Communication **Matters**



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THE JOURNAL OF COMMUNICATION MATTERS / ISAAC (UK)

AAC Awards – Passion For Potential – Aided Interactions – Aphasia – Mentoring Project – AAC Journal Club – Cypriot Views – Lipreading App – Flex Sensor – Voco Chat – Literacy For All – Becoming an Aided Communicator – Coaching Models



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Euan Robertson (SLT)

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COMMUNICATION MATTERS JOURNAL VOLUME 36 NUMBER 1 April 2022

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We look forward to welcoming you all to the CM Conference 2022 in Leeds.

Find out more at https://www.communicationmatters. org.uk/what-we-do/conference/.

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Chair's Report

HELEN WHITTLE

I know it seems very late - but Happy New Year!

This is the first Chair's Report of 2022. The sun is out, and the daffodils are making an appearance, so it is definitely feeling like a positive springtime. The Trustees have planned to put on a range of activities throughout this year. We appreciate that we have many members, who have all had different experiences of the Covid-19 pandemic, so we are trying to be aware of this in the way we are offering events.

By the time this journal is published we will have hosted an Exhibition Day at The Edge at the University of Leeds on the 28^{th of} March. Many of our supplier members will be showing all the new and familiar technology they have available, for the first time since early 2020. We have had lots of delegates registered for this event who are very pleased to be able to get their hands on AAC and wider assistive technology for the first time in ages. During the day we will welcome many CM members and non-members to the Exhibition.

On the same evening, the CM AAC User Focus group will hold their first in-person meeting since they were established during the first lockdown in 2020. They will host a meal at the University of Leeds, followed by their meeting and an opportunity for a catch-up.

The following day, we are having a day to celebrate all the successes of the Mentoring Project. All the activities of the Mentoring Project had to change from face-to-face to online during lockdown. This has meant that many AAC users have achieved qualifications but are yet to celebrate this. So, the Mentoring Day on the 29^{th of} March is all about celebrating this success and getting together. There will be lots of chatting and catching up, I am sure! For those who are unable to travel to Leeds, Verity will be holding online Zoom sessions that will be the same as the ones held on the day.

Following the very positive feedback from the virtual CM Conference in 2021, we are putting on one Study Day this year. It is the "Becoming an Aided Communicator" (BAC) Study Day, and the presentations will be from the work that has been undertaken on this international research project that includes 16 international sites. The project focuses on children aged between 5-15 years of age and explores when and why they started using aided communication. Studies have also been included that look at the language development and personality traits of the children, and how this affects their ability to use AAC. A few members of the BAC research team will be presenting in Leeds live. As well as in- person delegate places, we are also enabling virtual access to this day. We hope to have a write-up about all these events in the next CM Journal.

Find out more at https://www.communicationmatters.org.uk/what-we-do/study-days/

Plans are also ongoing for the in-person Conference at the University of Leeds from the 11th-13th September 2022. We are looking forward to welcoming many of you back to the university for a great Conference. Please consider the opportunity to present your recent work or experiences at the Conference – abstracts are still being accepted until 22nd April. Please submit your presentation summary here: https://eu.eventscloud.com/website/6508/callforpapers/

We are also planning on holding an AAC Information Day in Glasgow in November, where everyone will have the opportunity to have a good look at all the latest technology. If you are unable to attend the Conference and/or explore the Exhibition, then maybe this day will be more suitable. Details about booking places for this will be available after the summer.



COMMUNICATION MATTERS INTERNATIONAL AAC CONFERENCE

11-13 September 2022, at the University of Leeds

Register Now! https://eu.eventscloud.com/cm2022conf

Call for Papers!

You are invited to contribute a presentation to the conference.

The deadline for submissions in 22 April. For guidelines please use the link above.

Trustees' News

Communication Matters AAC Awards 2021

VICKY HEALY, FRIEND OF COMMUNICATION MATTERS



Following the success of our inaugural AAC Awards in October 2019, we were hoping to hold the second ceremony at the University of Leeds in March 2021. Sadly, COVID put a stop to that, so we made the decision to include it as the closing event of the virtual Communication Matters International AAC Conference in September 2021 instead. Following a hugely successful week of presentations, online forums and social meetups, the awards were something needed to remind ourselves that despite all the pressures and negativity that the last two years had thrown at us, the members of the AAC world were still achieving remarkable things.

Once again, the focus of the awards ceremony was to celebrate a wide spectrum of achievements, and although it was a pared-back event and held via the magic of Zoom, we were still able to capture that.

Thank you so much to the friends and members of Communication Matters who sent in such a high calibre of nominations – it ensured the judging panel had a really difficult task.

Thankfully, our experienced and diverse judging panel were all happy to return to the task they had taken up last time. So, a big thank you to Julie Atkinson, Ruth McMorran, Anna Reeves, Janet Scott, and Mark Street. We also welcomed a new member – Laith Ritchie, who had been the winner of the 2019 Rising Star Award, and it was a pleasure to have his invaluable input, knowing how it felt to be a recipient!

The panel were able to review the outstanding nominations and we met over Zoom to discuss our thoughts. With such a diverse spectrum of nominees, the decisions were most definitely not always clear cut, but hopefully those who attended the event, could see why the conclusions were made. Of course, any of the nominees in each category could easily have been worthy winners.

A huge thank you also goes to friend of Communication Matters and ex-MEETinLEEDS team member, Brett Walsh, who was integral in putting together the screen content for us. Also, to Corin Nanton from MEETinLEEDS, who was the saviour on the night in case any technical glitches occurred. The evening had to be mostly pre-recorded and as the winners were informed a few weeks in advance, we were able to record thank you speeches from them all, and that meant we were able to capture their genuine reactions.



Trustees' News

To keep the pace of the evening going, we had a fantastic DJ set from DJ Oli Cunningham, which, I'm pretty sure, got everyone boogying in front of their screens. And in true CM style, we all sang and signed along to an eclectic mix of our favourites from Kate and Sally's fabulous 'Sign Out Loud'. Thanks so much to you all for your support and to everyone who attended and participated to the full (one or two canine friends noted too)!

Because the event was virtual, we made the decision to reduce the number of categories. So, here, we have listed the winners of each category and send our heartfelt congratulations to them all.



Winner: 1Voice Highly Commended: CALL Scotland



Winner: Becky Tyler





Winner: Oli Cunningham Highly Commended: Dan Cooper

Trustees' News

Jamie Munro Award



Winner: Jamie Preece Highly Commended: Stephanie Stollery



Winner: Lisa-Marie Eastwood Highly Commended: Kelly John



Winner: Sally Conner

Despite the disappointment of not being able to meet up in person, we were still able to enjoy a celebration with some truly inspiring people connected to our AAC community - I think one or two of us enjoyed a glass of something while we participated. And all the winners were still able to receive their awards in the post. Let's hope they all arrived in one piece!

You will be delighted to hear that we will be back! Planning has already begun for the next AAC Awards, which will be held on Friday 24th March 2023 at the University of Leeds. As 2023 is going to see Leeds celebrating its status as a City of Culture, we are looking forward to a collaboration between the city, the University, **MEETinLEEDS and Communication Matters.** The AAC Awards, we hope, will be a pinnacle event within this.

We are already looking for sponsorship and any help that you might be able to offer. Please contact the CM office on admin@ communicationmatters.org.uk or speak to one of the Trustees. Let's make it the best celebration yet!

Passion For Potential: Developing 'Expectation Environments'

BETH MOULAM Email: bethmoulam@aol.com

We all spend our whole lives living in 'expectation environments'; when we, and those around us, believe we can achieve and succeed, we live up to those expectations. Sadly, if we and those around us don't believe, or have low expectations of success, or if we are not provided with the right tools and circumstances, then we will probably live up to those low expectations. Whoever we are, we all live with our own and others' expectations throughout our lives.

Early Expectations of Success

When I started school in 1998, the IT consultant from the local authority saw my potential. I was provided with a communication aid that was bigger than me, and a BBC computer that took up a whole table at the back of the classroom. The primary school eventually embraced this technology, although it took a while. There was a culture in my village school that expected me to succeed. Over time, technology improved. And by the time I left my kit was not dissimilar in size to the communication aids and tablets we use today.

Perceptions Create Low Expectations

I started mainstream secondary school to find there appeared to be a phobia about me using technology to access the curriculum. 16 years ago, technology was still not something everyone took for granted. There was a concern that technology gave me an unfair advantage, and made me less able, rather than just able. Imagine, people thought I was being enabled by hearing aids, a communication aid and using a laptop. Some teachers even made me handwrite, despite having a one-to-one assistant who should scribe. This was hardly a good move for me. I can barely hold a pencil and for my letters to be legible it takes great concentration to form each one. This became a test of my physical stamina and not my cognitive ability.

Partway through the first year, my Mum was told I was unlikely to achieve any qualifications. I'd arrived at the school with just below average results. However, all the feedback was about what I could not do. Sadly, there was nothing about celebrating what I *was* achieving. This school clearly did not have expectations for my success. How could 6 months make such a difference? Was this me? Was it the teaching methods? Was it the assessment method? Could it be expectations? There were other things that shaped this period. I was the only pupil with a communication aid, a power chair and a hearing impairment. There were plenty of labels besides the expectations. These beliefs were created by perceptions, borne out of a lack of knowledge. For instance, there was the belief I could not do sport, or drama, or play a musical instrument. All false assumptions: I've represented my nation in 2 different disability sports, including becoming a Paralympian, and been part of a nationally acclaimed inclusive theatre company.

Gaining Expectation Momentum

Needless to say, we found me an alternative school placement with experience of disability, and more importantly, communication impairment. The specialist residential school welcomed me with open arms. It was much more suited to my needs. All the therapy services were on site, and often delivered during classroom activities. After losing nearly 2 years of education, I came out of school with reasonable GCSEs and started post-16 qualifications. I had some amazing teachers who expected me to achieve.

Through various circumstances, at 18, I was selected for a workshop in Strasbourg on independent living. This also included the opportunity to speak at the European Parliament. From this, I developed a real interest in disability policy. And I developed a passion to help other people with complex communication disabilities be the best they could be. I've just graduated from the University of York, in Social Policy. My degree took nearly 8 years for a 4-year course; the extra time enabled me to do my studies justice, gaining a First.

A Disability Label Should Not Define Us

In my humble opinion everyone, whatever their ability, should have things they are passionate about. I believe each of us has the potential to be many things, and a disability label should not define us. Just because things may be challenging does not mean we cannot fulfil our own potential and achieve in life in our own way. Passion is an emotion, a strong feeling, an enthusiasm, a belief, a burning desire. I have been lucky; I've had a team of people behind me throughout my life, working alongside me, cheerleading me on to achieve my goals. If I can, I want others to have these same opportunities. What education and life experiences provide are the building blocks for well-becoming. For each of us achieving the best we can be in life. It is about investing today in all our futures for tomorrow. It is about aiming high and hoping to achieve. It is about having a passion for potential, and a meaningful purpose. And having the right expectations and conditions for success.

Growth Mindset and Expectations

So how do we do that? I came across the work of Carol Dweck in 2013, when I first started university. She is an Educational Psychologist from the United States. What I discovered is that her theories are equally well applied in sport, business, and in life in general. From my sporting experiences, I could see her approach would work for me. Dweck talks about two different mindsets: people who have a fixed mindset who plateau early, and fail to reach their full potential; and people with a growth mindset who work hard, and not only meet expectations, but often go on to exceed their own and others' expectations.

