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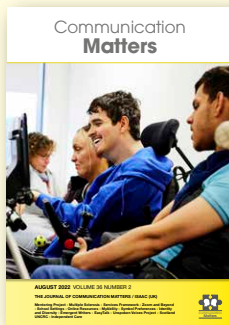
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Gregor (centre) and Laith (right) at our Mentoring Day in Leeds on 29th March 2022. Read more about it on page 3.

Contents

Chair's Report

HELEN WHITTLE

I hope you are enjoying a good summer.

The Trustees continue with the plan to hold one type of every event during 2022. This plan is going well, with the first Communication Matters (CM) Exhibition Day at The Edge at the University of Leeds on the 28th of March. There was much excitement about being able to see people in person and get hands-on with Assistive Technology for the first time in a while. We had 186 delegates throughout the day. The suppliers were pleased to see delegates again and enjoyed being able to discuss what they had to offer the AAC community.

In the evening, the CM AAC User Focus group held their first in-person meeting since they were established during the first lockdown in 2020. They also had the opportunity for a social gathering and meal hosted by the University of Leeds.

The following day was the Mentoring Day, again at the University of Leeds, which was all about celebrating mentoring successes. Verity Elliott (project facilitator) also held workshops on mentoring and mental health during this busy day. Some delegates who were unable to travel to Leeds received these sessions virtually at a later date.

MEETinLEEDS supported all these events and made sure they ran smoothly. It was great to be back in Leeds at the university and it got many of us excited about the prospect of holding the conference in-person in September.

Before that, though, we were able to put on our one Study Day of the year. It was the "Becoming an Aided Communicator" Study Day on 21st June, which was our first hybrid event (in Leeds and on Zoom). This comprised presentations from the international research team, many of whom travelled to Leeds to present in person. We had 25 in-person delegates, and 92 virtual delegates from across the world, so we had many people joining in the afternoon discussion sessions. All delegates received an in-depth booklet of abstracts detailing the studies that were highlighted in the morning presentations. The six discussion groups that took place in the afternoon developed the themes introduced in the morning, and these will be expanded upon and written up into a second booklet for all delegates by the BAC team. The technical team at MEETinLEEDS made sure that all delegates were able to join live and then access recordings after the event. Thanks to Professor Janice Murray from Manchester Metropolitan University who hosted the BAC team's planning meeting on the Monday as well as the Wednesday debrief and future research planning day. We look forward to a useful write-up about this day in the CM Journal in the future.

Above: Research team meeting for the BAC Study Day. Names L-R: Beata Batorowicz, Janice Murray, Stephen von Tetzchner, Catia Walter, Kirsi Neuvonen, Kristine Stadskleiv, Helen Whittle, Martine Smith. Virtually: Judith Oxley, Munique Massaro and Kaisa Launonen

Left and below: Stephen von Tetzchner and a plenary session.

The plans for the CM Conference this year (September 11-13th) are well underway.

The timetable of presentations is due to be finalised at the end of this week, as I write. Thank you to everyone who entered abstracts. We received so many interesting submissions. We also look forward to hearing from our two keynote speakers: Richard Cave and Beth Moulam. The theme for this year's conference is 'Sustainability', with a 'preloved' fancy dress party, in an effort to reduce, reuse, and recycle, so please come along and join in! Delegate registrations are running at a similar level as for the last in-person conference, which we are delighted about. It seems many people are keen to meet up and discuss all the developments and innovations that have occurred since the last conference in 2019. We are looking forward to welcoming many AAC users, PAs and family members who can benefit from subsidised places due to our success with grants from the Arnold Clark Community Fund and the People's Postcode Lottery. Thank you to them for their generosity.

Last but not least, there will be an AAC Information Day in Glasgow on 23rd November, where everyone will have the opportunity to have a good look at all the latest technology. It is free to attend, with lunch provided, so please have a look at the link and keep an eye out for when registration opens.

Mentoring Day, 29th March 2022, Leeds

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As Covid restrictions were lifted and there were opportunities to meet in person once more, Communication Matters (CM) and Creativity in Practice hosted a Mentoring Day at the University of Leeds. AAC users who had completed the Level 1 in Mentoring qualification over the last two years, and members of the CM AAC User Focus Group were invited to take part. The day was organised as part of the CM five-year Mentoring Project and funded by the National Lottery Community Fund in England.

It was evident that this type of event provided a much-welcomed opportunity to meet with others, share some learning, and find out more about the CM Focus Group.

The day before on the 28th March, CM hosted an Exhibition Day with a range of AAC suppliers, which many of our guests also attended and, in the evening, the CM Focus Group were able to meet.

The programme included presentations from the CM Focus Group, and workshops on Mental Health Awareness, Safeguarding, and Mentoring Skills. There was also an activity and presentation from experienced mentors about, 'What Mentoring Means to Me'.

MEETinLEEDS (the Conference & Events team at the University of Leeds) provided logistical support including accessible venues, links to hotel accommodation, catering, and technical support with presentations, etc.

Positive feedback included the opportunity to meet together, share ideas and learn. The workshop themes were welcomed, although some would have liked the sessions to be longer, particularly the session about mental health (this is something we can plan for in the future). Everyone was presented with a certificate of attendance, and we have been able to host several Zoom workshops for those that were not able to attend.

In summary, it was a worthwhile and enjoyable event which we would like to repeat early next year.

For more information about the wide range of learning and development opportunities and mentoring, please contact Verity Elliott: verity@creativityinpractice.co.uk / 07891 959048.

Communication Matters and Mae Murray Foundation – Working Together in Northern Ireland

We are delighted to announce that we have been awarded a one-year grant from Awards for All Northern Ireland to run a pilot project in partnership with Mae Murray Foundation to offer a range of workshops for AAC users themed around personal and social development.

This provides us with the opportunity to work with key partners and AAC users in Northern Ireland to help gather valuable feedback and insights in preparation for a larger funding application, as well as shared learning and social opportunities.

We delivered the first two workshops in May, and we've had some really enjoyable sessions and lots of information to help inform our next steps. The themes of the workshops include Managing Social Relationships, Interpersonal Communication Skills, Understanding Mentoring, and Developing Self, with the added aim of building confidence in using communication devices.

Our overall aim across the UK is to work in partnership with local voluntary sector organisations and/or schools/colleges and focus on learning and development for AAC users based on mentoring and peer support.

We would like to offer similar projects in **Wales** and **Scotland,** so please feel free to contact Verity Elliott for more information and support: verity@creativityinpractice.co.uk / 07891 959048.

Can the pattern of disabilities in patients with Multiple Sclerosis (MS) guide us as to who will be most able to use Augmentative and Alternative Communication?

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Introduction

It is estimated that there are 130,000 people with MS in the UK (MS Society, 2020). MS can cause communication difficulties and other disabilities depending on the type of MS a person has and which parts of the brain it affects.

Clinical findings suggest that about half of patients with MS have dysarthria (Hartelius et al., 2000). Seventy-seven patients with MS were examined by a Speech and Language Therapist (SLT) and a neurologist. They conducted a clinical dysarthria test, a perceptual analysis of speech characteristics in continuous speech, and neurological deficit scoring. This data was combined and compared to 15 age- and gender-matched healthy control subjects. They found that the prevalence of mild to severe dysarthria in this cohort was 51% and occurred in all components of speech production: respiration, phonation, prosody, articulation, and nasality. The clinical dysarthria test was sensitive enough to detect subclinical speech signs, the prevalence of which was 62%. The prevalence of dysarthria based on the neurological evaluation alone was just 20%. The dysarthria experienced by patients was a predominantly mixed dysarthria, with both ataxic and spastic speech signs frequently present.

In a study where patients were asked whether they had experienced impairment of speech and voice after the onset of their disease, 44% reported that they had (Hartelius & Svensson, 1994). However, only 16% regarded speech difficulties as one of their greatest problems. Beukelman et al., (1995) surveyed 656 patients with MS to determine the presence and severity of their expressive communication disorder, the extent expressive communication problems interfered with employment, and their frequency of using communication augmentation equipment. Nearly a quarter of patients reported that they had "speech or other communication problems." Only 4% said that strangers were unable to understand them, and 28.8% reported that they used communication augmentation equipment.

Instrumental measurement of the voices of people with MS has shown a larger proportion of patients' voices are affected. Dogan et al., (2007) studied 27 female patients with MS and compared them to 27 age- and sex-matched healthy controls using videolaryngostroboscopic examination, acoustic analysis, and subjective measurements. She found that jitter and shimmer percent and soft phonation index were higher in patients with MS and maximum phonation time was lower. Stroboscopy showed that 16 out of 27 MS patients have a "posterior chink" in their glottic closure pattern. Most of the MS patients had dysphonia due to weakness of their voice. These results were consistent with the weaker voice quality observed in the MS group.

The presence of speech problems has also been found to be related to the presence of cognitive difficulties in patients with MS. Yorkston et al., in 2003 conducted a community-based survey of 739 individuals with MS. Of this sample, 31% reported mild speech problems and 9% moderate or severe speech problems. She found that moderate or severe speech disorders did not occur in isolation, usually occurring in conjunction with other physical, cognitive, and psychosocial changes and being related to self-reported problems of thinking, reading and writing. Duffy (2005) also reported that in patients with MS, dysarthria severity is related to the overall severity of neurological deficit, including physical and cognitive deficits. Benedict & Zivadinov (2011) reported that 40-65% of people with MS reported problems with cognition. Potagas et al., (2008) reported that patients with MS also experienced difficulties with memory, attention, speed of information processing and executive functioning. These difficulties have also been shown to be present in the early stages of MS.

The assumption is that as the neuropathology of MS is largely subcortical, language function should not be affected. However, people with MS commonly perceive themselves as having language difficulties which impact on their quality of life (Klugman and Ross, 2002). Murdoch and Lethlean (2000) conducted a comprehensive assessment of language skills in patients with MS, finding performance significantly below a control group on a variety of language measures, including naming, word definition, word fluency, sentence repetition, verbal explanation, verbal reasoning and high level comprehension, such as that requiring logico-grammatical operations and interpretation of absurdities, ambiguities and metaphor.

Different reasons have been suggested as to why people with MS have low test scores on language assessments. These have included phonatory problems and problems with visual or oculomotor functions. There is also an interdependence of language and cognitive functions within language tasks. Kujala et al. (1996) found that language was unimpaired in patients with MS who had preserved cognitive abilities, but impaired in those with cognitive decline, even if the cognitive decline was mild.

The fatigue that patients with MS experience has also been implicated in the difficulties they experience with communication. Hartelius et al., in 2004 examined 44 patients with MS to look at the effect of fatigue on different domains. She found that fatigue was the single most common complaint of individuals with MS, with about three quarters of patients being affected by fatigue at some point. Patients who had experienced fatigue had difficulties in cognitive, physical and psychosocial domains, and patients who experienced communicative problems caused by fatigue also had problems with language comprehension and dysarthria.

Objectives

In Chailey Communication Aid Service (CCAS), having now seen many patients with MS, we decided to review our cases to date and try to draw together some common themes as to what challenges these patients posed and how and whether we found a successful high-tech communication aid for them.

