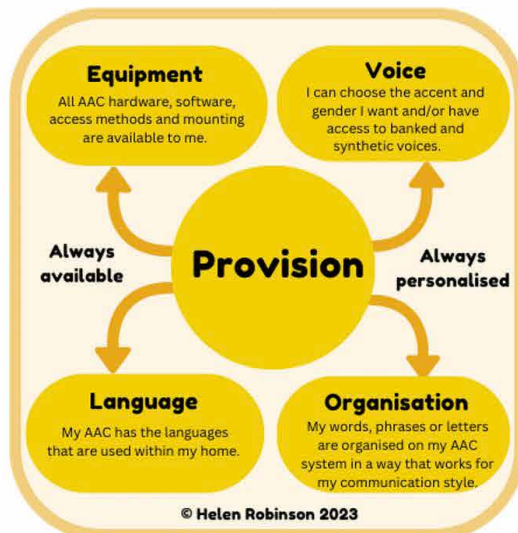


Figure 5. Provision

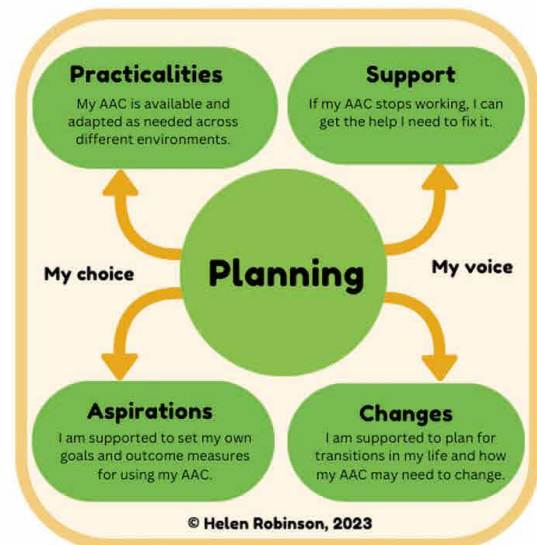


Figure 6. Planning

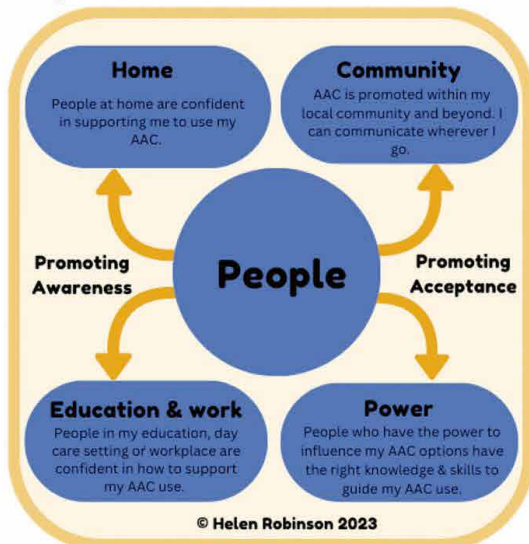


Figure 7. People



Figure 8. Pride

For those who prefer a list format, the strands are also listed in table 1.

Use of the framework is open to interpretation. Some may choose to see it as a tool to support goal setting or as a checklist. Others might view it as a discussion starter, or training resource. The strands are intended to be viewed both separately and as a whole framework. Ultimately, the framework is intended as a means of encouraging people to think broadly of the issues facing AAC users in society and how those who work with them might better support them.

**References**

Beukelman, D. R., & Mirenda, P. (2013). *Augmentative and alternative communication: Supporting children and adults with complex communication needs*. Paul H. Brookes Pub.

Light, J., & McNaughton, D. (2014). Communicative Competence for Individuals who require Augmentative and Alternative Communication: A New Definition for a New Era of Communication? *Augmentative and Alternative Communication*, 30(1), 1–18. <https://doi.org/10.3109/07434618.2014.885080>

Light, J. (2003). Shattering the silence: Development of communicative competence by individuals who use AAC. In J.C. Light, D.R. Beukelman, & J. Reichle (Eds.), *Communicative competence for individuals who use AAC: From research to effective practice* (pp. 3–38). Baltimore, MD: Paul H. Brookes.

Light, J. (1989). Toward a definition of communicative competence for individuals using augmentative and alternative communication systems. *Augmentative and Alternative Communication*, 5, 137–144, Taylor & Francis Online. <https://doi.org/10.3109/07434618.2014.885080>

Robinson, H. (2018). Opinion; AAC technology: what’s in a name? *Royal College of Speech and Language Therapists Bulletin* March 2018, 11

Robinson, H. @HelenATSLT (17<sup>th</sup> October, 2022). The Four P’s of AAC, [Tweet], Twitter. <https://x.com/HelenATSLT/status/1581965150806212609?s=20>

Practice & Play	Access	I have opportunities to practice the ways I will access my AAC (e.g., eye pointing, scanning, switches)	Real World
	Control	I am given choice over the words & phrases added to my AAC and am show how to find them.	
	Communication	I have opportunities to explore how to use the words, phrases, or letters within my AAC system.	Really fun
	World	I am given opportunities to use my communication aid for things other than talking, e.g., TV control or social media.	
Preferences	Paper	Any printed communication resources are valued by my conversation partners.	All equal
	Powered	Any communication aids that have a voice output are valued by my conversation partners.	All valuable
	Person	Any strategies such as my voice, body, facial expression, gestures or signs are valued by my conversation partners	
	Partner	My communication partners know how to support me to have a good conversation.	
Provision	Equipment	All AAC hardware, software, access methods and mounting are available to me.	Always available
	Voice	I can choose the accent and gender I want and/or have access to banked and synthetic voices.	
	Language	My AAC has the languages that are used within my home	Always personalised
	Organisation	My words, phrases or letters are organised on my AAC system in a way that works for my communication style.	
Planning	Practicalities	My AAC is available and adapted as needed across different environments.	My choice
	Support	If my AAC stops working, I can get the help I need to fix it.	
	Aspirations	I am supported to set my own goals and outcome measures for using my AAC.	My voice
	Changes	I am supported to plan for transitions in my life and how my AAC may need to change.	
People	Home	People at home are confident in supporting me to use my AAC.	Promoting awareness
	Community	AAC is promoted within my local community and beyond. I can communicate wherever I go.	
	Education & Work	People in my education, day care setting or workplace are confident in how to support my AAC use.	Promoting acceptance
	Power	People who have the power to influence my AAC options have the right knowledge & skills to guide my AAC use.	
Pride	Belonging	I have connections with other people, who may or may not be disabled or use AAC.	Everyone equal
	Respected	Those supporting me understand & respect differences in how disability and AAC are viewed within my culture.	
	Valued	My communication style might be different and this is understood and accepted by others.	Everyone heard
	Promoted	People in positions of influence are aware of AAC and the barriers I might face in society.	

Table 1. The Positive AAC Framework as a list. Creative Commons- Attribution-NonCommercial 4.0 International -CC BY-NC 4.0



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