According to Dweck, those with a fixed mindset are often risk averse, they like to always look smart, and maybe they are naturally talented. They like to stay within their comfort zone. As a result, they avoid challenges. They often give up easily. They perceive working hard to be pointless, because they get by with good results for minimal effort. They are likely to ignore useful criticism and feel threatened by the success of others.

By contrast, Dweck claims a growth mindset shows both intelligence and performance can be developed. These people approach life willing to learn, knowing hard work will make them proficient and they will achieve more. Challenges are opportunities; the road always has bumps, but they learn from criticism, and find inspiration in the success of others. Those with a growth mindset thrive on praise, but this is praise for the process: how hard they have worked, the time they spent to get the result, the more they put in the more they get out. They become resilient. The harder they work, the stronger they become.

Steps to Exceeding Expectations

I believe there are 8 steps to achieving success in life. In my experience, the same steps can be applied to a long-term goal or a short-term aspiration.

- 1 Be realistic and understand where you are today. There is no point in kidding yourself. And then, establish where you want to be. For instance, it might not be realistic to ask a student with cerebral palsy to handwrite a 2,000 word essay, but learn to use technology with word prediction and potentially it might be.
- 2 In my opinion you need to have a growth mindset. If we want success we need to be prepared to try hard, to work hard and to take risks. The more we put in, the more we get out.
- 3 Have a clear plan, and when you have this then break it down into smaller manageable steps. It doesn't always mean a linear journey, because you can be working on several small steps at a time.
- 4 Set small and achievable goals. This is vital to measure your progress and motivate yourself. But be sure to have realistic time frames: I definitely find timed, small steps work for me.
- 5 We all need to build a support network who will champion our goals. In an expectation environment, find people who will help you focus on success, then you will achieve more.
- 6 Be patient and kind to yourself, growing takes time. Nothing happens overnight. Imagine you are an acorn; it will take you years to grow into a solid oak tree.
- 7 Staying focused is easy to say but harder to do. Just remember why you are doing what you are doing. Eyes on the prize, and remember what you want to achieve.
- 8 Finally, celebrate every success at every step, however small. Don't be afraid to learn from setbacks. Then breathe, review, and start again.



My own bite-sized steps, supported by teachers, university academic staff, friends and family, as well as my amazing ISAAC network and my sporting network have brought me to where I am today. I had an expectation I would live independently, and I do. I worked hard every day for 8 years at university. And I do mean every day. I've trained hard for my sport and achieved my dream.

Life Expectations

Away from AAC there are a whole host of life and communication challenges we don't prepare young adults to take on when leaving formal education. In my own case, moving into halls at university, we planned for everything going well, and that certainly didn't happen. We didn't talk about how to whistle blow, how to stay safe and deal with issues when things went wrong, how to understand exactly what constitutes a safeguarding issue, and what is unacceptable behaviour by someone else. I didn't have practice at being assertive enough. Especially saying no! Or have the communication skills to challenge when something was not as I expected, if necessary. I now know it takes the right knowledge, experience and skill to put things right when there is a communication or relationship breakdown. I've learned a huge amount, but I know I am still not 'the done deal'. There had been an expectation I would be able to just do things. For instance, I manage a team of staff around the clock, in my waking life, and (if I wake at night) in my sleeping life. What preparation should I have had for this? Other maturing young people often don't get management experience until their late 20s and 30s, so why was I expected to be able to do it as soon as I left home?

My concern is that we are all on a journey that does not end when we leave school, or college, or move on in life. We need to know that our essential support will not end at an arbitrary age or stage. The road we travel as AAC users continues throughout our lives, especially as technology changes. We need to know we will continue to get the support we need to be effective communicators. AAC users need, and deserve, reassurances. These need to be demonstrated clearly as we continue to transition through life. What we need to do is find ways to positively engage with health, social care and other sources of funding. And we need to change perceptions in the wider population. To create greater awareness of what the needs of AAC users are. Not just for today but also ongoing for our lifetimes.

Societal Expectations

I am passionate that we need to encourage a wider societal understanding. That with the right resources, throughout the whole of our lives, we will be able to achieve our potential and remain on top of our game. What do I mean by this? I'm suggesting we need to create an expectation environment that people who use AAC can and do fulfil their communication and life potential. The lack of joined-up services, and the very definite lack of funding contributes to holding people back. It's great to get the kit provided. But once out of education, keeping up with technology can be tricky. More than that, I know from experience there is a real need for ongoing support. I'm lucky as I've had family support to learn to train my own team. After 8 years of independent living, I am still learning and gaining new skills. But this is a never-ending job. I hope to lead a long and fruitful life. Over time staff come and go. It is unlikely the staff I have today at the age of 27 will be the ones I have in 20 years. Never mind in 40 years. Every new member of staff needs training. For someone who isn't able to do this themselves, then who trains the communication partners? Who trains young people in the communication skills needed to lead a team? Who trains new staff to programme? Who ensures that our AAC devices are maintained, insured and, importantly, fit for purpose?

Always Aim High

COMMUNICATION MATTERS

What is AAC?

Introduction to Augmentative and Alternative Communication

municationmatters.org.uk

Focus on

Society expects everyone to become as independent as possible. I might live independently, but with a physical disability and as an AAC user I am still reliant on my family for guidance and support. As my parents get older, I need even greater self-advocacy skills, but where is the training for that? It certainly doesn't come from social care providers. To fulfil lifetime and communication potential we need to live in a society where growth expectation is the norm. I won't be sitting and waiting for life to come to me. My own high expectations are that I will be grabbing life with both hands. My hope is that with the support and help of those around you, the expectation will be for you too to aim high and achieve your goals.

'What is AAC?' Focus On leaflet

Please contact us on 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!

Saying and Meaning in Aided Interactions

MARTINE SMITH, PHD

Professor in Clinical Speech and Language Studies, University of Dublin, Trinity College Dublin, Ireland **KIRSI NEUVONEN** Speech and Language Therapist, Doctoral Researcher, University of Helsinki, Finland **Email:** MMSMITH@tcd.ie

As I child, I got very frustrated when adults reminded me to "say what you mean and mean what you say". This advice struck me as completely at odds with what adults actually expected of children. In fact, it seemed to me that one sure fire way of getting into trouble was to say exactly what I meant to others. What's more, when I got cross with a sibling for what they had said, adults often replied that I shouldn't be upset, as my sibling "didn't mean what they said". From a young age, children are encouraged to think about the difference between what people *say* and what they might *mean*. Of course, much of this knowledge is absorbed apparently unconsciously, through the opportunities children get to take part in conversations (e.g., Cooper et al., 2021). Faced with young infants, adult caregivers spend a lot of time and effort either (1) encouraging a young baby to "say" things - to make sounds, without any expectation that all this 'talk' has any meaning, or (2) mapping meanings on what looks to most people like an infant's random movements or sounds. We've all seen (and many of us have also been) parents who happily 'goo and gah' with infants, or proudly celebrate first words that no one else seems to understand. Over time, children are encouraged and supported to say things in ways that are more easily understood by others in the community. They also learn how to nuance *how* they say something so that the way it maps onto what they mean is clear, unambiguous, and acceptable – even if we all sometimes fall short of those standards in our conversations.

Speaker-Listener Roles in Conversational Interactions

Conversations work like a dance: each person is finely attuned to others in the conversation. In the same way that it is important to pay close attention to the rhythm of the dance to avoid stepping on partners or bumping into other dancers, participants in conversations must pay close attention to the pacing of conversations to avoid speaking at the same time or having long gaps in the conversation. In other words, participants must be able to switch between the role of speaker and listener smoothly. Listeners pay close attention to the speaker to ensure they notice and can 'hear' what is expressed. Then they must work out what the speaker means by what has been said – what message was being conveyed? Listeners only have access to what has been 'said' – the words or gestures used – but meanings exist internally in the mind of the speaker. In this sense, listeners engage in mind reading, to interpret what someone might mean by what they said (e.g., Mustajoki, 2012). For example, if someone comes into a room where we are sitting and announces, "Right, it's almost four o'clock", it is more likely that they are signalling that something is about to either change or to end, than that they are simply sharing information about the passage of time. The task for the listener is to try to interpret what that person means by announcing the time.

In swapping into the speaker role, responsibilities change. Speakers must find a way to speak (i.e., express themselves) that is clear and that can be easily heard or received by listeners. For example, there is little point in using quiet speech in a noisy restaurant to get a busy waiter to engage in conversation about an order; speakers may need to over-articulate on the phone, because the person at the other end of the phone can't see a face. Speakers then also have the challenge of meaning: they must share their own internal meanings in a way that makes it possible for listeners to interpret what is in their minds in a way that is likely to be successful – a form of mind-sharing.

Repairing Conversations

Problems can arise for both speakers and listeners in either saying or meaning, or in both. A listener may find it hard to 'hear' or 'receive' what a speaker has said because the speaker spoke very softly, or very rapidly. There may have been background noise that created a distraction, or the speaker (for example if it is a young child) may have difficulty producing certain speech sounds and so their speech is unclear except to those who know them well. Sometimes a speaker may be speaking very clearly, but the listener is unfamiliar with their dialect and so still cannot figure out what is being said. In all these cases, communication can break down and the listener and speaker must resolve how to repair that breakdown.

Communication can break down even if the listener has been able to 'hear' and process what was said, because they cannot make sense of what was said – they cannot understand what the speaker intended to mean. Most of us have had the experience of thinking, "I understand all the words, but still have no idea what this person means". It may be that the sentence seems completely out of context or is a very abrupt switch in the topic of conversation. It may also happen because the speaker is using figurative language, or non-literal meanings. It takes time for children to develop an understanding that expressions like "You're getting too big for your boots" do not really mean anything about shoe size. They gradually begin to recognise that much of our conversation involves using phrases, idioms, and metaphors that rely on the listener going beyond the immediate concrete meanings of words to fully understand the speaker's message.

Neither speakers nor listeners get it right all the time and so it is not uncommon for a listener to have to ask the speaker to repair part of their communication. In English, there is the option of guiding the speaker to where the problem lay – in saying or in meaning. If we say, "Sorry, I didn't hear what you said", the speaker has a clear indication that they must repeat what was said, possibly more loudly or slowly, or perhaps just paying a bit more attention to articulation. However, "Sorry, I didn't understand", or "I don't get you" signals to the speaker that it is not enough to simply repeat exactly what was said.

Communication Repair in Aided Interactions

In interactions involving aided communication, the challenges that can arise in both saying and meaning can be significant and can lead to regular communication breakdown, even in conversations with familiar partners. 'Saying' things is more challenging if someone has little intelligible speech, especially as it often happens that speech is not the only mode of communication that is affected. Listener factors also come into play: listeners may not be familiar with synthesized speech and may find it difficult to understand; they may not be sensitive to the different ways of 'saying' things that are used by an individual.

Consequently, at least three possible scenarios may unfold. In the best possible outcome, an aided communicator attempts to say something and the listener 'hears' what was said. For example, a child may look to the door and their partner correctly interprets that they are "pointing" at the door to communicate something specific. Alternatively, the same child may simply be gazing at the door without any intent to communicate and find they are being whisked out the door because the listener 'heard' a message that was not intended. A third possibility is that the same child may actively and intently gaze at the door, but their listener partner does not recognise the signal as communicative – does not 'hear' the message.