Methods

We reviewed our caseload of patients with MS, seen by the service since 2015, to determine the degree of communication, physical and cognitive disabilities experienced and the success of high-tech communication aid implementation. The purpose of this review was to allow us to determine: which patterns of disabilities might predict a successful implementation of a high-tech communication aid; which patients might need more ongoing support; and which patients might benefit most from low-tech communication strategies. Training based on these results has been shared with local therapists.

Results

34 patients with MS had been accepted to be assessed by CCAS, making MS the 4th most commonly-referred condition behind Motor Neurone Disease (MND), Cerebral Palsy (CP) and Multiple System Atrophy (MSA). Patients referred were mostly using speech when well-rested but were being referred to CCAS as they experienced problems with speech when they were fatigued, using minimal or no speech at this time.

Outcome classification	Percentage of patients
Patients classed as having a good outcome using high-tech AAC (Augmentative and Alternative Communication)	23%
Patients classed as having a 'not good' outcome using high-tech AAC	56%
Patients not provided with equipment	9%
Patients determined as not meeting our criteria	12%

Patients classed as having a good outcome using high-tech AAC

Most of these patients already had experience of using high-tech assistive technology, either from using environmental controls or having been a previous user of AAC before being referred e.g., used direct access to access communication software on a tablet. These patients were also more likely to have good support with aspects such as positioning their device, using the device, and being given communication opportunities. These patients also appeared to have more insight into their communication difficulties and generally had no functional speech, even when rested. Most notable was that these patients appeared cognitively brighter and did not report significant levels of fatigue.

Patients classed as having a 'not good' outcome using high-tech AAC

These patients were those who were referred as needing AAC when they were fatigued and then were less able to or could not talk. These patients were using speech to communicate when they were well rested.

Support for this group seemed to take a different form. Support given was from carers or spouses who tended to anticipate the patients' needs, meaning that the need for the patient to communicate was reduced.

These patients were the ones who, during our assessment and with a lot of support, could show that they could access the device. We then put in place a trial, and training and support for families and carers was given. We found that when we went back to review these patients, appointments were often delayed because the patient had been unable to practice using the device for various reasons. When we did get to review these patients, families and carers often said that the patient was unable to use the device because they were generally too tired and because high-tech was much slower than low-tech. This highlights that for a patient with fatigue, alongside physical, cognitive and communication difficulties the effort needed to learn and then use a high-tech device is huge.

Patients not provided with equipment

This group of patients were those who we assessed and determined that a high- tech communication aid would not meet their needs. One example is a gentleman who, even with full support, struggled with the cognitive aspects of using a tablet computer with direct access. He struggled with monitoring what he was typing and what was required of him. From our observations during the assessment, we were able to emphasise the use and benefits of low-tech AAC instead.

Patients not meeting our criteria

These patients were mainly from those referred at the start of the service. These were patients wanting solely environmental control functions, so were seen by that service instead of CCAS.

Impact on our practice

We are still seeing all patients who meet our criteria. We are, however, better experienced at how to meet the needs of these patients as we are more knowledgeable about the factors that influence how successful high-tech AAC solutions will be. Knowing these factors, we are also more able to explain to patients, families, carers and local referring therapists why high-tech AAC solutions are not suitable for everyone, especially when a patient experiences a high level of fatigue.

We are sharing our experiences with the local referring therapists. We want to enable local therapists to identify those patients whose communication needs are best met through pen and paper resources.

We want to receive referrals for those patients who would benefit from our input. We also want to upskill local teams in supporting those patients who would benefit more from low-tech AAC, and for those local teams to know the reasoning behind this distinction. We want local teams to appreciate the reasons why low-tech AAC can sometimes be of superior value for some patients, and be able to explain this to patients and their carers in a way that does not make it seem like a lesser option.

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An open AAC and AT Ecosystem Services Framework for Community Practice

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Introduction

Augmentative and Alternative Communication (AAC) and Assistive Technology (AT) services are essentially participatory, thriving when interconnected relationships are developed to support users [1]. An open ecosystem services framework can bring together all the different activities that need to be completed to effectively implement successful use of AAC and AT [2]. The principles are similar to the World Health Organisation's 5 'P's - 'People, Products, Provisioning, Personnel and Policy' [3], although the proposed framework is orientated towards implementation and the design of services in any setting, rather than the design of products.

Success depends on the parts and people making up the system and when put into practice, processes are not linear but dynamic; affected by both external and internal factors. An ecosystem is made up of interconnected parts, where a weakness in one threatens the whole. Where something fails and there is a gap in the service, delivery may continue, but increasingly it becomes less likely that planned outcomes will be achieved to the standard required. For example, an AAC and AT delivery system may be provided and used, but without access to localisation skills, personalisation or technical and training support, the range of activities may falter, affecting success rates. A recent UK Government report also stated that, "A useful product will only be successfully adopted where policy allows and where personnel have the expertise and capacity to operate and maintain the AT." [4]

Policy, Frameworks and Stakeholders

Several different frameworks have been developed over the years to support policy and personnel within the professional fields related to the delivery of AAC and AT. The structured programmes or planning guides range from competency levels, assessment tools, evidence-based procedures for delivery to the evaluation of outcomes. However, these rarely cover all parts of a service and cannot necessarily be used by non-professionals, carers and families to learn about alternatives to spoken communication or show how change can happen when different types of AAC and AT are introduced. It is their participation in an AAC and AT ecosystem that is felt to be paramount, alongside the professionals who can provide vital support, training and expertise.

Other important stakeholders include teachers providing links with education, academics involved in research and all those in health, employment agencies for adults and social care as part of the public sector. Product suppliers, developers and technical support individuals have become more and more involved in both training and support as the type and number of technologies linked to AAC and AT have expanded and this includes graphic / technical designers, clinical and rehab engineers and those involved with the use of devices. Finally, there are the non-governmental organisations (NGOs) and disabled people's organisations (DPOs) as not-for-profit groups, who may also engage with policy makers and funders.

Community Practice

Stakeholders, by virtue of shared aspirations and experience, can become a community when coming together in their support of a process in order to improve the lives of potential AAC users. However, to be effective, the practice of that community in implementing AAC needs to have consistency and mutually beneficial approaches. This can require understanding where boundaries appear to exist and may need to be negotiated, in terms of service delivery by some community practitioners, in order to embrace the "potential for unexpected learning"[6] which in turn can enhance outcomes.

The application of open AAC and AT approaches across the ecosystem needs to influence the practice of each member of the community to be successful. This means that the approach is reflected in shared values and ethos.

Figure 1 shows the ecosystem as a segmented pie chart with any number of stakeholders linked at the centre. There may be some gaps that cause weaknesses, as has been mentioned, but if there remains a strong sense of belonging, it is felt that bridging these gaps is still possible thanks to community practice.
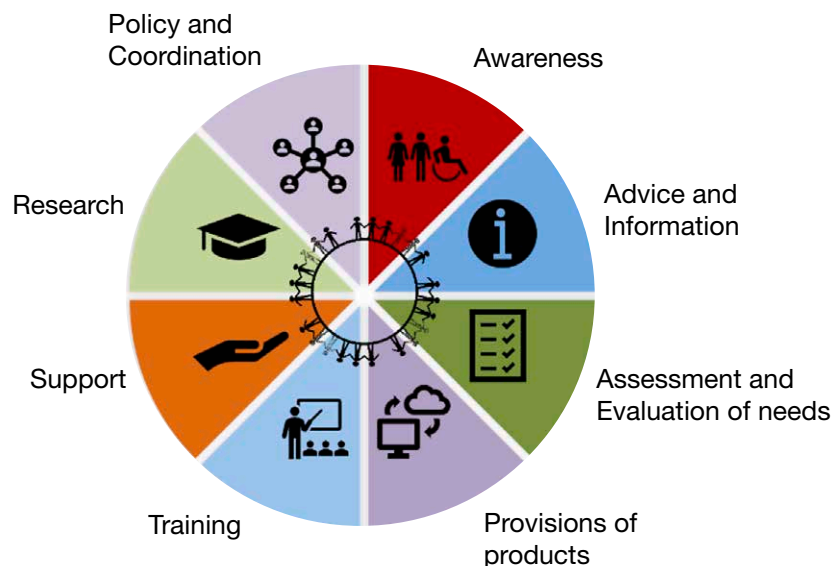
Figure 1 Open AAC and AT ecosystem framework

The AAC and AT Ecosystem Framework

The AAC and AT Ecosystem framework described came about when working with UNICEF to support implementation and innovation in AAC and related AT across three eastern European countries. Building awareness depended on a project hub with local champions and in the UK, IPAACKS (Informing and Profiling Augmentative and Alternative Communication (AAC) Knowledge and Skills) was the one framework that touched on this aspect, but there appeared to be no specific programmes designed for those aiming to build awareness of AAC and AT across a country, that we could adapt.

This was also true for certain types of advice and information where there seemed to be very few articles that explained ways to build localised symbol sets that would be appropriate and open for use in a range of settings. The result was a series of face-to-face awareness-raising and guidance sessions about AAC and symbol specifications, with the support of local experts and a graphic designer who could capture social settings, cultural nuances, dress and food. A basic schema was developed and details about the look and feel of symbols shared online, with the knowledge that what was designed depended on the way the teams wanted to work with other open licenced symbol sets. For instance, a Croatian symbol set[1] had additions that could be used with the Argonese Center of Augmentative and Alternative Communication (ARASAAC) symbols[2] and the Turkish Otsimo symbols[3] work with the Mulberry Symbol set.

Online free training was also made available for those supporting potential AAC users with translated assessment matrices and the evaluation of needs with use of the SETT (Student, Environment, Task and Tools) framework [5] for children who were in education. There were discussions about the selection of technology and paper-based products to suit individual needs with issues around the availability of text-to-speech in less well-known languages. The innovation aspect of the work resulted in new voices in Croatian, Serbian and Montenegrin for the open-source Cboard Android AAC app[4], and the implementation of the system is now being rolled out across Bulgaria and North Macedonia. Where new symbols have been developed, a voting process has encouraged potential users, their families, and carers to engage with the local graphic designers' creations. This has provided a sense of ownership and allowed for further personalisation when used in charts, due to the open nature of the licences as well as the freely available Board Builder app with a symbol creator on the Global Symbols repository[5]. The latter hosts several other multilingual open-licenced symbol sets.

There was a need to find a suitable evaluation tool that could be validated in several languages and could measure the effects of both AAC and device use, across a range of settings, as perceived by both the professionals and family. It was felt this would also help with policy making and further coordination between all those involved. The Psychosocial Impact of Assistive Devices Scale (PIADS) appeared to offer a solution, having been translated into over 15 languages at the time, and was shown to be effective when compared to four other translated scales, when checked against "Internal consistency, Reliability, Measurement error, Content validity, Structural validity, Cross-cultural validity, Criterion validity and Responsiveness" [7].

PIADS can be used to provide evidence of an increase or decrease in different behaviours in relation to the use of AT over time. It requires scores across twenty-six types such as feelings, for example happiness, confidence and frustration etc. It does not include data that can be collated from device usage, such as number of symbols used in a certain time or combination of words etc. and is not specific to AAC. However, the scale allows family members, carers, and any non-professional to feed into the results, as well

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1. https://globalsymbols.com/symbolsets/hrvatski-simboli-za-pk?locale=en
2. https://arasaac.org/
3. https://globalsymbols.com/symbolsets/otsimo?locale=en
4. https://www.cboard.io/
5. https://globalsymbols.com/

as the professionals working with the AAC user or the user themselves. The gap between collating evidence can vary but 3/6/12 months with both carers and professionals filling in the charts provided those involved with very clear outcomes and, in this case, a high proportion of positive results that helped with planning.

Discussion

Although the initial project is no longer being funded, it has been interesting to note that support is ongoing and comes from a wide range of stakeholders, including the original hub team and the Global Symbols team members, with regular updates to the training. This is the motivating part of being an open-licenced, open access service, where the interconnections of the system have resulted in further iterations of the service for nearby countries, namely Bulgaria, North Macedonia and Albania.

The Board Building app for creating paper-based and open-board format communication charts has expanded in its use with different templates for information sheets, along with a symbol creator tool. More symbol sets have been developed and communication lines have been kept open by text, email, contact forms, video conferencing and social media.

The research behind the ecosystem also continues to feed into the training modules by providing links and free resources to support the teams working in the field. The Creative Commons licenced Moodle training courses have moved from theme-based to topic modules suitable for different levels of skill in a broader range of environments. This has meant that they can be used as individual modules in any language.

Conclusion

The open and accessible nature of the suggested framework, working closely with those involved, has allowed ideas about the ecosystem to develop in a way that has stood the test of time, with an implementation plan being developed to support further work across other countries.

The outcome measures provided a base line from which to work and proved their worth when monitoring progress and managing expectations of parents and carers, who were central to the support offered to potential young AAC users. The gathering of data was especially important when augmentative and alternative forms of communication require many months of practice with modelling and other forms of encouragement to see evidence of enhanced communication skills with behaviour changes.

Providing an evidence base appeared to give all stakeholders a sense of purpose, as well as cost benefits, not just in terms of funding, but related to time spent on implementation, ongoing support, and future planning. This also turned out to be very important when sharing the knowledge gained with other countries. Taking account of all the aspects of the AAC and AT ecosystem framework seemed to allow community practice to thrive, in situations where this type of support had hitherto been lacking.

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Communication **Matters**

Communication **Matters**

To Zoom and beyond! Insights from AAC users who conducted training for students and professionals via video conferencing during the COVID-19 pandemic

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In 2006, an expert AAC user group known as the Straight Talking Group was established at the University of Dundee. The group, now comprising nine AAC users, traditionally meets fortnightly on campus to fulfil a variety of roles and commitments. These include collaborating with local and visiting researchers to evaluate and develop AAC technology, offering essential user-centred feedback relating to accessibility and usability. The group also supports teaching activities in the School of Science and Engineering and wider university, providing students with an opportunity to meet and learn from AAC users and informing their future practice, be it as medics, educators, or software designers.

When the COVID-19 pandemic struck in March 2020, lockdown rules prevented the group from meeting face-to-face. While the pandemic initiated a period of isolation for all of society to some degree, many with disabilities fell into shielding categories, largely limiting their social interactions to household members or care staff. Due to this, there was a strong desire from the group to maintain social connections and continue their work remotely.

With support from University staff, the group transitioned to meeting online in their traditional timeslot, returning some form of 'normality' to their calendars. Finding a suitable platform to allow the group to effectively communicate was trial and error, however. At the start of the pandemic, many video conferencing apps restricted attendee numbers or had multiple-stage login processes, rendering them unsuitable for the needs of the group. After several software trials, the group eventually settled on Zoom – a platform that could be accessed by all members and allowed everyone to be visible on-screen together (see Figure 1). Funding was subsequently sourced via the University to allow the group to exceed the complimentary meeting time limit, and staff remotely supported group members with any technical issues or to source any equipment required for video conferencing.

Like most of society, the transition to meeting others online became vital to the wellbeing of Straight Talking Group members. For some, the group was the only regular contact they experienced with others external to their household bubble, further motivating the development of regular and meaningful online sessions. Amy reflected, *"I could go for days without seeing somebody so tech has been my saviour, well when it works"*, also acknowledging the temperamental nature of technology. The group even gained new members from the Scottish Highlands and England due to the ease of a virtual commute to Dundee.

Meeting online was not without its challenges initially, and some members were sceptical about how communicating with other AAC users would work. Having previously used 1:1 video calling apps with friends and family only, Georgie explained, *"At first I thought moving the Straight Talking Group online would be a bit strange and I was unsure if I would get used to it. I worried about not seeing the other group members and how communicating with my device virtually would work. Would I be heard or understood as clearly as in person?"*. Certainly, these concerns were not unfounded. The early online meetings were largely a case of trial and error in achieving enjoyable and productive contact.

Once each group member could successfully access the software to meet online, the next step was to orchestrate effective communication within the meetings. Initially, the group found the lack of physical cues challenging due to limited visibility on screen and struggled to know when someone had started or stopped communicating using their AAC. This resulted in members accidentally being cut off while speaking or missing a chance to contribute within discussions. While appreciating the contact via online sessions when no alternative was possible, Alan reflected that, *"being face to face with other people is better for AAC users as people can see*
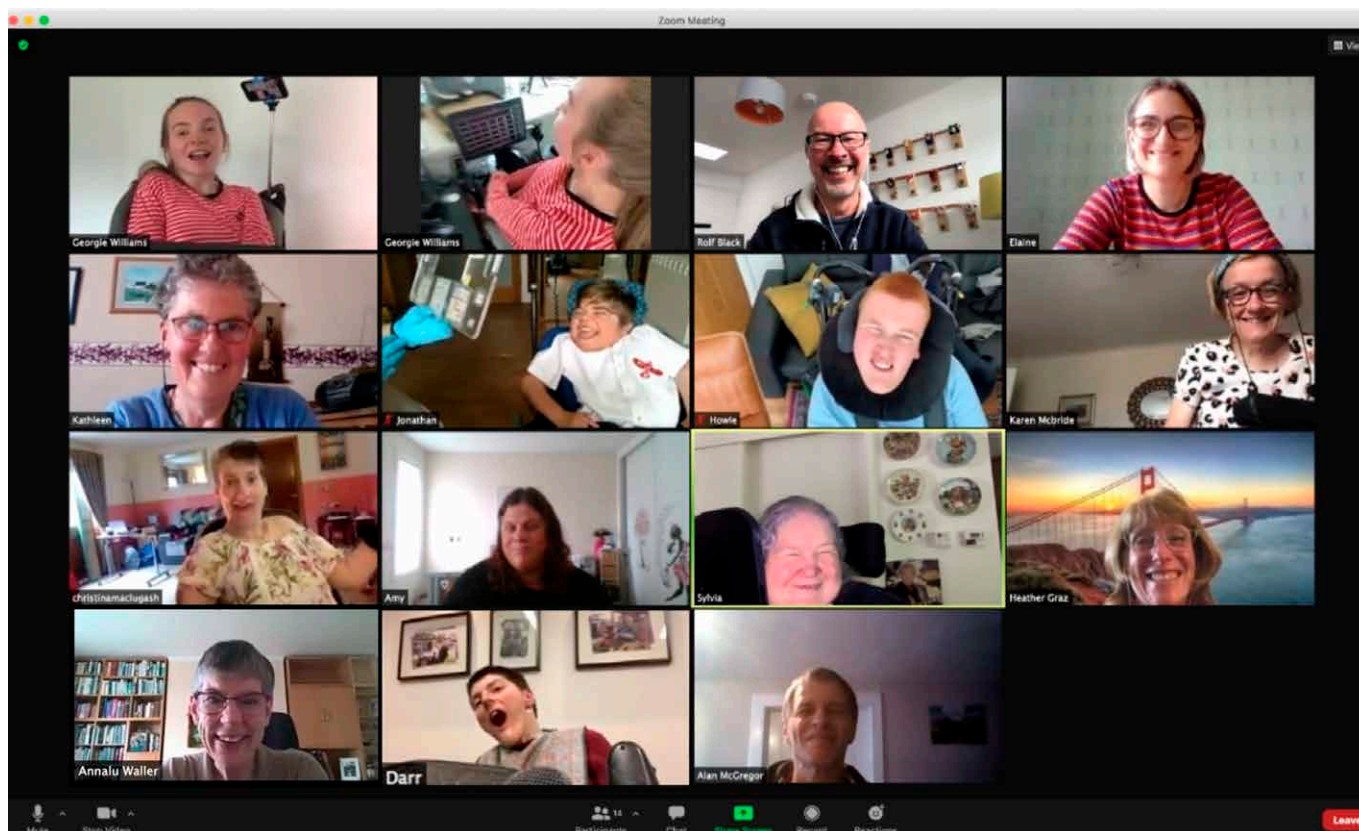
Figure 1 (above): The Straight Talking Group, including staff and student facilitators, during a Zoom session.

Figure 2 (right): Group member Jonathan communicating via E-Tran frame on Zoom. An additional facilitator (out of shot) types the message, vocalised by the assistant with the E-Tran frame, into the Zoom chat box.

Figure 3 (below right): Georgie logs in to Zoom with multiple devices to increase visual feedback for the group, improving communication flow.
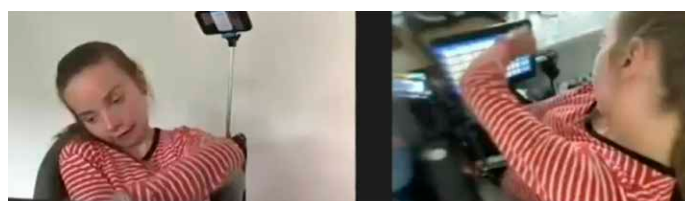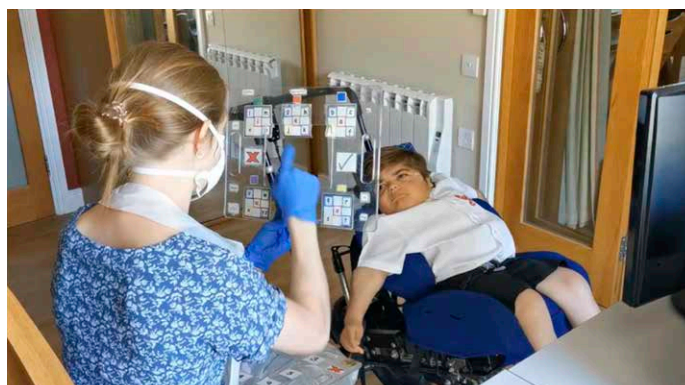
when you are going to write so they don't interrupt". The group also commented on the pace of online discussions being faster than that of in-person communication, further adding to communication challenges. Jonathan, who uses an E-Tran frame (see Figure 2), noted "*my witty comments are always a minute late*". Eoghan, who uses eye-gaze, echoed this, adding that the reduced facial and bodily cues in addition to the time taken to unmute present further challenges in conveying humour online as an AAC user.