Sharing meaning is also challenging if the speaker does not have access to easily interpreted speech (Smith, 2015). An aided communicator may have excellent fine motor control and be able to point unambiguously to each symbol on their display (i.e., to 'speak'), but the vocabulary available in an aided system may not exactly match what a speaker intends to mean, or the speaker may not know how to access available vocabulary. Individual symbols may have to be used to express multiple meanings in ways that are less familiar, less typical, and more ambiguous than is the case with spoken words. For the listener, interpreting meaning may be difficult, especially if they are unfamiliar with the symbols used, or with how aided communication functions. The listener may be unsure of how they are expected to contribute or participate in the negotiation of meaning or how much responsibility they bear in interpreting what is meant. These tensions can result in a range of different outcomes, only one of which is that the listener understands what was 'said' and can interpret what was meant by the speaker. Sometimes specific partners can be extraordinarily successful in interpreting complex meanings from fragments of expressions across multiple modes, often, in part at least, supported by their familiarity with the speaker and with the context or topic of conversation (e.g., see the swimming pool example in Smith et al., 2018). A different outcome can arise where a listener can identify what was 'said' - for example, can name all the symbols that have been selected - but cannot interpret the intended message (see the broccoli example in Clarke & Wilkinson, 2008). The listener may repeat SCHOOL YELLOW but never arrive at the intended interpretation (my new classroom has a yellow door). Sometimes, the process of explicitly negotiating what a speaker meant by the symbols selected can lead conversations off in unexpected directions, and the outcome is an interpretation that the aided communicator is happy to accept, but that seems quite far removed from the topic of conversation. Unfortunately, sometimes the outcome is that both participants signal that they are unable to arrive at a shared meaning and the attempts are abandoned.

Participants in conversations involving aided communication often adopt a range of strategies to minimise the risk of communication breakdown. One common strategy involves the listener repeating what has been 'heard' at each point in the conversation, as in the following example:

Anna:	I
Adult:	Ι
Anna:	SEE
Adult:	seeno?
Anna:	STOP
Adult:	stop, I stop
Anna:	SCHOOL
Adult:	school
Adult:	you stop school?
Anna:	/ye/
Adult:	you mean, you are going to be finishing school this year?

Lines 2, 4, 6, 8 and 9 seem to be attempts by the listener to ensure that they have heard the message correctly, whereas at line 11, the focus shifts explicitly to what the speaker means. It is easy to see the extra effort required of the adult partner in this exchange, checking at every point to ensure they have 'heard' correctly. However, each of these checking points also requires additional effort of the aided communicator, as they step out of speaker role to listen to what their speaking partner says, review it for accuracy and then correct as necessary – as happens in line 5 in the above interaction. Both the cognitive demands in terms of working memory and the physical effort that may be involved in repairing any misunderstanding add considerably to the demands of participating in conversations. Given the extra effort required of both participants in the interaction, success seems most likely when the participants are effectively attuned to each other.

Conversational Partner Training

The importance of communication partner strategies in supporting success in interactions has long been recognised, and there is now a growing body of evidence related to the impact of interventions focused on communication partner training (Binger et al., 2010; Kent-Walsh et al., 2010). In many of these interventions, the emphasis is on supporting partners to effectively model the use of aided communication and to pace interactions to support relatively equal distribution of talk time within interactions. These strategies have been found to be effective in increasing the use of aided communication, in increasing conversation participation and in enhancing aspects of language skill, including extending utterance length and enhancing grammatical structure (Cooper et al., 2021). These are all very positive developments. It remains unclear, however, whether the same strategies are equally effective in supporting partners to interpret the *meaning* of what has been expressed, particularly if they are not familiar with the topic of conversation or the individual aided communicator. It seems likely that additional supports focused on extending interpretation strategies may also be needed to address the multidimensional processes of both *saying* and *meaning* (Neuvonen et al., 2021).

In the *Becoming an Aided Communicator* project (for description, see von Tetzchner, 2018), children and young people aged 5-15 who used aided communication engaged in a number of communication tasks with a range of conversational partners. Many of the tasks involved communicating information about topics and events that were not known to the speaking partner and not surprisingly, these interactions frequently resulted in a need to repair conversation breakdown. Sometimes a difficulty arose because the speaking partner 'misheard' or did not hear the message apparently expressed; for example, in some instances, the partner could not interpret the speech generated by a communication device. In other instances, the partner was successful in 'hearing' the message but could not interpret the meaning. An initial analysis of a selection of these interactions suggested that success in navigating the repair sequence was most likely: (i) when partners paid attention to all modes of communication; (ii) when speaking partners consistently confirmed both what they thought had been *said* and what was *meant*; and (iii) when partners were willing to accept apparently exact repetitions by the aided communicator as representing different possible meanings. These preliminary findings require further evaluation, but they suggest that there may be value in extending the scope of communication partner training to include a focus on the interpretive processes that are at the heart of conversations.

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AAC as a Restorative Tool for Persons with Aphasia

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Augmentative and Alternative Communication (AAC) is known as a compensatory tool for persons with aphasia (PWA). The evidence supporting use of tools and strategies such as rating scales, whiteboards, written choice, and drawing are well known to many of us. Yet, these tools and strategies are not used as broadly nor as early in the rehabilitation process as their benefit would suggest (Weissling & Prentice, 2010). This may stem from the focus which PWA and their families have on restoration of skills; they want to get back to normal, which means talking. As a result, they often reject use of AAC because they perceive its introduction as giving up on speech. Sadly, Speech-Language professionals reinforce this view by introducing AAC toward the end of services or when progress appears to be slowing.

However, this approach contrasts with past assertions and current evidence that AAC serves both a compensatory and restorative role for PWA. In 1990, Kraat stated that AAC serves three purposes for PWA: facilitating reacquisition, cueing, and substituting for speech. More recently, Dietz, Wallace and Weissling (2020) indicated that AAC is beneficial not only for supporting expression but also the other areas on which aphasia rehabilitation focuses: comprehension, reading, and writing. This evidence suggests that AAC offers the following benefits to individuals with aphasia:

- Facilitates restoration of skills.
- Mediates frustration through prompting and compensation.
- Takes advantage of preserved and returning skills.
- Compensates for persisting language impairment.

Dietz (2020) discussed upcoming research which will examine brain imagery for PWA using AAC and speech compared to use of speech alone, as well as therapy utilizing AAC and without. She indicated confidence that AAC will become a vital aphasia rehabilitation tool that supports increased participation outcomes for PWA (Dietz, 2020).

These benefits make a strong case for utilizing AAC as early as possible in therapy (Weissling & Prentice, 2010) though primary functions of its use may vary throughout the rehabilitation process from mediating frustration to skill restoration to compensation for participation.



Many SLTs (Speech and Language Therapists) report knowledge, and even appreciation, of the benefits of AAC for persons with aphasia but this does not appear to be enough to prompt them to use it. Perhaps they struggle to understand practically how to enlist AAC in support of their restorative goals and simultaneously use it for compensatory purposes. As professionals focusing on AAC, we must help our colleagues by sharing more than knowledge about AAC to offer methods of operationalizing its use.

With this in mind, consider the steps below which are implemented to integrate AAC for a fictional client, Joe. He has severe issues with verbal expression and moderate challenges in written expression, auditory comprehension, and reading. His wife, Mary, wants to help him communicate but doesn't know how.

Step 1: Understand participation goals (Chapey et al, 2000).

Joe wants to keep up with his grandchildren's activities. Mary wants Joe to spend a few evenings a week away from home at the pub with his pals.

Step 2: Identify what skills are needed to accomplish these goals given Joe's current abilities.

Goals are below step 3.

Step 3: Determine how AAC might be used to restore skills above and to provide a compensatory support when needed.

GOALS	RESTORATION	COMPENSATION	
Verbal expression			
Ask questions from scripts developed for each grandchild.	Program buttons containing questions to produce the full sentence as a cue or a portion of the sentence (e.g., first sound, first word). Consider moving cues to adjacent buttons so Joe can choose the cue he needs.	Point to questions in script when verbal production is challenging.	
Order a beverage at the pub and ask for the bill.	Use customized lists of words in a drinks category or pub drinks category as stimulus. See cell above for cueing ideas.	Point to words when verbal production is challenging.	
Auditory comprehension			
Understand his grandchildren's responses to his questions.	Program buttons in the script with potential responses to questions paired with symbols for practice. Program adjacent buttons with keywords for cueing.	Teach grandchildren to supplement their speech by pointing to images/text in the AAC app or by drawing/writing on a whiteboard.	
Understand common questions from the bartender (e.g., How are you? What will you have? Do you want another?)	Add the scene of a bar to the AAC app with various questions in buttons or hotspots for practice. See cell above for cueing ideas.	Program a message (button or whiteboard) which can be spoken or shown to the bartender when Joe needs support to understand.	
Reading			
Read football scores for his granddaughter's team.	Program buttons with target words using adjacent cells for cues. Copy scores from the news to the AAC app's keyboard and listen to them to support comprehension.	When struggling to read, select buttons with words for cues.	
Writing			
Write a two-to-three-word note to Mary that he has gone to the pub and when he will be back.	Copy target words on buttons or written in whiteboard.	Copy target words from buttons or written in whiteboard when unable to produce message independently.	

Step 4: Use AAC to address restorative goals. In addition, use AAC to address goals throughout therapy for genuine interactions and when communicating with his wife, Mary.

Use a rating scale to find out how Joe has been since you last saw him.

- Use written choice and/or drawing on the whiteboard to discover progress in real life on participation goals and to have general conversation. Also, use vocabulary in the AAC app.
- Use buttons programmed in AAC or written choice to have him select what he wants to work on next.
- Use a rating scale and/or written choice to understand the difficulty level of each activity.

Step 5: Encourage Mary to use AAC when she interacts with Joe.

- Ask her to offer feedback on how he is using AAC.
- Offer feedback to her as well.

The steps above encourage the use of AAC for restoration and compensation as well as facilitate carryover to the home environment. All this without deviating from the client's and family's expressed goal to return to "normal", and without significantly modifying what SLTs typically do in therapy. The images and text in AAC can be used as the stimuli for a variety of goals, from naming to picture description and storytelling verbally, or in writing as well as reading single words to complete paragraphs. The auditory feedback provides opportunities to practice following directions and answering questions. But AAC moves beyond restoration to fill in gaps the individual is experiencing throughout the rehabilitation process by compensating for them.

As SLTs, our desire is to return our clients to the lives they desire. Whilst we hope that this will result from significant progress in verbal expression, comprehension, reading and writing, we must not limit or delay their participation. Instead, let's employ a therapeutic tool which has significant potential to facilitate progress and participation in our clients' lives: AAC.

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Barry, one of our members, has found the Headspace app useful to him. Here is his write up of how he has found using the Headspace app.

One app on my telephone can help people with Cerebral Palsy

BARRY SMITH

Who I am

My name is Barry Smith and I am 42 years old. Down to me suffer from Cerebral Palsy what is a physical disability, down to me having this I am in a power chair, and I using a communication aid too. Sometimes in my life I get upset, what we all do.

A few months ago

A few months ago I was talking to someone about how I was feeling. After the person hear, they told me about an app I could download what is called Headspace. You can download Headspace from the app store and after downloading it, pick basics on the app, then pick a teacher.