To address the challenges encountered due to reduced visual cues, group members were encouraged to attend meetings with two devices if possible, offering a face-on view in addition to a view of their AAC interaction (see Figure 3). Georgie added, "*I feel that it is a great help having two cameras set up at once so that people in the chat are able to see when I am writing something to say more easily*". Another member effectively used the dual-device method when using a communication board supported by vocalisation from a personal assistant.

In the initial sessions, a spontaneous discussion format led to group members having limited opportunities to engage within the meeting timeslot. Moving forward, members split into smaller groups in breakout rooms to allow more input from individuals. Sending discussion questions or themes to the group in advance also significantly increased the efficiency, enjoyability, and productivity of the sessions by allowing members to prepare contributions. The breakout rooms were facilitated by University staff members, who summarised discussions and fed back to the reunited group at the close of the session. The success of this format provided a platform for the group to fulfil their traditional teaching commitments across the University remotely.

For several years, the group held annual face-to-face workshops for medical students at the University to educate them about AAC. Following a lecture presentation outlining different forms of AAC, the challenges faced by those with complex communication needs, and advice for communication partners, members of the group hosted breakout rooms and shared their invaluable first-hand

perspectives with the students. Each year, the students fed back that the sessions benefited them greatly in their development as future medical professionals. As such, finding a way to replicate that experience virtually for students during lockdown became a priority for the group.

Preparing for the online teaching sessions during lockdown provided members of the group with a welcome focus in addition to increased social contact across the series of workshops. The traditional in-person lecture was replaced with a pre-recorded presentation, allowing students time to watch and prepare questions prior to meeting group members on Zoom. Students then rotated around online breakout rooms, each hosted by an AAC user, to listen to their stories and ask questions. Group facilitators were also on hand to encourage (inevitably shy) students. Tina said, "*I felt cheered up while I was feeling isolated during this pandemic by virtually meeting new groups of students and helping them to learn about people like me using AAC. It made me feel happy to help others".* The sessions were well-received, and the group felt an enormous sense of achievement at their successful replication of the event. The group subsequently fulfilled their annual teaching input with computing students, offering their insights on accessibility and their existing challenges with hardware and software to inspire student projects.

Upon hearing about their remote work throughout lockdown, the group were invited to deliver sessions to local specialist school staff relating to AAC and their experiences in education. The group eagerly accepted and created a pre-recorded lecture for staff to watch before meeting online the following week. The short delay between the sessions allowed staff to submit questions to the group ahead of the live session (attended by over 80 staff), enabling the group to prepare answers in advance. The feedback from staff was fantastic and the group, some of whom were deemed unable to communicate or learn in their school days, enjoyed the irony of teaching teachers.

While many of the initial access and communication barriers encountered when meeting online were overcome by planning, strategy use, and software selection, a number of accessibility issues persist across a variety of video conferencing platforms. The group feel that improved functionality for eye-gaze and switch users would significantly improve user experience, in addition to adding features such as onscreen indicators to illustrate that someone is formulating a response using the chat box or AAC system.

Although the virtual group meetings allowed the group to maintain their social connections and expand their commitments within the university and beyond, seeing much of the world become more (remotely) accessible relatively quickly after the start of the pandemic did stir up some mixed emotions within the group. While many people with disabilities have long requested remote opportunities for aspects of life including healthcare, education, and employment, these requests are often denied or met with a series of barriers. When remote access became essential for wider society, however, these seemingly impossible requests to work or learn from home became possible. This U-turn was viewed as both welcome but frustrating by members of the group. Collectively, they hope that the wider public remember the feelings of isolation experienced during lockdown and continue to create accessible and inclusive opportunities online for those who remain more restricted in their community interactions. Moving forward, the group hope to continue working in a mixture of modalities, allowing greater accessibility for group members and uptake of opportunities from further afield. The group also aim to extend their outreach projects beyond professional groups to the general public, particularly children and young people, to raise awareness of AAC and those who use it.

If you would like more information about the group or to discuss any aspect of this article, please contact the Straight Talking Group coordinator, Kathleen Cummins - k.y.cummins@dundee.ac.uk

The Straight Talking Group's top tips for online video conferencing for AAC users and communication partners

- Cameras should be on wherever possible for everyone on the call. It not only feels more like a face-to-face conversation, but it helps people using AAC to feel more comfortable and confident that you are engaged with their communication.
- Try out some different platforms. What suits one person's needs might not suit another. They each have advantages and challenges to navigate. Communication partners, please consult with someone with a disability or using AAC about what platform they find most suitable for their physical or communication needs
- Attendees using AAC should be mindful of their camera angle and consider the cues available to others on screen. A wide angle typically offers better visibility of body language and AAC interaction. Using multiple devices (AAC view and face view) can also enhance communication cues. Remember to mute one of your devices if so in order to avoid audio interference.
- Make use of the 'raise hand' icon if possible to indicate that you would like to speak or that you are preparing something.
- Circulate questions or discussion topics in advance to allow AAC users to prepare responses, saving time and exertion during the call.
- Utilise breakout rooms if group numbers prevent fair allocation of time to members for discussion input. Smaller groups allow more time for each person to contribute.
- Be mindful of the pace of conversation. It can often be faster online than in person and so ensure people using AAC have time and space to talk and don't get left behind.

Investigation of the AAC assessment process in school settings

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Introduction

Individuals with complex communication needs comprise a heterogeneous group in terms of their skills and abilities, experiencing various difficulties, such as with motor skills, language ability, cognition and symbolic understanding. The heterogeneity of people with complex communication needs (CCN) as well as the lack of knowledge and skills of communication partners lead to AAC assessment being very challenging (Beukelman & Mirenda, 2005; 2020). Additionally, communication takes place in different environments (such as at school and home) and thus, the context varies along with the communication partners and the communication needs of the person. A comprehensive AAC assessment approach includes evaluating intrinsic (related to people with CCN) and extrinsic factors (related to the environment and the communication partners).

The existing literature on AAC assessment reveals that this is not always comprehensive. Karnezo (2018) found that Speech and Language Therapists (SLTs) do not assess critical intrinsic (e.g. sensory-perceptual and motor skills) and extrinsic factors (e.g. partner and environmental barriers to communication), which can lead to detrimental intervention outcomes. Dietz et al. (2012) also commented how their SLT participants had described the assessment as a two-step process that includes language and symbolic understanding. Similarly, Theodorou and Pampoulou (2020) found that SLTs in Cyprus assessed both the verbal and nonverbal communication domains, whereas other important areas, such as literacy abilities, environmental adaptation and Assistive Technology equipment (in collaboration with an AT consultant) were not assessed by many of the participants. The same authors found that SLTs in Cyprus use their own informal evaluation protocols, instead of the available formal tools and protocols. That is, at least for the language assessment, according to Theodorou et al. (2016), there are some tools standardised in Greek for this purpose.

Despite the fact that a comprehensive AAC assessment is necessary for the subsequent success of an intervention, the existing literature shows that there are still gaps in relation to the areas in which SLTs focus their assessment practices. However, there are frameworks available in the AAC field that can guide the assessment process. Some of the most popular ones are the Participation Model (Beukelman & Mirenda, 2005; 2013; 2020), the Human Activity Assistive Technology Model (HAAT) created by Cook and Hussey (2002) and the Student – Environment – Tasks – Tools (SETT) developed by Zabala (2007). For the purposes of our study, we focused on one of the foremost existing frameworks used to guide AAC assessments, namely the Participation Model (Beukelman & Mirenda, 2005; 2020).

Participation Model

For assessment purposes, the Participation Model considers: a) the existence of communication participation patterns, b) the barriers to participation in communication situations, c) the effectiveness of previous strategies to enhance participation, and d) the potential for new strategies to enhance communication (Beukelma & Mirenda, 2005; 2020). The assessment process is based on two main pillars: firstly, the opportunities that an individual with complex communication needs is provided with to communicate; and secondly, the identification of any barriers that might prohibit successful communication.

In terms of assessing opportunity barriers, these pertain to policy, practice, and the facilitator's skills and knowledge along with attitude. The facilitator plays a vital role in efficient communication interaction. That person's knowledge is important when it comes to successful communication between the AAC user and their communication partner(s). It is also important for successful AAC assessment. The Participation Model focuses on assessing not only the communication participation of the person with complex communication needs, but also the ways in which his or her peers communicate in the environment into which he or she is placed.

The general access barriers focus on assessing the potential to increase natural ability, environmental adaptations, and access potential to utilize AAC systems and/or devices. AAC provision must be developed to meet the needs and skills of the person with

CCN. Multiple factors need to be evaluated, including a person's motor skills and sensory/perceptual abilities, cognitive/linguistic abilities and literacy skills (Beukelman & Mirenda, 2005; 2020).

Research aim

The research presented here pertains to a study that examined the assessment process used by Speech and Language Therapists in public schools (mainstream and special schools), with the aim of supporting students with CCN in Cyprus. An earlier publication focused on describing the training received by SLTs as well as presenting and commenting on the assessment process's key elements (Theodorou & Pampoulou, 2020). The current work aimed to present the findings regarding the process that SLTs follow when assessing a student with CCN, in relation to the main elements described in the Participation Model and the existing literature concerned with AAC assessment.

Methodology

For the purposes of data collection, a hard-copy questionnaire consisting of 35 close-ended questions based on the Participation Model and the existing literature about AAC assessment was developed. The questions included in the questionnaire covered the profile of the participants, the kinds of AAC provision and the AAC assessment process. All the potential participant SLTs (n=180), who, during the data collection period were working with children in public schools in Cyprus, were drawn from training sessions conducted in collaboration with the Ministry of Education and Culture of Cyprus (MoEC) and the Cyprus University of Technology. Almost half of those asked completed the questionnaire. As explained in an earlier paper by Theodorou and Pampoulou (2020), the vast majority of these SLTs had worked for more than 11 years and had completed master's degree-level education. Regarding the participants' academic knowledge in the field of AAC, only about half had attended classes related to AAC during their studies. Nevertheless, the findings show that most of the participants were very interested in the field, and they had looked for information from a range of sources. To this end, they had attended seminars and searched for relevant information on the internet.

Results

The participants were asked to indicate what parameters they took into account when assessing students with CCN. These choices were based on the Participation Model, focusing on both the opportunity and access barriers. Regarding the opportunity barriers, it is interesting to note that almost half of the participants did take into consideration their own knowledge and skills in relation to specific AT tools during assessment. That is, they were aware that the knowledge and skills of the facilitator are important. As was mentioned in the introduction, the Participation Model focuses not only on the person who uses AAC, but also, their communication partner(s). As was found from this research project, more than half of the participants focused on communication partners in the person's environment, although they took family preferences into account far less. Regarding access barriers, participants noted that they focused on assessing the students' preferences as well, which is vital, as the existing literature shows that often the voices of people with CCN are not heard during the AAC assessment (see Figure 1).

Figure 1: Parameters taken into account when assessing students with CCN

Additionally, the participants were asked to indicate what assistive tools (low, medium and high-tech) they considered during their assessment process. For this question, we included some of the different aided means of communication and, specifically, different types of symbols that are widely used in public schools in Cyprus (Pampoulou et al., 2018), albeit we are aware that there are many more available. As shown in the Figure 2, the participants focused on symbol assessment, with pictures and realistic objects receiving the highest score. Regarding the assessment of
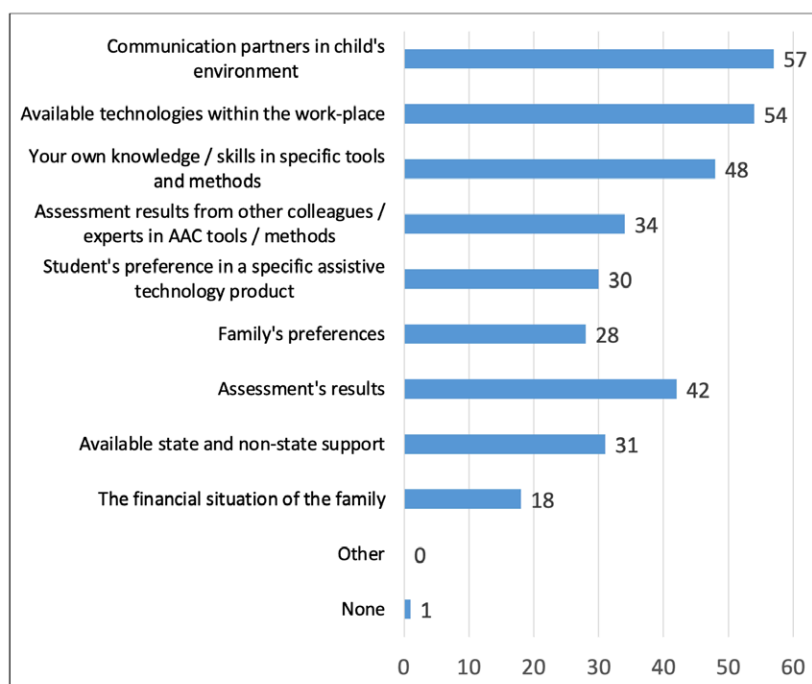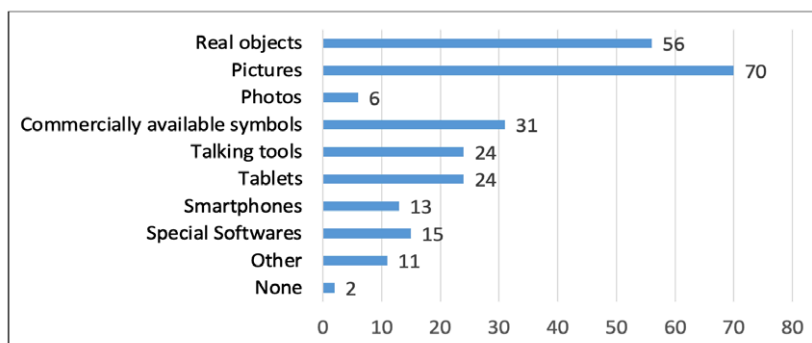

Figure 2: Assistive Technology assessment

different AT tools, they mainly focused on talking products and tablets and less on other equipment.

Participants were asked to indicate which stimuli they used to facilitate their assessment process. They reported that they used a variety of stimuli, which were predominantly auditory and visual, while they used touch, smell and taste to a much lesser extent (Figure 3).

Additionally, participants were asked about the aided and unaided forms of communication they used during the assessment process apart from verbal interaction. As shown in Figure 4, they mainly used objects, photographs, and pictures, with facial expressions, gestures and signs being used less.

The participants were also asked to indicate the different environments where they assess students with complex communication needs. In Figure 5, they account for different environmental factors such as distracting stimuli, the presence of familiar people, conducting SLT outside the SLT room, and modifying their SLT session to enhance communication.

Furthermore, the participants were asked to explain what environmental adaptations they took into account during the assessment process. As shown in Figure 6, the findings show that participants utilize the teaching assistant and assess students in other classrooms. However, only a few of the participants declare that they modify the classroom setting and teachers' teaching style.

Conclusions

The focus of the current study was to explore the AAC assessment process SLTs in Cyprus use, taking into account the main elements mentioned in the Participation Model (Beukelman &Mirenda, 2005; 2020). The work presented here is part of a larger study, the major findings of which have already been presented in a paper by Theodorou and Pampoulou (2020). The findings have shown that the assessment process focuses on identifying the strengths and weaknesses of children with CCN, whilst environmental opportunities and barriers are not assessed in depth. Hence, it has emerged that SLTs mainly assess intrinsic factors related to these children. The stimuli that assessors use are mainly visual and auditory, which may be inappropriate for individuals with multiple sensory difficulties. Participants predominately use aided means of communication during the assessment process, thus neglecting the importance of unaided ones, and Total Communication which leads to participation opportunities. Moreover, potential users are not usually provided with the opportunity to try out the recommended AAC system in their own time, which could lead to unwillingness to use the proposed system or its eventual abandonment.

Concluding, we would like to emphasise that comprehensive assessment is vital not only for an effective intervention, but also for improving the quality of life of people with complex communication needs and their caregivers
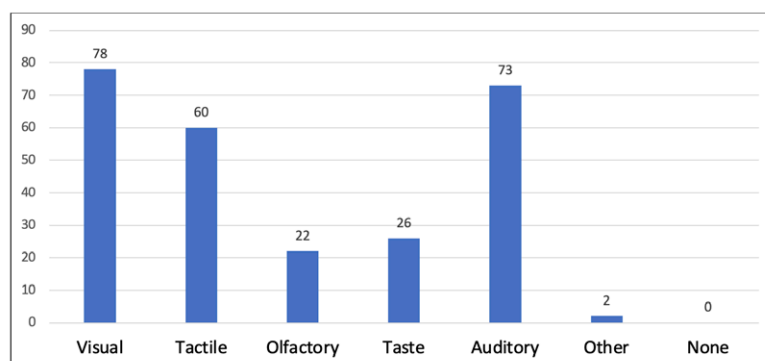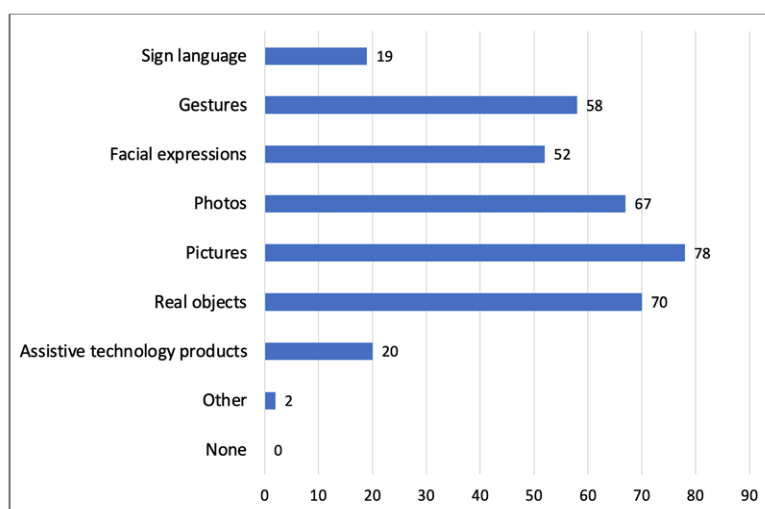

Figure 3: Stimuli used

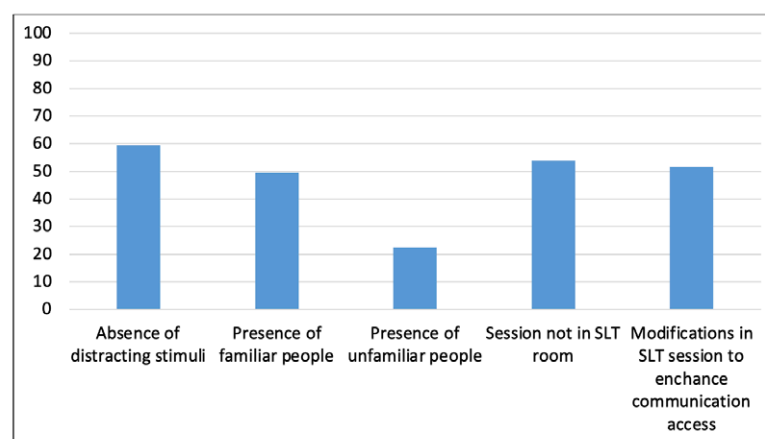*Figure 4: Aided and unaided forms of communication used*

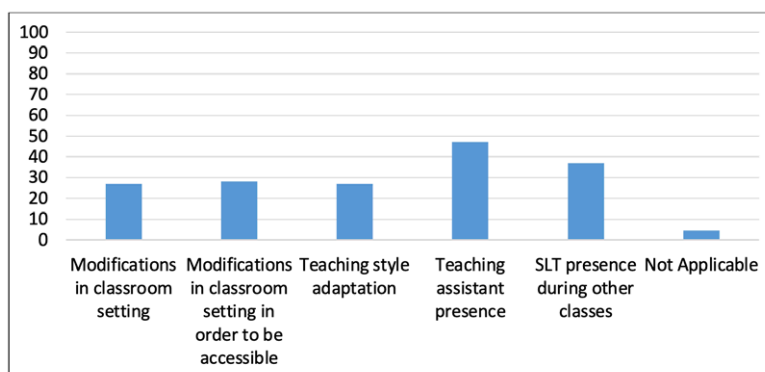*Figure 5: Environmental factors*

Figure 6: Environmental adaptations

(Beukelman &Mirenda, 2005; 2013). Hence, a successful assessment can contribute significantly to appropriate intervention that allows the individuals to participate more fully in aspects of their daily lives and routines. SLTs need to be taught about AAC assessment protocols, which must be exploited more widely and for this reason, ongoing education about these is imperative. Indeed, stakeholders should recognize the need for SLTs that provide services for children with CCN to improve their understanding of the available AAC systems and their uses, thereby being able to deliver more effective support for these children. Future enquiry should be focused not only on the AAC assessment process, but also on the outcomes of intervention.

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AAC in the Time of COVID – How our Online Resources Went from Strength to Strength

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As a company, Liberator have a lways had a collection of online resources, and as a team of consultants we have always delighted in being able to share these resources with people. In recent years we had begun to explore how we could share these resources more 'virtually' by making them available on our website and starting to share an awareness of them through our social media channels. Then, COVID hit and like so many companies, we had to look at what we were doing and how we could make things more accessible for everybody - not just resources, but training and support sessions too. Suddenly, the majority of the country found themselves at home, and we found ourselves having to think about how we could ensure everyone could access the support that they needed, wherever they were based.

So, the question was, 'how can we do this virtually?'

The Journey Begins

To begin with, we started to look at the downloadable resources we already had available, and we added to them. We uploaded a range of low-tech support books, manual boards, and vocabulary teaching packs - all of which were freely available and instantly downloadable. This meant that families now had backup vocabularies in case their child's device hadn't come home from school or if the device that they were using at home had broken.