Live happier and healthier by learning, and it asks you do five mins or ten mins each day. For the first ten days it is free and after the first ten days people can go back to the start to do the first ten days again, for free again.

Outcome of doing this app

By using this app when you suffer with something like Cerebral Palsy, I personal feel it helps chill you out. In your head/ body by hearing this app it might stop some jumping moving. This supports my everyday life. Don't worry if you find it hard to close your eyes when they tell you, just try to look at something when the app is on, and remember it is your time.

Mentoring Project: Update and New Developments

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2021 is our third year of funding from the National Lottery Community Fund and it has been another busy year.

We continued to deliver a wide range of opportunities

Covid-19 continued to present significant challenges for everyone, but we were really pleased with the level of engagement and activity during 2021.

The range of learning and development opportunities included continuing to deliver Level 1 in Mentoring qualifications via distance learning. To date, we are delighted that approximately 35 AAC (Augmentative and Alternative Communication) users have completed, or are currently completing, this qualification. As part of the progression opportunities, learners were then able to complete a Level 2 in Employability qualification. This is not about getting a job, but the units (which learners can choose) are about the skills and qualities when in work, whether it is paid or voluntary.

We are also working with schools' Speech and Language Therapists to provide opportunities for Entry Level 2, Entry Level 3 and Level 1 in Personal and Social Development. The AAC users could choose the units they wanted to do, and these range from healthy eating, making the most of leisure time, developing themselves, and understanding interpersonal skills, along with some other really useful topics. In total, so far, 17 AAC users have benefitted from these opportunities.

We contributed to the Communication Matters virtual conference again in September 2021, with an update on the project, and we worked with 1Voice to support their Role Model programme during the summer of 2021.

So, a busy time, but very enjoyable, and all the activities contribute to our development and next steps...

We are working on some exciting new developments - animation, adapted materials and digital skills

We are grateful to the AAC users and others who formed the consultation group for an exciting new project: Creating Visual Resources, the first part of which was to commission an animation about mentoring. We have worked with an animator and freelance artists, as well as AAC users who have provided the narration. We hope to be able to launch the final copy of the animation in the new year.

We have also worked with a Speech and Language Therapist, who has adapted all three units and handbooks for the Level 1 in Mentoring qualification with symbols. This offers another format for AAC users who wish to access this type of resource and we are now looking at adapting more learning materials such as the Entry Level units. This has been another worthwhile and exciting development as the project continues to expand its resources for future AAC learners.

Whilst this is very much in the early stages of development, we are working with a school to develop some resources based on the Department for Education's Essential Digital Skills Framework and National Standards, and we will pilot the modules we adapt with the school, with a view to potentially offering this more widely. More information to come during 2022.

Next steps

We will continue to offer our distance learning opportunities as well as offering some face-to-face learning opportunities, subject to Covid-19 restrictions. We would also like to begin planning for some more animations in 2022. In summary, we are continuing with the learning and development opportunities on offer as we have funding available.

For anyone interested in finding out more, please go to:

https://communicationmatters.org.uk/what-we-do/projects/mentoring-project/ Or contact Verity Elliott on: verity@creativityinpractice.co.uk or 07891 959048.



Establishing and Developing the London AAC Journal Club

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The Beginning

The London AAC Journal Club was set up in 2017 by three Speech and Language Therapists (SLTs) who wanted to set aside time and space to keep up with the latest research, reflect on their practice and bring together professionals interested in AAC.

Fast forward 4 years and the Club has approximately 100 members on its mailing list, meets 6 times a year and hosts 10-20 people at each meeting. It is predominantly made up of SLTs but has attracted a few teachers and Occupational Therapists as well. The majority of the current members work in paediatric settings, but we are keen to attract practitioners from a range of backgrounds.

For the first three years we met in public venues after work in North London, our discussions often competing with loud 90s pop music! The pandemic saw us shift to online meetings and this has proved popular, with increased attendance at each meeting and people able to attend from further afield.

How it Works

We choose a specific topic for each meeting and have covered at least 20 since the Club's inception. These have included a focus on AAC use among people with diagnosed conditions such as Rett syndrome or Autism, as well as a focus on technology including, 'What is new in eye-gaze research?', and a look at the evidence base behind Visual Scene Displays. Other topics covered have included Literacy, Parent Collaboration and Peer Interaction. We have had some great guest hosts at some of our meetings who have a particular interest or specialism in the field and are able to recommend papers to read as well as support the live discussion.



Figure 1: Responses to the survey question "Tell us 3 good things about the Journal Club".



Figure 2: Survey responses to the question "Tell us three things that would make the Journal Club even better".

Signed-up participants are assigned one of four papers to read in advance. At the Club, those who have read each paper describe the main points and the discussion generally develops into the potential impact of the research onto our clinical practice. At least 8-10 different health trusts are represented at each meeting, which provides a rich source of discussion and perspectives.

Survey of Participants

We surveyed our members early in 2021 to find out more about our membership and to gather their feedback about the Club. The survey was sent to 100 people, and we received 20 responses. The survey confirmed that the majority of our members are SLTs, and those who responded to the survey had at least 1 year's experience working with AAC (the majority had 11 years or more).

Applying Theory to Practice

We are keen that the Journal Club provides opportunities for practical discussion about how reading will be applied to everyday practice. When we asked participants for examples of the impact of the Club on their clinical practice, here are some of the examples they gave:

"I initiated contact with a child's mainstream school placement and arranged training with their year 6 peers." Topic: Peer Interaction (May 2021)

"I now think of core words as 'core' to an individual rather than as a 'set' of words." Topic: Core words (June 2020) "I explored the client's support network more thoroughly during initial consultation."

Topic: Abandonment of AAC devices (October 2020)

The Future of the AAC Journal Club

The Club continues to grow and, following feedback from members, the intention is to remain online. Although we started in London, we are now able to welcome members from anywhere.

We aim to consider different ways in which to share the discussions with those who cannot attend. We look forward to welcoming new guest hosts, exploring new topics and revisiting previously covered topics in the light of new research.

For more information or to join our mailing list, please contact: aacjournalclublondon@gmail.com

Exploring the Views of Cypriot Professionals and Caregivers on Augmentative and Alternative Communication (AAC) Systems: Acceptance, Rejection or Abandonment

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Introduction

People with complex communication needs can benefit from high-tech Augmentative and Alternative Communication (AAC) systems when it comes to communicating their thoughts and ideas with their communication partners (Beukelman & Mirenda, 2013; Moorcroft, Scarinci & Meyer, 2020). There are a variety of factors that can lead to acceptance, rejection or abandonment of these systems (Baxter et al. 2012; Donato, Spencer & Arthur-Kelly, 2018; Pampoulou, 2018). AAC system *acceptance* refers to a person accepting a specialist's recommendation for an aided AAC system and using it in different environments with familiar and unfamiliar communication partners (Pampoulou, 2018). *Rejection* of AAC systems refers to a person's unwillingness to accept the recommended AAC system and refusing to participate in the training that is required in order to learn to use it (Johnson et al., 2006). *Abandonment* implies that the person has obtained an AAC system, but they have chosen to stop using it (Scherer, 1993; Moorcroft, 2019; 2020).

The factors that can affect acceptance, rejection or abandonment, as shown by many researchers, may be personal (Lindsay, 2010; Pampoulou, 2018), family-oriented (Donato et al., 2018; Pampoulou, 2018; Moorcroft et al., 2019; 2020; Park, 2020) related to the nature of clinical services (Lindsay, 2010; Dada et al., 2017; Moorcroft et al., 2018; Pampoulou, 2018), technology-related (Baxter et al., 2012; Paterson & Carpenter, 2015; Pampoulou, 2018) oreconomic (Ray, 2015; Park, 2020). Lasker and Bedroisian (2001) have developed an AAC Acceptance Model, which categorises these factors into three broad areas: 1) millieu, which includes the partner, the environment as well as the funding options; 2) person, such as the individual's personality, skills and needs; and 3) technology, for instance, ease of use of the system or system durability.

The purpose of this study was to explore the views of Speech and Language Therapists (SLTs) as well as informal caregivers of adults with acquired communication disorders, in Cyprus, about the factors that affect the acceptance, rejection or abandonment of AAC systems.

Methodology

Participants

The participants were six registered Speech and Language Therapists working with adults with acquired communication disorders and four caregivers (two spouses and two sisters) of people with acquired communication disorders, who have used or are still using AAC systems. More specifically, three of the four men who used AAC had Amyotrophic Lateral Sclerosis (ALS) and the fourth had aphasia after a stroke.

Data collecting

A qualitative approach was followed, and semi-structured interviews were conducted. Data collection lasted for two weeks, and each interview took approximately thirty minutes. Due to the Covid 19 pandemic, the interviews were conducted using the communication platform Skype. The first part of the interview included general information about the participants and the second part focused on the purpose of the current research study.

Data analysis

Thematic analysis was used for the data processing.

Results

Factors leading to acceptance

The acceptance of the person's disorder and its current condition was found to be the main factor leading to acceptance when using AAC. As Giota (SLT) held, it is about, "Accepting that he/she is at a permanent station and nothing is going to change. So, it's him/her that needs to adjust his/her life on what happened". A person's motivation and willingness to be trained on AAC systems was also a vital factor in accepting them. As Katerina (caregiver) said, "Peter has so much willingness, so he has tried so hard to write on his communication system". The age of the end user was another factor. As Nicole (SLT) commented, "younger patients tend to accept technological systems more easily, as these can make them look cool". Also, knowledge of computers before the onset of the disease was cited as another factor leading to the acceptance of an AAC system. Mary (caregiver) cited her brother as an example: "He was using the computer a lot before, so it was not difficult for him to learn that".

In addition, the support of an individual's family has a key role in acceptance. As Chryso (SLT) stated, "when a person in the family encourages the patients to use it, then the individual will be more familiar with the people of the family to use it". Moreover, because in Cyprus the use of AAC systems is relatively new, their introduction is hindered by people's sense of being stigmatised when seen to be engaging with them. As Giota (SLT) put it, "think now of an average Cypriot family, how much they will make fun of someone who has a communication device, let alone accept it."

SLTs have a significant role to play in the acceptance of AAC systems. As Nicole (SLT) mentioned, "it is important for the clinician to choose the right system for each individual". The practical support of specialists also aids acceptance as, if it is available, then users and their families feel that someone is there to help them with the system. Speaking about the support provided by specialists, Mary (caregiver) said, "until now when we have some difficulty, he [AAC specialist] has immediately supported us". Katerina (caregiver) was also upbeat about the support provided: "Mr. Andreas will encourage him, 'Peter, we will succeed. Peter, okay, don't worry, we will do it.".

Technology itself can play an important role in acceptance. Firstly, the ease or difficulty of the AAC system can affect acceptance. Regarding which, Margarita (SLT) said, "the easier it is to use it, the more likely they will accept it".

Factors leading to rejection / abandonment

According to the findings, many factors can contribute to the rejection or abandonment of AAC systems. To start with, the comparison process can leave an individual feeling trapped between his/her current state and the way they were before the acquired disorder, which can lead to depression. As Chryso (SLT) stated, "the depression overshadows the will", and Sophia (caregiver) added, "he is a little depressed because he sees me tired... I see he has lost interest in living". Additionally, the person may feel stigmatised. As Nicoleta (SLT) asserted, "if someone sees him using a communication system, many patients find it negative for their self-image, their self-confidence".