We looked at the various platforms we were using to share knowledge and information and we built on this. A wide range of webinars were streamed over Facebook; these covered a range of topics, and were delivered at differing times of the day meaning everyone had the opportunity to access them. Webinars were also scheduled through GoToTraining, and a number of these were recorded, which meant we could then upload them to YouTube so that others could then access them at a more convenient time.

Consults also began to take place virtually and suddenly the phrase, 'your microphone is muted' became more commonplace as we began to offer support through video calls.

Now, as we've come through the strangest of times, we find ourselves in a much stronger position in terms of the content we have online and in terms of how we can support AAC users and their families virtually.

A wealth of Online Support

We now have a wide range of support available online, including, but not limited to, resources on our website[1], our YouTube channel[2], web-based resources such as the AAC Language Lab[3] and Realize Language[4] data logging, our social media channels[5] and virtual consults - and technically, whilst these are all online-based resources, they do all work in different ways and can provide differing levels of support for individuals.

Our website is full of content which can support successful AAC implementation, including:

- Manual Boards[6] – ideal for a grab and go low-tech solution, or for modelling during activities.
- Low-Tech Support Books[7] – more comprehensive than a manual board, these books contain a wealth of core and common fringe words and can be a great low-tech communication system – either when a device may not be available or when skill building.
- Handouts & Presentations[8] – a vast collection of content such as planning resources, vocabulary workbooks, core word activities, low-tech ideas and so much more.
- Live webinars[9] – Running each month, these cover a range of topics. Each month there are webinars to learn how to program both Accent and NovaChat devices as well as sessions on LAMP WFL, LAMP on iOS and other specific topics to support implementation.
- Contact your consultant[10] – providing the option to book a virtual appointment with your local consultant to cover any AAC topic or queries you may have.

@LiberatorAACVideos

Our YouTube channel in particular is one area which has really grown and developed since the start of the pandemic. There's a vast range of content on there, providing something for every AAC need you may have. There are a wide range of previously recorded webinars available, not just those recorded by the Liberator team, but also by guest speakers who have recorded webinars for us over the years. There are a wide range of implementation videos, some with more generic implementation strategies, and some with more specific AAC modelling activities. A number of technical videos are also available on the YouTube channel which can provide guidance, support and advice for issues relating to programming, technical issues, and troubleshooting. With so much content being posted, no two days are the same on our YouTube channel!

AAC Language Lab UK

The AAC Language Lab is a collaborative project with PRC-Saltillo, who are our parent company and are based in the US. The lab is essentially a library of activity ideas, assessment tools, session plans and so much more. You can access specific activity ideas or session plans aimed at targeting a specific language goal. The language screener tool, which is available on the AAC language lab, helps you determine a starting point from which to begin your implementation, and the curriculums such as Literacy through Unity help you to work on skills other than language building.

The AAC language lab contains both free content and content which is accessed through a subscription. All new Liberator AAC devices come with a 1-year complimentary subscription to the AAC language lab.

Realize Language UK

In addition to seeking inspiration for the activities we can be working on, sometimes we need a little bit of assistance in establishing what goals we should be setting. Realize Language is a web-based data logging tool which allows us to analyse how a device is being used and identify what our next goals are. Realize Language is compatible with all Liberator AAC devices and allows us to take an objective look at the ways in which a device is being used. From the data gathered, we can look at how the AAC system is being used across the day – perhaps identifying times during which AAC use is more frequent than others – and through this, identify any potential barriers to AAC use. The various aspects and functions of communication can also be compared, as can the range of words being used. The dashboard style of displaying this data gives a really good summary, and the quick report generation means you can easily begin to plan next steps. Similarly to the AAC Language Lab, all new Liberator AAC devices also come with a 1-year complimentary subscription to Realize Language.

Social Media

Having accounts on Facebook, Twitter and Instagram has meant that social media has become a fantastic way for us to keep people informed of important news such as new products, device updates, upcoming events and new resources – to name a few things! We also love to share the AAC inspiration when we see someone sharing a great idea for supporting implementation – sharing is caring!

Virtual Consults

We utilise a range of video calling softwares, and so we have multiple options for support sessions – meaning we can use whichever platform people are most comfortable with.

It is understandable that people may feel nervous about video calling if they haven't used this before for AAC support – we have all had a first time doing this and we know it can be tricky. Through screen-sharing software, simple step-by-step guidance and gentle support, we can help build confidence (and honestly if anything unusual happens in the session the chances are it has happened to us before!).

You can book video sessions either by liaising with your local AAC consultant or by visiting the 'Meet Your Consultant' section of our website.

What support do YOU need?

Whatever the nature of the support you require, the chances are there is an online option for you.

If you are unsure where to start you can contact us and we will be happy to recommend resources and signpost you to what may be a helpful solution.

So, what Now?

Our online support didn't end with the restrictions. Whilst we are now offering face-to-face sessions should people want them, online support remains a great option for so many people and in so many situations. We continue to add content to our social media and YouTube channels on a weekly basis, and are excited about how we can expand this further. If you have something you would like to see created, or have an idea – please don't hesitate to get in touch!

Useful Links

1 www.liberator.co.uk
2 www.youtube.com/user/LiberatorAACvideos
3 www.aaclanguagelab.co.uk
4 www.realizelanguage.co.uk
5 @liberatorltd (Facebook, Twitter & Instagram)
6 www.liberator.co.uk/resources/manual_boards
7 www.liberator.co.uk/resources/low-tech-support-books
8 www.liberator.co.uk/resources/handouts-and-presentations
9 www.liberator.co.uk/training-events/training
10 www.liberator.co.uk/training-events/aacconsultants

MyAbility: AAC Adaptations for the Development of Positive Self-Identity

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This article will describe the practice-led service development of MyAbility. This has been a joint venture between ATtherapy, a highly specialist independent Speech and Language Therapy Service and Recolo, a Community Neuropsychology Rehabilitation Service. A clinical tool has been developed and trialled involving packs of resources for clinicians to structure sensitive and emotional conversations about identity with clients following a brain injury or those with a diagnosis of cerebral palsy or autism spectrum conditions. The MyAbility clinical resource has been developed for young people and adults, as well as their parents or carers.

In rehabilitation for those with a diagnosis of cerebral palsy (CP), there are multiple agencies actively invested in promoting positive change and rehabilitation, such as different services, professionals, and family members. The initial focus of a multi-disciplinary team (MDT) is on physical domains of care, for example, swallowing, movement and physical adaptations. Once these foundations are in place, the rehabilitation focus needs to expand to include the psychological facets of the young person's understanding and belief about themselves.

This is key for progress long term– the self of the young person in "**us**" as a team is the anchor to motivating and promoting positive change, and all professionals have a role to participate in this process.

Research over recent years has seen a growth in understanding identity from many different dimensions. Research regarding the role of the MDT within identity work shows a breadth of perspectives from various professionals, not just those in the field of psychology. It is by working together that an MDT can better capture the fullness of an identity as well as its diversity and unique complexity.

Therapeutic support for a young person's identity is important, as evidence shows that how a young person understands and relates to their diagnosis has a direct impact on their engagement in rehabilitation and therapy, through:

- active involvement in decision-making,
- acceptance of their diagnosis,
- awareness and insight into their strengths and challenges,
- adjustment to life-changing circumstances,
- and active adaptation such as doing things differently or working around the obstacles.

Research in the field of brain injury shows that following injury, a splitting of the self develops – from "who I was then" to "who I am now". The research is less clear for a diagnosis of CP. However, the presenting clinical need remains the same, as young people with a diagnosis of CP may pose the questions: "Why am I different?"; "Who am I?".

It is essential to support the young person to develop an understanding of their self in relation to their self, to others and within the context of their world - helping them to understand their self-worth, support them to aspire, and achieve their own meaningful goals.

Evidence suggests that individuals experience stigma when their identity is negatively evaluated within society. Many adults with CP report they are very much aware of the attitudes and stereotypes through which they are perceived in society, and this negatively impacts their self-esteem and positive self-identity.

However, when a child with CP perceives less consequences attached to that diagnosis, and instead is accepting of and embraces their CP diagnosis, this will support the development of positive self-identity and higher levels of global life satisfaction.

Speech and Language Therapists (SLTs) are often overlooked as clinicians who would work in this area. Interestingly, when asked at a recent clinical excellence network, numerous SLTs stated that they would automatically refer to psychology to provide intervention for identity work.

Within a diagnosis of CP, physical, cognitive, emotional, and behavioural needs interact with each other. Communication is involved with each of these processes. SLTs can provide crucial intervention that supports the development of a means of communication, social skills, and emotional regulation.

Recognition of reoccurring and overlapping areas of intervention within neurorehabilitation is limited, alongside understanding of the full remit of a Speech and Language Therapist.

All team members, whatever their profession, are motivated to promote a young person's acceptance of and adaptation to their diagnosis. Fran Sephton initially approached Andrea Pickering to explore how she could help young people who are curious about the nature of their CP diagnosis, and they agreed to work together collaboratively to develop a containing structure for such a sensitive conversation in sessions.

Packs of activities were created that structured a therapeutic conversation to promote positive self-identity, as well as strategies for the regulation of strong emotions triggered by changes in their self-image.

This involved pooling ideas as therapists and developing resources to be used as pencil and paper exercises as well as online to facilitate an understanding of a diagnosis and the regulation and expression of emotion in relation to self-identity. Activities were developed that would assist a young person to develop a more cohesive and positive view of their self-identity.

Some of the resources have also been co-produced with the AT Mentors team, within ATtherapy. AT Mentors are skilled users of AAC and work alongside young people and clinicians to support adjustment and adaptation.

Emma Bowers and Niki Jones were invited to collaborate on developing packs tailored to clients with Traumatic Brain Injury and Autism Spectrum Conditions, to respond to dual diagnoses, and to acknowledge that identity is a broad issue impacting on several client groups, as young people start to question who they are in adolescence and young adulthood.

The team embarked upon the development of MyAbility. There are 3 separate packs currently in development. Each MyAbility pack targets a separate diagnosis:

- Cerebral Palsy
- Traumatic Brain Injury
- Autism Spectrum Conditions

The overarching aim of each pack is to support clinicians in having sensitive conversations with clients around identity and self-esteem; supporting them to understand a diagnosis and what this means to them, encourage acceptance of this, and promote positive self-worth. The resources, tasks, and language used within each of the packs has been amended to appropriately reflect the different needs within each diagnosis.

MyAbility is a programme of 12 activities that are a template to be used flexibly and adapted to a particular young persons' need(s). MyAbility has been developed for young people aged 10 years plus, who have an understanding of 3 keyword level or above. For each session, there are key tips and activities to help an individual to understand their ability, as well as homework tasks to complete between sessions.

The use of single tasks from the programme has also been trialled with some clients who may not be ready to access all sessions but would benefit from a facilitated discussion around some topics covered. The trial of using single tasks included topics such as learning more about CP or beginning to connect with other young people with similar experiences. The use of the MyAbility resources for these single tasks was also incredibly useful and highlights that the resources can be used either as a programme or to target specific areas of need.