The family members may be convinced that an AAC system will undermine the chances of the person speaking again. As Margarita (SLT) stated, "they feel that they will remain stationary, and that their person will never be able to be as it was before". The family may not accept the AAC system, so the individual will not use it at home. Stella (SLT) shared, "if the family does not help the individual to work with the AAC system, then all the efforts of the SLT will be lost". Furthermore, family obligations can sometimes impinge on using these systems. For instance, Evi (caregiver) used to support Mr. Filippo, but, "unfortunately, now I cannot care him as before, because now I have my grandchildren...".

Other factors are related to the cost and complexity of using the system. Katerina (caregiver) said, "we worked so hard; we kept a little money that has been available for this purpose". As for the complexity of using the system, Despina (SLT) said, "some difficulty in using it, the fact that it takes time to get acquainted with each system, to learn it; for the caregivers to learn it".

Discussion

The purpose of this study was to investigate the views of SLTs and caregivers on adults with acquired communication disorders in Cyprus, specifically regarding the factors that affect acceptance, rejection or abandonment of AAC systems. The first factor that emerged was the individual's willingness to use an AAC system to communicate, thus aligning with the findings of Lindsay (2010) and Pampoulou (2018). Moreover, the acceptance of the individual's communication disorder by both them and their family members is vital for the acceptance of an AAC system and to start using it (Pampoulou, 2018). Potential stigmatisation by others from using such a system is another factor. The findings also showed that the age of the end user and their knowledge of computers before the onset of the disease are equally important. Similar research (Lindsay, 2010; Donato et al., 2018; Pampoulou, 2018; Moorcroft et al., 2019;2020; Park, 2020), as well as the findings of the current enquiry, concur that family support is related to AAC acceptance. In addition, evidence has emerged that any misconceptions the family may have about the effectiveness of AAC might lead to its rejection (Pampoulou, 2018).

The role of SLTs in accepting, rejecting or abandoning AAC systems should not be overlooked as an important finding of this study, which is in line with other studies (Johnson et al., 2006; Lindsay, 2010; Dada et al., 2017; Moorcroft et al., 2018 & Pampoulou, 2018). More specifically, these studies refer to the need for education and training of SLTs in AAC systems, in order to deploy the appropriate communication system for each individual. After that, the SLT is responsible for the training of the individual and his/ her family in the appropriate usage of the system. Moreover, Moorcroft et al. (2020) have argued that one factor in the rejection of AAC systems by users is minimal or no interaction of users with specialists. This factor has also emerged as significant from our study, being raised by both SLTs and caregivers.

The technology itself can lead to an individual accepting, rejecting, or abandoning an AAC system. It is important that the chosen system is easy to use by the individual and the family as well as being adaptable to different communication environments (Lindsay, 2010; Baxter et al., 2012; Pampoulou, 2018; Moorcroft et al., 2019 & Ju et al., 2020). The cost of the communication equipment or software is another relevant factor. Despite the Cypriot government, as with other governments (Park, 2020), covering a large part of the total cost of the device, the time it takes for the person to acquire the device after receiving the money is often excessive.

Conclusions

According to the results of this study and other relevant studies, several factors may lead to acceptance, rejection or abandonment of AAC systems. This research revealed four main ones: the individual him/herself, the technology, the SLT services, and the family. However, there is a lack of literature specifically oriented towards adults with acquired communication disorders regarding these factors. Hence, the findings of our short study contribute to filling the gap in knowledge regarding the factors that contribute to the acceptance, rejection or abandonment of AAC systems by adults, in this case, in Cyprus. SLTs in Cyprus have been called to take action and promote the development and use of AAC systems in a country where AAC deployment is still in its infant stages (Pampoulou et al., 2018; Theodorou & Pampoulou, 2020).

The number of participants was considered to be satisfactory for a pilot study, considering the Covid-19 pandemic that existed during the conducting of this research. The field of AAC is a specialised field, and, in Cyprus, there are not enough specialists to work in it, especially with adults with acquired communication disorders.

In order to be able to understand AAC system acceptance, rejection or abandonment better, it is vital that the views of AAC users are given voice. Hence, in future research it would be good to involve people who use AAC systems. This will provide a clearer picture of the factors that contribute to attitudes towards AAC systems, and possibly uncover additional factors that were not detected during the study reported upon here. It is also unclear whether AAC abandonment is less frequent in countries where it is a more established field and hence, comparative studies across multiple contexts are recommended to probe this issue.

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Communication Matters Supplier Member Company: Liopa (www.liopa.ai), makers of the SRAVI app (www.sravi.ai)

Could a Simple Lipreading App Help You?

EMILY McDAID Marketing Manager, Liopa Email: emily.mcdaid@liopa.co.uk

Hello – we are from Liopa, a company that has been in Communication Matters' ecosystem for approximately one year. We are the developers of an AAC application called SRAVI (Speech Recognition App for the Voice Impaired). Because some AAC users haven't come across SRAVI yet, we wanted to provide an explanation about the technology and how it's being developed.

SRAVI is a simple lipreading application that requires just a smartphone. It is being used in Intensive Care units within NHS hospitals - Including the Royal Preston Hospital in Lancashire - to bring a voice to the voiceless.

SRAVI helps patients who have lost the ability to speak, to communicate with their loved ones and carers. There are many conditions and procedures, including tracheostomy and intubation from conditions such as COVID-19, which mean that people cannot move air across their voicebox, rendering them voiceless. SRAVI can be deployed onto a smartphone, and when pointed towards the patient, the app analyses their lip movements to decipher what they are trying to say. SRAVI works with a pre-defined list of phrases that were specially selected. The phrases, such as "I'm in pain," are essential communications for patients who are critically unwell.

SRAVI was developed in partnership with the Lancashire Teaching Hospitals NHS Trust. ICU Consultant Dr. Shondipon Laha led the project to research and develop SRAVI with real-life patients, making it as effective as possible.

Dr Laha said, "This prototype, trialled successfully on our critical care unit, has shown very exciting results. I see SRAVI as being fundamental to the recovery and wellbeing of critically ill patients."

SRAVI can be used by any patient with severely impaired speech. The application is, however, particularly relevant for those patients who are generally unwell and don't have the manual dexterity and mental lucidity to operate the common technology-based AAC devices and applications on the market today. GRID-based devices and access technologies such as Eye Gaze are not suitable for use by patients in Critical Care environments. Additionally, the cost of these devices can be prohibitive, and the level of training and calibration required before effective use make them impractical for unwell patients.

In contrast, SRAVI is "ultra-easy" and focuses on the communication of urgent information quickly. With SRAVI,

- · Users can be up and running in seconds
- You simply aim a smartphone camera at the person, and it reads their lips from a defined set of phrases
- They can communicate with family members, doctors and nurses instantly, with basic but essential phrases like "I'm hungry. I
 need the toilet."

Many procedures and conditions will render patients voiceless – tracheostomies, laryngectomies, paralysis, trauma or stroke.

Dr Laha went on:

"Not being able to speak is very frustrating for the patient, and for staff. We can deal with patients' needs much more rapidly and the rehabilitation process is much smoother if we can improve communication. SRAVI is absolutely fundamental to the successful treatment of extremely ill patients."

Here's how SRAVI came into existence – because of football, believe it or not...

Dr. Laha said, "Initially we wanted to try using SRAVI with tracheostomised patients. The tracheostomy sits below the vocal cords, and because no air can pass through the vocal cords, no sound can be made. These patients are typically very unwell, and although they're able to nod their heads, they can't speak to tell you what they want. They tend to be weak, confused, and are often very frightened about what's occurring."

He went on, "SRAVI allows patients to more clearly communicate what they want. It's very hard to tell someone you're in pain or you need to use the toilet. Gesturing isn't effective, and they're typically too unwell to write it out. But simple things can be communicated very effectively and easy with SRAVI lipreading for them."

He added: "Right now, because of COVID, the environment in ICU is even more noisy, and there's a lot going on. It's a high stress environment; the staff are wearing visors and face masks, and it makes hearing and speaking even more difficult. Many patients are wearing C-PAP hoods, so they have high velocity oxygen coming in, but it makes hearing even more difficult. But one thing you can do, is see their lips moving."

SRAVI also benefits doctors, nurses and therapists on the critical care ward who have often felt the frustration of trying to lipread their patients. This frustration was the initial grounding for the innovation of SRAVI. Dr Laha said, "I was doing my ward round at Lancashire Teaching Hospitals during the World Cup in 2018, when my patient started mouthing something at me. The patient had undergone a tracheostomy and was unable to speak. After a while I realized what my patient wanted – he wanted me to move out of the way of the TV so he could watch England taking penalties," he said.

After that, Dr Laha began to search online for lipreading software and came across our company, <u>Liopa</u>, that had undertaken years of research in this area. Liopa was borne out of more than 15 years of PhD research at Queen's University Belfast in the field of Speech and Image Processing. The research had a particular focus on the fusion of speech and lip movements for robust speech recognition in real-world environments.

Today, Liopa is one of the only startups in the world focused on using AI to build automated lipreading solutions.

In 2019, Liopa joined forces with Dr. Laha and Lanchashire Teaching Hospitals to spend the following 18 months robustly testing and fine-tuning the SRAVI application that exists today. SRAVI is the first commercial solution for automated lipreading in the healthcare setting.

What kind of results has SRAVI achieved so far?

Liopa developed a poster describing the evidence gained during our initial trial of SRAVI. The full report is available at: www.sravi.ai/evidence.html.

Phase 1 of the trial was conducted at Royal Preston Hospital from May to November 2019. The trial was funded in part by Innovate UK.

During this phase, 15 patients and 33 staff members helped to capture data for SRAVI, and to determine the phrases most commonly used in their care setting.

From this research, Liopa compiled a list of 20 phrases that SRAVI can understand.

Because SRAVI is based upon artificial intelligence (AI) algorithms, it was critical to demonstrate that the app will read the patients' lips better as they continue using it. The longer the patients used SRAVI, the better the app got at understanding what they were saying.

Critically, Phase I proved that SRAVI returns the correct phrase that has been lip-read with greater than 90% accuracy. The recognition system is able to identify the correct phrase in the top 3 with 100% accuracy.

One of the patients who trialled SRAVI was Nathan Armstrong, aged 33 from Oswaldtwistle, who has experienced paralysis of his vocal cords since he was an infant. His condition has also caused him to develop severe asthma. To assist with unimpaired breathing, Nathan was fitted with a tracheostomy in October 2019.



Nathan's father, Stephen Armstrong said, "Nathan was having too many episodes of ILOs – or Involuntary Larynx Obstruction – a medical emergency when the ability to breathe is threatened due to blockage of the airway. So, it was a lifesaving and life-changing procedure for him."

The year before the tracheostomy, Nathan spent 289 days in hospital. Since October 2019, he has only spent two weeks in hospital. Whilst the tracheostomy helped Nathan to regain strength and afforded him a much-improved quality of life, it has also caused Nathan considerable communication challenges, which are commonly experienced in patients with a tracheostomy.

The SRAVI app assisted Nathan in his treatment.

"Nathan used SRAVI in the beginning for about three months – he started using it in hospital, to communicate with nurses, therapists and doctors," said Stephen.



"He quite liked it and found it very useful. He's used it a fair bit and he would certainly recommend it."

Of SRAVI, Nathan said:

"I am very satisfied with how accurately SRAVI returned the phrases I was communicating while I was in ICU. If you have been on a ventilator, you will have been asleep for a week or maybe longer — the last thing you want to do is pick up a pen to try to communicate."

"I think SRAVI will be a good way for people like me to communicate."

The wonderful news is that Nathan's prognosis is looking good. His father Stephen said, "His vocal cords look as back to normal as possible – things are looking good for the future."

How can you try out SRAVI?

At present, we are only conducting trials that are initiated by clinicians or healthcare workers, rather than by individuals. We hope that, as the company scales up, we can publish an app in the app store for individuals to trial. We are also hopeful that our continued R&D efforts will result in SRAVI being able to understand more and more phrases. Information is available at our two websites: the app website, www.sravi.ai, and our company website, www.liopa.ai. If you have direct feedback, please get in touch with us on info@liopa.ai.

Thank you very much for reading about the SRAVI app!

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Using a Flex Sensor to Enable Communication

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Introduction

This project (Flex) is designed to fill a gap in what is currently available with off-the-shelf assistive technology. The system uses a short, flexible plastic bend sensor. When the sensor is bent beyond an adjustable threshold, a switch signal is sent to a communication device.

Flex is designed to enable people who cannot use physical controllers such as buttons or joysticks but who can make an intentional movement with a finger or other joint. This motion can be measured with the flex sensor to enable interaction with switchable Augmentative and Alternative Communication (AAC) software. Videos and links to the project software and documentation can be found on the project website [Oppenheim].

The need

Beaumont College in Lancaster educates around 100 students with a spectrum of disability, mostly resulting from cerebral palsy. Many of these students require AAC. The Technologists at Beaumont College identified a student who could make an intentional finger movement but lacked the strength to operate a conventional controller.

The Flex project was initially developed to help this student. She eventually developed sufficient motion in her wrist to use an offthe-shelf controller. But it seemed worthwhile to continue to build and test a flex-sensor-based system to help others with her type of limited motion.

Solution

Wearing a light and flexible flex sensor across a joint that can be intentionally moved enables a switch to be activated. This switch can control switchable software or a switchable device.

The flex sensors used for the prototype are made by Spectra Symbol [Spectra Symbol]. One of these flex sensors is shown in Illustration 1. Two versions of this type of flex sensor are available, with lengths of 55mm and 95mm. Both of these can be used with the system.

There are two modules in the Flex system: a sensor module and a switch module. The flex sensor plugs into the sensor module via a lightweight and flexible lead. As the flex sensor is bent, an array of LEDs on the sensor module indicates how much the flex sensor is bent. Once a pre-programmed threshold of bend is exceeded, a trigger signal is sent from the sensor module to the switch module. The sensor module is shown in Illustration 2 and the switch module is shown in Illustration 3.

The switch module receives the trigger signal by a radio signal from the sensor module. A switch adapter cable connects the switch module with the communication device. The switch module generates a switch signal which passes through the switch adapter cable to control the switchable software or device. Grid 3 software was used for testing.

The amount that the flex sensor needs to be bent to send a trigger can be adjusted from either the sensor module or from the switch module. Having an adjustable threshold means that the system can be adapted for people with different ranges of movement.



Illustration 1: Spectra Symbol flex sensor.



Illustration 2: Sensor module using a 2xAAA battery pack as the power source.

Illustration 3: Switch module connected to a switch-to-USB adapter cable. This cable is plugged into a laptop running communication software.

A 'pre-bend' can be programmed into the system, so that somebody who at rest has a bent joint can use the system. This 'pre-bend' is set using a blue knob on the sensor module.

Advantages

The flex sensor only measures the bend made along its long axis. This means that the sensor is not affected by a tremor or shaking motion. For instance, the Flex system may be of interest for a case where the user has erratic hand or arm motion which makes it difficult to interact with a static control, but is still able to make a controlled finger movement or bend a wrist.

The system could potentially be placed on an ankle or knee joint, but this has not yet been tested.

The Flex system is not expensive to construct. All of the components can be obtained for around £60.

Prototype construction

The latest version of Flex uses the BBC micro:bit [BBC] educational circuit board as the basis of each of the two modules. As this board is deemed safe to give to 11-12 year-olds in British schools, there are no safety concerns about using the device with the students at Beaumont. This allows the project to be safely replicated using cheap and easily available hardware. The micro:bit boards slot into off-the-shelf expansion boards that have a few components soldered onto them.

The sensor module runs from 2xAAA batteries. As the sensor module communicates with the switch module by radio, the student is completely isolated from any potentially dangerous power source. In testing, the sensor and switch modules could communicate over a distance of 14m in a building. Battery life exceeds 24 hours of continuous use. The switch module can be powered from the USB port or from a 3xAAA battery pack. Illustration 3 shows the switch module powered from the USB port. As the switch module does not come into contact with the student, powering this directly from a USB port is safe.

The micro:bit boards were programmed using free and open-source tools.

The cases are 3D printed. The cases were designed using free and open-source software.

The software and case designs are available from the project GitHub website [Oppenheim]. As all of the design files are available on GitHub and were created using open-source software, anybody can easily replicate or build on this project.

Testing

Initial testing of an early prototype was done at Beaumont using a switchable toy. The idea showed promise, so a more polished prototype was developed. This was presented at the online Communication Matters 2021 conference. A request for a Flex kit to trial came from the Kent and Medway Communication and Assistive Technology (KM CAT) Service. Positive feedback on the system's potential, along with a number of improvement suggestions, resulted from sending out the kit.

Future work

Initial feedback from using the prototypes shows that this idea is worth developing. There are several suggestions from the initial testing on how to improve the system.

These improvement suggestions include:

• The flex sensors made by Spectra Symbol only work when bent in one direction. Make the flex sensor respond when bent in either direction so that a separate switch is activated for movement in each direction.

A flex sensor from Bend Labs [Bend Labs] that reacts to bending in both directions is being tested.

It is possible to make flex sensors using conductive plastic and conductive thread sandwiched between neoprene. These sensors respond to being bent in either direction. The material to make these has been obtained. We will construct and test this kind of

sensor. As these sensors use neoprene for their outer layers, they drape more naturally over joints than the sensors used in the original prototype. One concern is that home-made sensors may not show consistent behaviour compared with the industrially made sensors. The behaviour of these homemade sensors will be compared against the flex sensors made by Spectra Symbols and Bend Labs. Being able to manufacture our own flex sensors will reduce the cost of the equipment and enable custom lengths and shapes of sensors to be made. For instance, it might be an advantage to make a sensor that is curved to more naturally follow the contours of the body.

• Prevent the flex sensor shifting out of place during use.

A couple of neoprene finger stalls aimed at anglers were obtained, with the idea of sewing a flex sensor onto the outside.



Illustration 4: Short Spectra Symbol flex sensor mounted on an angling finger stall.

This should make it easy for the flex sensor to be worn for long periods and prevent it from shifting around with use. Please see Illustration 4 for one example. Different solutions for mounting the sensors will be required on an individual basis. Often the mounting of a sensor or switch presents a challenge in AAC. Modifying off-the-shelf devices like the angling finger stall offers a faster solution than custom manufacturing something to hold the sensor comfortably in place.

• Make the device easier for non-technical people to set up.

The project is being ported to include a graphical display, which will make the system easier to set up and use.

If anybody is interested in testing out this idea, please contact the author.

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Introducing Voco Chat from Smartbox

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Voco Chat is a new low-cell-count symbol vocabulary which launched in the Grid AAC software in October 2021. What better way to celebrate AAC Awareness Month than with a new symbol vocabulary! As presented at the CM2021 conference, this article explores the process of Voco Chat's development, including the key decisions that were made, and why.

At the start of the development process, when faced with the challenge of creating a robust vocabulary with fewer cells, we quickly agreed to focus on speed and ease of message creation. The result is a vocabulary built on a foundation of six message pathways designed to guide users as they build their message.

We also decided it was essential to create a vocabulary which would support individuals to participate more in activities, engage more in conversations, and be more independent, and the included words and phrases reflect this.

A pragmatic approach to language

We all communicate for a wide range of reasons, such as asking questions, giving opinions, and telling stories. Communication also allows us to join in activities, build relationships, and advocate for ourselves. With Voco Chat, we aimed to support all of this and more, by focusing not just on the words we use, but also on the reasons we communicate, and how we interact with other people using language.

This approach to thinking about language is called pragmatics. Throughout the development of Voco Chat, we referred to The Pragmatics Profile for People who use AAC (Martin, Small & Stevens, 2017), which gives a comprehensive overview of all the reasons we communicate and how we participate in conversations, ensuring we had considered every aspect of communication in Voco Chat's design.

Key Features of Voco Chat

- Each grid has 12 cells for communication, plus one row and one column for your chat writing area, navigation, and functions
- Vocabulary is organised in columns, from left to right, with the words and phrases you need to get to quickly or most often in the top left corner
- · Message pathways support message building for a range of reasons
- A combination of words and phrases help you get your message across quickly and efficiently, from single selections to multi-part messages
- · Template grids and blank cells make it easy to add your own vocabulary
- · Age-appropriate vocabulary options for children, and teenagers or adults
- · Activity grids to support independence and participation
- · A toolkit to support communication, mental health, and wellbeing
- · A selection of simple apps for enhancing communication and engagement
- Over 375 phrases to support faster message building
- Over 1,500 single words for communication about a wide range of topics



Who is Voco Chat for?

We developed Voco Chat for anyone who needs a symbol vocabulary with a small number of large cells. This could be for many reasons, ranging from complex access needs which make every selection slow or effortful (and therefore they need a very efficient vocabulary) to cognitive difficulties making it harder to learn and remember (and therefore they need less information and fewer cells per grid, and a simpler layout).

We also wanted Voco Chat to be accessible for people of any age, so provided an option to choose between either a Child version of the vocabulary or one for Teenagers and adults. Additionally, it is possible to move from one version of the vocabulary to the other without losing your personalisations, giving potential for users to develop communication and grow with Voco Chat.



Language Support

By considering individuals who may have difficulties with understanding and using language, we decided to design a scaffolded approach to message building, with built-in jumps and carefully selected vocabulary at an early language level. This means that Voco Chat guides users through their message, automatically taking them to the next grid of vocabulary needed to continue their message, reducing the need for extra selections to move around the grid set. This approach may also benefit individuals with memory, attention or learning difficulties, as there are fewer items on each grid to select from, and lots of repetition within the vocabulary.

Access

We designed Voco Chat to be appropriate for users of any access method, including touch, eye-gaze, pointer and switches. Additional features have been added such as auditory prompts, which tell users what is in each column and on each cell. This may be particularly useful for users with a visual impairment or those who benefit from auditory reinforcement (i.e. hearing what is on a cell before they select it).

Choosing your vocabulary

Suitable for users of any age, there are two vocabulary levels available in Voco Chat – one for children and one for teenagers and adults. When you first open Voco Chat you will be given the option to choose which vocabulary level you would like to use and offered more information about the key differences.

The Child vocabulary includes child-specific topics (e.g. toys, playground, magic) and vocabulary for play (e.g. bubbles, cars). The Teen and Adult vocabulary includes adult-specific topics (e.g. relationships, banking, swearing), and vocabulary for leisure and independence activities (e.g. pub, exercise, gardening).