A feasibility study has demonstrated MyAbility's usefulness as a clinical tool for clinicians, young people, and their parents:

- When analysing comments about MyAbility, it was found that it was helpful to open up sensitive conversations about feelings, to identify strengths and be able to focus on the future by aspiring to the clients' own meaningful goals.
- Young people valued learning more about their diagnosis, talking about their feelings and perceptions of themselves currently and ideally in the future, connecting with others with similar experiences as well as acting out social situations to practice coping with tricky interactions.
- Parents valued getting more support for their young person and clinicians found it useful to connect the young person with others and to explore their feelings and perceptions of the self.

AAC users took an active part in the feasibility study of MyAbility with a limited disability vocabulary. Jamie Preece (ATmentor) recognised that lots of available vocabulary packages may omit the necessary disability-related vocabulary to participate in sensitive conversations as they arise throughout the packs. As a result, the MyAbility team worked collaboratively with Jamie to think of some solutions.

Jamie evaluated the MyAbility pack and advised, *"I was drawn to this pack as it would have been really helpful for me growing up. Before the age of 30 I would have got rid of the CP if I could, however now, since I got a communication device, more equipment like my electric wheelchair, and have started a family, I am more accepting of my disability and wouldn't change a thing".*

Jamie offered to build the MyAbility team individualised AAC resources for use alongside the packs. Jamie reported he purposely left some of the pages and cells blank for personalisation.

Jamie created an activity board that can be used electronically for Grid 3 users or printed off to use as a paper-based AAC solution. There are times and places where activity boards can be very useful. Within the MyAbility sessions, emotions can be high, and it therefore can be very useful to have all the vocabulary needed in one place.
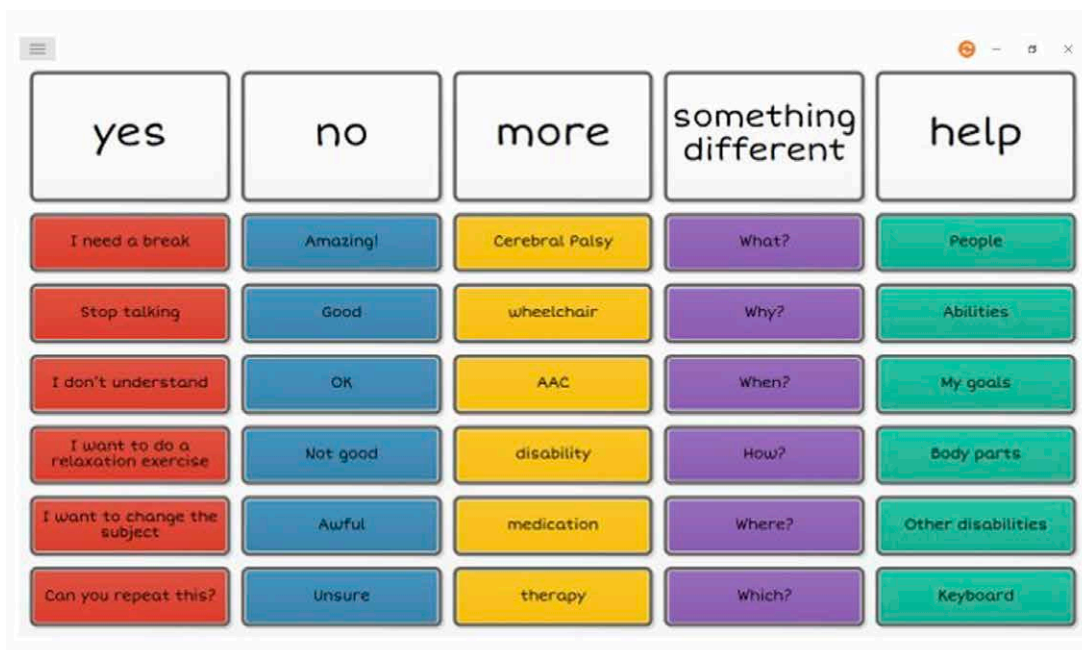
This grid has been carefully categorised, and colour coded with:

1. Key / core words in the top row (colour coded in white)
2. Emergency phrases in this first column (colour coded in red)
3. Opinions in the next column (colour coded in blue)
4. Followed by disability words (colour coded in orange)
5. Question words in the next column (colour coded in purple)
6. And a final column for jumps (colour coded in green)

This is a template and people are encouraged to personalise this.

Future plans and applications include developing the MyAbility packs further along with supporting the resources and content of the corresponding YouTube channel: https://www.youtube.com/channel/UCMMAPJnSzEOK85vybV0Wdeg.

A Randomised Controlled Trial is also going to be undertaken to further review the efficacy of the MyAbility resource packs. MyAbility is now an award-winning resource, having won the Mike Barnes Award for Innovation in November 2021. The packs are currently still at a development stage and are not available to the wider public. However, following completion of future plans, the resource will be widely available for professionals.
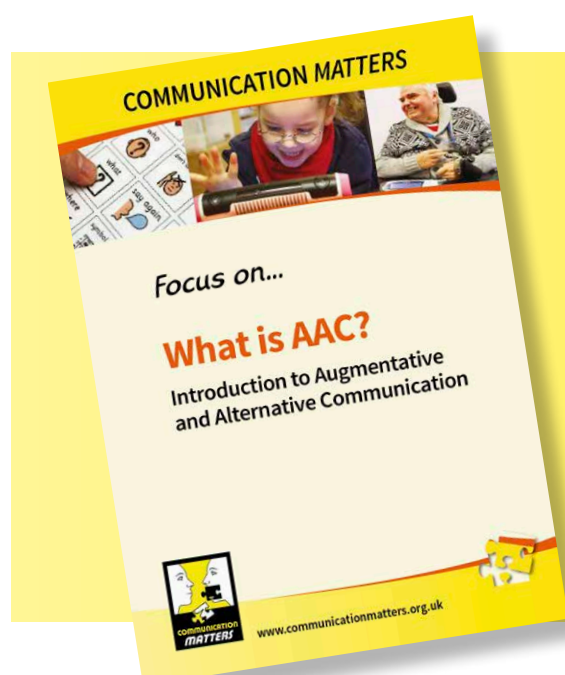
'What is AAC?'
Focus On leaflet

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!

Graphic symbol preferences of adults with acquired communication disorders

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Abstract

Despite the fact that there are dozens of available collections of graphic symbols, there has been scant research focusing on the types of symbols that people with complex communication needs prefer to use for communication purposes. The aim of the current study was to investigate the preferences of adults with acquired communication disorders in relation to the various available collections of graphic symbols. Nine adults with acquired communication disorders between the ages of 20 and 70 years participated. Data collection was conducted through online and face-to-face structured interviews, which lasted about 30 minutes. The aide-memoire included 25 questions focusing on the demographic characteristics, participants' preferences for the different types of graphic symbols, and their understanding of the meaning / referent of some of the symbols. The symbol sets that were used consisted of Microsoft Clipart, photographs, Makaton symbols, Talking Mats symbols, ParticiPics, and Sclera symbols. The findings from this preliminary study revealed that participants mostly preferred coloured symbols. They chose photographs as the most appropriate symbols for adults and Microsoft Clipart symbols as the most appropriate ones for children. They also showed a particular preference for Microsoft Clipart symbols compared to the other collections of symbols. In their view, the symbols they would use as their only means of communication were in order of preference: Microsoft Clipart symbols, Talking Mats symbols, and PartciPics. Further data is required, and the research team is currently interviewing more participants for the study.

Introduction

Graphic symbols are often used in the field of AAC to support people with complex communication disorders. They are a representation of a referent and in the past few years there has been an increasing development of various collections of symbols, such as Microsoft Clipart, Pics for PECS and Talking Mats (Pampoulou & Fuller, 2021). It is widely accepted that to achieve and maintain effective communication, one vital element is that the symbols selected should match the skills, needs and preferences of end-users (Fuller & Lloyd, 1997; Pampoulou & Fuller, 2020). Pampoulou & Diamanti (2020) explored the graphic symbols preferences of 12 people who had been diagnosed with autism spectrum disorder and 13 with mild or moderate intellectual disability, between the ages of 20 and 32 years old. Most of the participants preferred coloured symbols. Of the six types of symbols, they preferred to use photographs and considered these as being the most appropriate symbols for adults, whereas, for them, Talking Mats was deemed better for children. As far as we are aware, there is no other similar research project focusing on the type of symbols that people with complex communication prefer to use for communication purposes, specifically for people with acquired communication disorders, such as aphasia. Hence, the aim of the current study was to investigate the preferences of adults with acquired communication disorders regarding the various collections of graphic symbols. The research questions that guided the current study were:

1. Do people with acquired communication disorders prefer coloured or black and white symbols?

2. What type(s) of symbols do they think is(are) suitable to be used for communication purposes in general?

3. What type(s) of symbols do they prefer to use for their communication interactions?

4. What type(s) of symbols do they consider more appropriate for children?

5. What type(s) of symbols do they consider more appropriate for adults?

Methodology

Participants

The participants were nine Greek-Cypriot adults with aphasia, between the ages of 20 and 70 years. They were all selected from various rehabilitation centres in Cyprus through purposively sampling. Aliases have been used to protect the personal data of

the participants and to ensure their anonymity. The inclusion criteria were: (a) the communicative diagnosis of the participants (aphasia, apraxia of speech or dementia); (b) the ability to communicate (speech was not a prerequisite); (c) ability to choose between different options; and (d) age (adults).

Data Collection

Data collection was conducted both online and face-to-face according to the pandemic restrictions during the period of data collection. This took place between March and April 2020. The interviews lasted approximately 30 minutes depending on the capabilities of each participant. A questionnaire with simple instructions was used to elicit the information from them. The aide-memoire included 25 questions with multiple choice answers consisting of pointing to the symbols they preferred. For 17 of these questions, they were asked to justify their answer by the researcher, who then asked them to explain further why they had chosen those particular symbols.

During the data collection, four example sheets were used depicting the graphic symbols. Specifically, the symbol sets that were used consisted of Microsoft Clipart, photographs, Makaton symbols, Talking Mats symbols, ParticiPics and Sclera symbols. Each set of symbols illustrated the meanings "pain", "happy", "OK" and "water"; all the words are included in most core vocabularies focusing on adult populations. In the first phase of data collection, the form with the six sets of symbols was provided (Figure 1). In the second phase of data collection, the second form was used, which consisted of four rows of symbols (Figure 2). Each set of symbols represented the four concepts mentioned above. It should also be noted that the photographs with the symbol sets were available for both sexes, which was considered important to avoid biases related to gender (Pampoulou & Diamanti, 2020).

* The symbols in line 3 are Talking Mats. The symbols are designed and © to Adam Murphy, 2015 and assigned to Talking Mats Ltd. in perpetuity. They may not be reproduced without permission.