We wanted to ensure that users could transition between the two vocabulary levels as appropriate without losing any personalised information, so grids such as About Me and My Family and My Phrases are shared between the two vocabulary levels.



The home grid

The Voco Chat home grid is made up of 12 communication cells, alongside a functions column, chat writing area, and a jump to 'My Toolkit'.

The six cells on the left-hand side are the **Message Pathways**. These are designed to help you start to build your message, based on why you are communicating. For example, to tell someone something is wrong, to ask someone something, or give an opinion about something.

The orange Quick Communication cells in the next column contain additional vocabulary, including useful words like 'more',

'stop' and 'finished', useful language for having a conversation, and space to add your own favourite phrases.

The blue **Everyday Words** cells in the fourth column are where you will find a lot of useful vocabulary such as people's names, places, and categorised vocabulary for a whole range of other topics. You will find jumps to these words from within the six message pathways but can also get directly to the words using these jumps on the home grid.

The top row of the home grid contains a jump to **My Toolkit** which gives access to a range of resources for supporting communication and emotional wellbeing, as well as apps to support users to interact with other people and engage with their device.



The grey **Functions** column on the right-hand side of the screen is where you'll find options to jump back to the previous grid, delete words, and clear your chat writing area. If you use an alternative access method such as eye-gaze or head-pointing, and dwell to select, you will also see a rest cell in this column which you can use to pause your access method. This function column is present on every grid in Voco Chat.

Support for emotional regulation

Individuals with complex communication needs may need more support to identify, talk about and manage how they are feeling. This is called emotional regulation. We have included a range of supports for emotional regulation within Voco Chat, including quick access to emotion vocabulary through the "I feel" message pathway, and sections in the Toolkit, which include vocabulary and strategies to help an individual calm down, and pre-stored "self-talk" phrases.

Self-talk is something that many of us do on a regular basis and is recognised as a core communication function which AAC should enable (Beukelman & Light, 2020). Whether we do this in our heads or out loud, it is often used as a way to reassure, encourage or simply remind ourselves to think positively.

Within the field of AAC, self-talk has been highlighted as something that AAC users might find difficult to develop and use unless they are provided with self-talk phrases within their AAC vocabulary (Ahern, 2017). We have therefore provided a selection of self-talk phrases in Voco Chat that can be used, adapted, and added to as needed.

Support for emotional wellbeing and mental health

Rates of mental health difficulties are known to be significantly higher in individuals with intellectual disabilities (Emerson & Hatton, 2007; AIHW, 2016), with speech and communication impairments identified as a specific risk factor for poor mental health (Ireys et al, 1994). Furthermore, individuals with language and communication difficulties may need more support to access language they can understand and use to talk about their mental health. We therefore felt it was essential to include vocabulary to



encourage this in Voco Chat and have done so in several ways, particularly in the "I'm not okay" section. Much of the vocabulary used here is based on language taken from The Feeling Down Guide (Foundation for People with Learning Disabilities, 2014), a resource that was developed for and by adults with learning disabilities to promote positive mental health.

Personalising Voco Chat

Personalising an AAC user's vocabulary is a crucial part of supporting someone to use AAC successfully and is seen as an important first step to increasing acceptance and use of a device (Anderson et al, 2016). Personalisation may mean adding personal information to the About Me grid, adding regional slang phrases to the My Phrases grid, or adding the names of family and friends to the People grids. Adding personal vocabulary can really help to make someone's AAC system more meaningful and motivating to use, by allowing users to talk about what's most important to them. Personalising grids such as My Health and My AAC can also support users to advocate for themselves, direct their care, and tell other people how best to help them as needed.

We have designed Voco Chat to be easy to personalise and included plenty of

blank template grids which can be quickly and easily added to. Many grids have also been set up with examples of what you might want to add to that grid, alongside blank cells to add more for that user. Finally, to support and encourage personalisation, we created a printable guide to personalising Voco Chat, available to download and print from our website.

Try Voco Chat

Voco Chat is included in Grid and can be trialled as part of our free Grid software demo. Find out more at thinksmartbox.com/ voco-chat

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The Importance of Literacy for All – The Teach Us Too Perspective

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Imagine a life without literacy: no access to the letters and words you might need or choose to use, to express your thoughts, feelings and needs - independently and freely. Literacy ability underpins our access to communication, society, knowledge, and skills. Without it, we must rely on others to make decisions on our behalf and, when you are labelled as having Profound and Multiple Learning Disabilities (PMLD) or are an individual with complex disabilities and who is non-verbal, perhaps you are not considered capable of making your own choices, having your own opinions, learning new skills, or learning to read and write. Your right to do so is then disregarded because of assumptions made based on your label, and so the cycle continues. Without the access to literacy education, we risk the PMLD community not having the voice it deserves to demand access to the education it deserves!

Many of you will have heard the story of Jonathan Bryan, author of Eye Can Write and campaigner for literacy education for all, regardless of labels, through the charity he established, Teach Us Too. To many, his story has been viewed as that of an extraordinary boy who has defied the odds and is the exception to the rule, the needle in the haystack of the PMLD community; the one we, as professionals, should be 'on the lookout' for. The one who has been mislabelled. The Teach Us Too perspective, however, is different.

There is no official definition of PMLD, however, as stated in the Core and Essential Service Standards, 2017, it is commonly accepted that:

Children and adults with PMLD have more than one disability, the most significant of which is a profound intellectual disability. These individuals all have great difficulty communicating, often requiring those who know them well to interpret their responses and intent. They frequently have other, additional disabling conditions.

Ironically though, the label PMLD is usually attached to a child upon their entry into formal education. For Jonathan, and others like him, the label was attached at the age of 4 and before any teacher had made an attempt to teach him or establish whether he had, in fact, any intellectual disability at all, let alone a profound one.

So, it does then seem that Jonathan was indeed mislabelled. Our issue though, is that if we focus on the labelling of Jonathan with PMLD as a mistake, we miss the importance of establishing how many individuals with PMLD (correctly labelled or not) have the ability to learn some/any literacy. Even minimal literacy will enable them to begin to express themselves with independence. Rather than taking the easy option, the path of least resistance, of viewing Jonathan as the exception, we must reconsider our attitudes to ALL individuals with labels such as PMLD, and free ourselves of the long-held misconceptions we hold about them. Labels exist for many reasons, and as much as we would love to see individuals viewed purely as individuals, we understand that labels cannot and will not disappear overnight. We therefore need to turn our attention to the attitudes of those faced with those labels. Jonathan's label, like many others, was assigned to him due to his physical disability and difference, rather than based on any measure of his cognitive ability. We are all different and unique, and for individuals who have wide-ranging and complex needs, we will be required to think creatively, 'outside of the box', about how we enable them to achieve their individual and unique potential. And, as importantly, how we as professionals ensure that we don't place limits on them doing so. We must be part of the solution, not part of the problem, and ensure that we have high ambitions and aspirations for all individuals.

Literacy is so much more than an academic subject. Teach Us Too believe it is a fundamental human right. Regardless of how far you can progress in your literacy skills, any, and all, literacy acquired is a valuable building block towards having a voice, a level of independence, and establishing our place within society. We accept that the physical limitations and disabilities of those with complex needs often means that a special school is the most appropriate environment for their education. We don't advocate that subject-specific curriculum teaching akin to the mainstream classroom is appropriate for all students.

We do however believe that *every* child, regardless of their label, should be afforded high quality, progressive literacy education within their school setting. Our message has occasionally been taken out of context and we have been accused of being 'anti special school' or 'anti sensory curriculum'. But this is just not the case and couldn't be further from the truth. The two approaches don't have to be exclusive of each other. Literacy education does not need to happen in isolation and can be successfully integrated into every classroom, in every setting, if we approach it with a positive outlook and ambition for our children. What we do want is to change the narrative around the opportunities afforded to all children to ensure that Jonathan's story and that of others like him is a thing of the past.

For our charity's vision to become a reality, we believe that some things need to change. We call these our four 'A's:

- **ATTITUDE** this is key. How will teachers approach the teaching of students like Jonathan? An adaptable, positive, creative, 'can do', 'will try' attitude is essential and what every individual student deserves.
- **ASSUMPTION** sadly this is embedded into our society. Judgement and assumption based on visible disability is a huge barrier to learning, a barrier that Jonathan and our charity are working tirelessly to break down, but one that will take time and a cultural shift. As professionals, we can be the change.
- **AMBITION** have high expectations of what a child can achieve; teach expecting progress and it will happen. All progress is a step in the right direction. Celebrate every success and increase the challenge!
- ASPIRATION have high aspirations for all our pupils regardless of their labels. Who knows what those students will become? The irony that Jonathan, who was not taught to write at school, has become a published author cannot be lost here. He was partaking in a sensory curriculum and being taught life skills. Life skills are indeed important, but their appropriateness must be assessed. Jonathan will never be able to get a bus into town or go to a supermarket shopping alone, yet these were a big part of his school curriculum, at the expense of his basic literacy education. One size does not fit all!

So, what is the Teach Us Too perspective? That the sky is the limit!

https://www.teachustoo.org.uk/



Becoming an Aided Communicator (BAC) – Basic Ideas and Aims

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Some children with little or no speech communicate using communication aids. Many aspects of aided language development are still not well researched and there is a need to study aided language skills in children for whom this is their primary mode of expressive language. The project *Becoming an Aided Communicator (BAC): Aided Language Skills in Children aged 5–15 years: A Multi-Site and Cross-Cultural Investigation* includes researchers from 16 countries (see list of main researchers at the end). The roots of the project go back to 2006, when some of the participating researchers started talking about the lack of larger projects that could give insights into both the typical course and the variation that exists in aided language development. One foundational idea was that the acquisition of aided language is a form of language development, although atypical. Teaching is necessary but aided language development is not primarily an educational activity and the understanding of aided language necessitates research into the communication of emergent aided communicators, especially children using graphic communication systems. The BAC group emphasizes that the development of aided communicators, rather than as individuals who have limited or no speech or as having complex communication needs (von Tetzchner & Basil, 2011).

Most studies of aided language are related to intervention (McNaughton & Light, 2015). These studies are important, but mainly observe whether one or a few children learn what they are taught in training sessions and only rarely explore other aspects of aided language or how young aided communicators manage everyday conversations. An overall aim of aided language intervention is that the children and their communication partners should get beyond communicative routines and that the children should develop into autonomous communicators. The small number of studies of everyday use of aided language implies that an important empirical basis for designing and evaluating aided language interventions is lacking. One aspect of this is how aided language may enable children with severe motor impairments to participate actively in ordinary child and adolescent activities.

Constructivism is the main theoretical basis of the BAC study. Usage-based theories stress the importance of social mediation and co-construction, and that children learn language from the language they hear or see, but equally important is their own use of language (Lieven, 2016). Children's use of aided language is thus not just a translation of the spoken language they have heard, but a process where they are actively trying to solve communication problems with graphic symbols and other expressive means. This is reflected in both the observed achievements and the challenges of young aided communicators. Children learn language by participating in meaningful conversations and the scaffolding by more competent communication partners. Most parents of aided communicators do not have prior experience with conversations involving aided language and are therefore not very competent partners when their child starts to use aided language.

There are many routine exchanges in spoken language, such as *How are you*? or *Thank you*, where comprehension barely depends on processing each word the other is saying. However, although used frequently, the essence of language is not these routine exchanges but rather the ability to convey information that is new to a communication partner who may need to infer complex meanings from longer aided utterances. There are few studies of aided communicators relating unknown events to a communication partner (e.g., Murray et al., 2018; Smith, 2003). Judging from the literature, aided communicators may have limited experience with this kind of conversation. In fact, although the very first review of aided language studies emphasizes conversations (Kraat, 1985), non-intervention studies of conversations involving aided language are still quite rare.

A further motivating issue for the BAC project was the lack of assessment of aided language comprehension and use. There is a range of instruments designed to assess spoken language comprehension and production in both children with typical development and children with difficulties in spoken language, but few assessment instruments of aided language that are independent of spoken language (Geytenbeek et al., 2010). Most descriptive studies of aided language focus on educational settings and education aims and tend to provide limited information about aided language use besides the specific intervention targets. There are many descriptions of graphic symbol instruction but very few descriptions of the children's developmental course of aided language and

especially of aided language use in everyday life. The trajectories may deviate significantly from the course that seemed likely in early childhood (Lund & Light, 2006).

On this basis, the aims of the BAC project were thus to gain knowledge about the development and use of aided language, about young aided communicators' utterance construction and use of expressive means to solve communicative problems and fulfil their communicative intentions in different communication situations. The intention of the project was to study the use of graphic symbols as functional linguistic elements rather than written forms corresponding to the spoken language. The project is organized as multi-site national studies, with the same tasks and procedures, and national funding and ethical approval. Aided communicators constitute a very heterogeneous group, for example with regard to gross and fine motor abilities, comprehension and use of spoken language, and nonverbal cognition. In research, they are often treated as one group and the conclusions may not be equally valid for all the participants. The BAC project investigates aided communication in a select group of 5–15-year-olds with aided language as their main mode of communication. All of them had little or no intelligible speech and most had severe motor impairments, for the majority due to cerebral palsy. They were not considered intellectually disabled by their teachers and did not have a diagnosis of autism spectrum disorder. The aided communicators were assessed with available standardized language tests with national norms.

The development of the BAC tasks was a collaborative effort, involving extensive discussions within the project group to ensure that the tasks would be suitable for all the countries involved in the project. They were designed to include different aspects of aided language comprehension and use, many of which are rarely addressed in aided language research. The comprehension part includes recognition of individual graphic symbols and a variety of tasks requiring understanding of sentences of different complexities, and stories. All the comprehension tasks were made with the graphic system each child was using or had used prior to becoming a speller. None of them required comprehension of spoken language, except that the general instructions were given in spoken language. The production part includes naming of objects, description of objects without naming, description of static scenes on pictures and dynamic events on video, completion of pragmatic cartoons and instructing partners to construct various toys. To ensure that the dyads had no prior experience with the material, drawings were made especially for the project by Janice Murray and the videos by the present author. The video of the Spider Sandwich story was adapted with permission from Grove (1995). The toys were collected by Elisabete Mendes and Lourdes Tavares. Most of the tasks require the child to relay information and instructions that are unknown to the communication partner, and the partner has to engage in dialogue to infer the child's intended meaning from one or a few symbols. The communicative intention of the child was thus the starting point. The sensitivity of partners and the extent to which they dominated the joint problem solving varied across dyads. In addition, the children were asked about their views on friendships and engaged in two conversations with a parent, a peer and a teacher, who were not aided communicators. As there were no norms for the any of the tasks used, a reference group was included to observe how children with typical development performed on the same tasks. The reference group completed the tasks with teachers and peers, but not with parents.

Finally, parents and teachers were interviewed about the aid history of the child, the child's access to and use of communication aids in different everyday situations, the child's aided language competence and his or her educational history. They were also asked about their own aided language competence, support, and training, and how satisfied they were with different aspects of the intervention. The aided communicators and the reference group were interviewed about their views on aided communication and their communication partners.

Results from the BAC project have been presented in a number of journal articles and book chapters. The articles in the special BAC issue of the journal *Augmentative and Alternative Communication* (von Tetzchner, 2018) represent a good introduction to the project.

A major aim of the BAC project is to encourage other researchers and practitioners to build on the ideas of the project. More details of the methods and published results may be obtained from the present author or one of the other researchers in the project.

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Put Me In, Coach: AAC Coaching Models

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When you hear the word coach, what do you think of? Someone giving you commands, a mentor, a guide, collaborator, cheerleader, the fancy bus, the clothing brand, the aeroplane seats most of us sit in? Coaches can fill many roles and coaching can mean many things, especially as it relates to Augmentative and Alternative Communication (AAC). Why are there so many different ideas of coaching and what makes a good coach? In this article, we will explore three types of coaching: relationship-driven, teacher/ stakeholder-centered and student/client-centered. Each of these models has different approaches and outcomes for people who use AAC (PWUAAC) and their stakeholders.

Characteristics of a Coach

According to Diane Sweeney (retrieved 2021) and Jim Knight (2007), both educational coaching researchers, good coaches are:

- Curious
- Reflective
- Listen
- Collaborative
- Support others
- Celebrate successes
- Not judgmental
- Meet others where they are
- Authentic
- Ask good questions
- Seek understanding

Sweeney (retrieved 2021) and Knight (2007) agree that good coaches support the stakeholders to have good instructional practices. This then results in better outcomes for the students. I have found in my practice as a Speech-Language Pathologist (SLP), using principles of a good coach also support better outcomes for PWUAAC because I am supporting the people who are with the person the most.

Relationship-Driven Coaching

All of coaching is relationship-driven. But that is different than relationship-driven coaching. In relationship-driven coaching, the coach is a friendly resource. They are the go-to for research articles, if you need to borrow tools, if you have a "how to" question. The coach provides these resources in a non-threatening way. They support the stakeholders to build knowledge, usually that the stakeholder requests. Think of a helpdesk but always getting the same person to support you. The teachers ask a question, the coaches teach them how to do what they asked. That's the end of the exchange usually. There isn't ongoing follow-up.

While engaging in relationship-driven coaching, you can be building rapport with the stakeholder. This type of coaching can help build a relationship needed to move into other models. This model does not impact student or client outcomes much, according to research (Joyce & Showers, 2002).

So, what does this model look like? This is often the typical training model, and sometimes the role of a consultant calling themselves a coach. Often, coaching needs to start here to build trust with stakeholders but if we want change, this is not enough.



Figure 1: Three main coaching models

In summary, this model is about resources and exchange of information with a friendly relationship, but it doesn't really change the behavior of the stakeholder or affect the outcomes of the PWUAAC.

Teacher/Stakeholder-Centered Coaching

Our next model of coaching is teacher/stakeholder-centered coaching. This model is borrowed from educational coaching, which is why the term 'teacher' is used. In teacher- centered coaching, the coaching relationship centers on changing the stakeholder's behavior. We may be teaching them a new skill, or asking them to use a communication device for their own communication, or demonstrate something for their students, etc. This may be our most common model of coaching right now.

In stakeholder-centered coaching, the coach is more of a collaborator and is often there to hold the person accountable. In this type of coaching, a coach may meet with a team to problem solve why a student isn't using their communication device. For example, the coach sets a goal of stakeholders using an AAC device 10 times a day for their own messages. The coach shows them some sample messages that they could use throughout the day. So, the coach has trained them how to use the AAC device and given them training on the partner strategy of aided language input or demonstrating. However, research shows us that knowing *how* to use the system isn't enough (McNaughten et al 2019, Ogletree 2012). We also need to know the *why*. Coaching research (Joyce & Showers 2002, Knight 2007, Guhlin 2019, Sweeney retrieved 2021) has also found that focusing on the stakeholder's behavior without bringing it back to the student doesn't impact client outcomes that much.

In teacher-centered coaching, there may be coaching cycles. In these cycles, the coach and stakeholders set a goal and then their work is around that goal. So, if a classroom has core words of the week, the teacher, teaching assistants, and SLP may meet to discuss when these words can be used. The SLP coach may give visuals. They may also demonstrate how to do a partner strategy such as aided language stimulation or expectant pauses. The SLP coach may be focusing on one partner strategy and use some collaborative time to observe teaching assistants teaching the words and using that partner strategy. If the SLP coach isn't able to observe, they meet back with the team and ask how it is going. The SLP coach then gives feedback and suggestions for how to do better or make changes.

Thus, the focus is on the stakeholders and their behavior. While providing training on evidence-based strategies supports the stakeholder knowledge, it may not translate into the practice of them doing the strategy but does translate more than simply giving resources. This is because the goals didn't originate from the stakeholders, and they may not understand the *why* of the strategies. Stakeholder-centered coaching can build trust and a relationship between the stakeholder(s) and coach, which could help build the partnership needed for student-centered coaching.

Student-Centered Coaching

In student-centered coaching, stakeholders are seen as valuable and skilled and set the agenda. While the coach may work primarily with a stakeholder, the student or client is the focus of the work. In student-centered coaching, the coach leaves their perspective and seeks to understand the stakeholder's. Coaches let go of their pre-conceived ideas of what should be done and support stakeholders to develop their own plans.

Sweeney (retrieved 2021) identifies the following student-centered coaching core practices:

- Use Coaching Cycles
- Set standards-based goals
- Unpack goals into learning targets
- Co-plan with student evidence
- Co-teach using effective instructional practices
- · Measure the impact on student and teacher learning
- · Partner with the school leader

What does this look like? Typically, coaching cycles are 4-6 sessions and the stakeholder guides the goals. The cycles follow a similar structure, but the interactions and path of learning are not prescriptive. An 'I do-we do-you do' model may be used to learn new partner strategies. Overall, the goal of the coach is to support critical thinking, decision-making, and reflection. Even if you don't have 4-6 sessions with a team, you can bring the principles of the coaching cycles into your work with stakeholders.

This is one model of a coaching cycle. Other coaching models use fewer or more steps. These steps don't have to be done in person. They can be through a quick video call or email. So, even if you don't have time in your schedule to meet with stakeholders 4-6 times, you can use aspects of this cycle.



Figure 2: Client centered coaching cycle

Cognitive coaching (Klein, 2018) uses 3 steps: pre-conference, observation, and post-conference. These 3 steps incorporate action/ practice in the observation and feedback/reflection in the post-conference. So, for those of you working more as consultants, that may be easier to build into your schedules.

In summary, student-centered coaching uses coaching cycles where the stakeholders set the goals and the coach supports them. The coach is a guide and mentor, but supports the stakeholders to make their own decisions. While the PWUAAC may not be physically present in the coaching sessions, they are central to it and the impact on them is always the focus.

Summary

There are many different coaching models and methods. In relationship-driven coaching, the coach is seen as a friendly resource for materials or training. It focuses on one-off interactions where the coach helps the stakeholder. In teacher-centered coaching, the coach often sets the agenda/learning targets and focuses on teaching the stakeholder how to do things. Because the stakeholder isn't setting the agenda, this method is not as effective as student-centered coaching. In student-centered coaching, the coach supports stakeholders to support the PWUAAC to have better outcomes. The PWUAAC is central to the coaching sessions and cycles, even if they are not physically present. The stakeholders are seen as valuable and skilled. Their input and learning are central to student-centered coaching and increasing the outcomes for PWUAAC.

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