* The symbols in line 4 are ParticiPics Pictographs and copyright permission to display them has been granted.
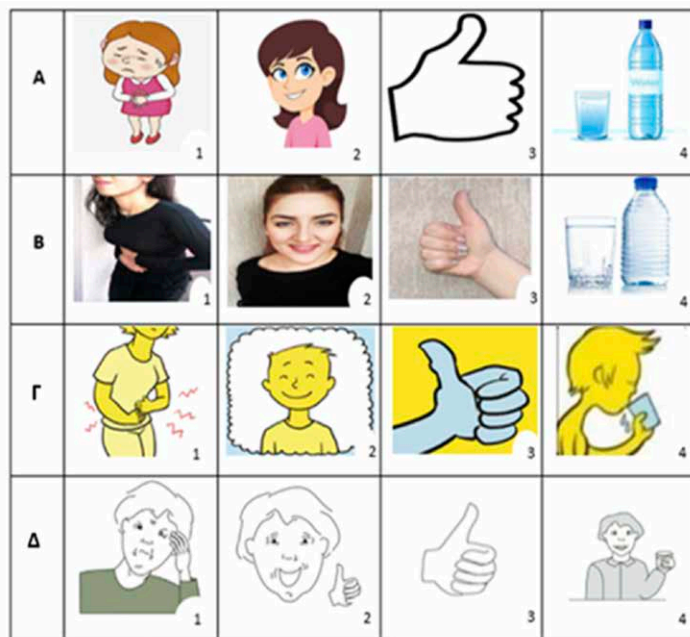

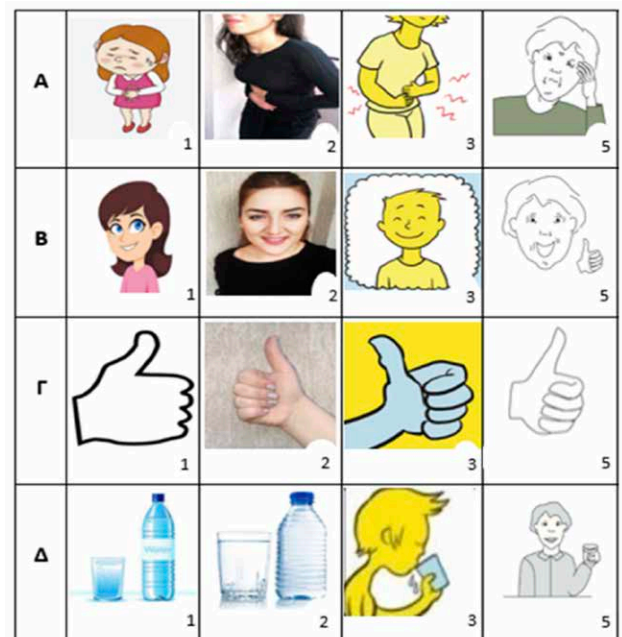*Figure 1: Examples of materials used during Phase I*

Figure 2: Examples of materials used during Phase II

Data Analysis

The participants' replies, which were noted in the printed version of the questionnaire, were transferred to an Excel sheet, and subsequently analysed based on descriptive statistics.

Results

Focusing on the first research question, the findings showed that most of the participants (n=8) preferred the coloured symbols. Those who did so justified their choice stating that they gained their attention, being more obvious, vivid, brighter, simpler, and more beautiful, than the other symbols. Some also commented that the details of the coloured symbols were much clearer.

As for the second research question, the participants were asked to choose, out of the six graphic symbol sets, the collection of graphic symbols they preferred for communication purposes. Five showed a particular preference for the Microsoft Clipart symbols compared to the other collections of symbols. Some of them commented that they understood the Microsoft Clipart symbols better, while the other symbols did not look that clear.

The third research question was related to the preferences of adults with acquired communication disorders regarding the types of symbols they would choose as their only means of communication. It was observed that there were different views among the participants. The symbols they would use as their only means of communication were the Microsoft Clipart symbols (n=2), the Talking Mats symbols (n=2) and the PartciPics (n=2).

Furthermore, four participants chose the Microsoft Clipart symbols as the most appropriate symbols for children, reasoning that they are more colourful and cheerful as symbols, and that they also look more childlike, because they depict a little girl. Lastly, the symbols they chose as the most appropriate symbols for adults were the photographs (n=4), stating that the figures look better and are more appropriate for this age.

Discussion

This study is the first with a Cypriot population aimed at examining the preferences of adults with acquired communication disorders in relation to the various available collections of graphic symbols. Regarding the first research question, the findings have shown that most adults with acquired communication disorders prefer coloured symbols, because they gain their attention, are clearer, and convey better the meaning of the symbol. These findings align with the preferences of adults with autism spectrum disorder (ASD) and/or intellectual disabilities in Pampoulou and Diamanti's (2020) research. Moreover, people with learning disabilities prefer the coloured symbols since they look more attractive (Cameron & Matthews, 2017). The second research question focused on the preferences of adults with acquired communication disorders regarding the different types of graphic symbols. The findings reveal that most participants chose the Microsoft Clipart symbols, because they understood them better, and because they are coloured. Different findings emerged in the research of Pampoulou and Diamanti (2020), where both adults with ASD and intellectual disabilities were found to prefer photographs. Rose, Worrall, Hickson, & Hoffmann (2011) surveyed the preferences of people with aphasia for aphasia-friendly printed educational materials, during which some participants reported that they considered the inclusion of Microsoft Clipart symbols disrespectful to them. Furthermore, in terms of the third research question, adults were asked to choose the type of symbols they preferred for their communication interactions. The findings for this research question were somewhat mixed, with the participants being split in terms of their preference across the Microsoft Clipart symbols, the Talking Mats symbols and ParticiPics. The findings in relation to the fourth research question, which concerned the participants' preferences about which type of symbols they considered more appropriate for children, show that most chose the Microsoft Clipart symbols. According to Pampoulou and Diamanti (2020), most of the participants in their survey had an opposite opinion, choosing the Talking Mats symbols as the most appropriate symbols for children. It should be noted that the Talking Mats symbols were primarily designed to help people with dementia to communicate (Murphy & Boa, 2012; Stans, Dalemans, de Witte & Beurskens, 2019). Hence, the participants saw these symbols as being most appropriate for a cohort (children) that they were not originally designed for. The last research question pertained to examining participants' preferences about what type of symbols they considered more appropriate for adults. The findings show that most participants chose the photographs. These results are in line with previous research conducted on people with aphasia, as photographs were selected as the ideal choice of graphic symbols by this population (Rose, Worrall, Hickson & Hoffman, 2011).

Conclusion

The purpose of the study was to allow for the voices of people with acquired communication disorders to be expressed when it comes to their preferences regarding the available symbols that can be used for AAC purposes. Participants' choices varied depending on the colour of the symbol as well as its iconicity. The findings are important for consideration by Speech and Language Therapists, who support people with acquired communication disorders, in order for them to make the right decisions about the type of symbols they will use with the individuals they support. Of course, it is of fundamental importance that the choice of the individual who requires the use of symbols takes top priority. It was observed that the participants chose coloured ones as the symbols they preferred the most. Consequently, we recommend that the material Speech and Language Therapists use during their sessions should comprise coloured symbols. This article reports preliminary findings, and the research team acknowledges that a larger pool of participants is required in order for the data to be generalised; this is currently in process. In addition, the research team is continuing the data collection, focusing on different acquired communication disorders.

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Identity, Diversity and Inclusion in Augmentative and Alternative Communication (AAC) - What Are We Doing Now and How Can We Do Better?

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Representing identity and culture in Alternative and Augmentative Communication (AAC) is an important factor in acceptance and functional integration for that system (Allan, 2006, Wickenden, 2011). We became interested in how the concepts of identity, diversity and inclusion were being supported for people who use AAC. This was particularly thinking in terms of the words and symbols available on someone's AAC – how those symbols were represented but also what opportunities were being offered to engage in discussion about identity, and whether someone's system enabled them to do this.

Following the Black Lives Matter movement in 2020 and a growing awareness of issues relating to discrimination and representation, a small 'interested group' met over Zoom to discuss some of our concerns. This group included professionals working with people who use AAC, and two people who use AAC themselves. We discussed how these concerns related not just to issues of race and cultural representation but also included other aspects of someone's identity, including their gender, sexual orientation, and disability. Some of the main issues we noticed were:

- The resources being used by professionals working in AAC were predominantly white in skin tone and represented traditional British culture
- There was a lack of availability in regional variations of voices for powered AAC systems
- There were limited ways to talk about gender, sexual and cultural identity
- Discussing edits such as changing skin tone and changing the vocabulary available were not consistently part of the everyday conversations we were having with people who used AAC

This led us to consider and reflect on the ways in which we were working; how might this be contributing to limited opportunities for discussion about people's identity and how were these concepts represented within the AAC system they were using? We wanted to think about whether there were any changes we could make or resources we could create, which might help to make these conversations easier. We considered the following questions:

Does the vocabulary we provide to people in paper- or power-based AAC systems enable them to talk about concepts of identity, diversity, and inclusion?

Do we make decisions based on our own assumptions and biases that impact what someone's AAC system looks like and how they're able to use it to relate with others?

What do people who use AAC feel able and unable to talk about in regard to their own identity?

We took these questions away and started to think about changes that could be made within our own work environments. This included things like making sure that we held a diverse range of resources such as books, toys and paper-based AAC that would be more representative of the different people we were working with. We also developed a greater number of opportunities within the teams we were working in to have discussions about representation. This included thinking about representation within the

teams themselves, as well as the people we were working with clinically. Some teams also developed an in-service training to help support these discussions. All of these provided more regular opportunities for reflection, helping us to understand more about our own biases as well as what opportunities arose day-to-day for discussion about representation with clients.

We also tried to build links and networks outside of our own teams. This was quite dependent on where we worked, but included things like meeting local Equality and Diversity leads and engaging with wider discussion groups or working parties where we worked. We also developed links with professional bodies such as the Royal College of Speech and Language Therapist (RCSLT), attending their 'anti-racism' workshops and inviting them to attend some of our discussion groups. This helped to keep the conversation going on a wider scale.

We also spoke to AAC suppliers about the design of AAC systems. We noticed during these discussions that suppliers of AAC systems and software were also aware of this issue and were making a huge number of changes to the type and variety of symbols available, as well as changes to skin tone settings and available languages. It was important for us to keep in the loop with the number of updates that were taking place and make sure that these were quickly disseminated to our teams, so that all options could be discussed with the people we were working with.

Finally, we spent time reviewing and changing how we set up AAC systems for the people we were working with, particularly in terms of providing greater opportunities for them to express their preferences and the options that were available to them. Some couldn't believe that they were able to do something like change the skin tone of their symbols, which had a huge impact on their engagement and their ability to relate with the system they were using.

Ultimately however, whilst these initial steps were important and needed to continue to develop, we realised that this process was still very led by us. This meant that we were not really addressing the problem of how we could support more in-depth discussions about how someone's identity is represented within their AAC. We wanted to find a better way to enable people who use AAC to express their views about what they did and didn't want included and what, in terms of their identity, was most important to them on their AAC.

We were granted some funding by the Central London Community Healthcare NHS Trust (CLCH) to start working collaboratively with Talking Mats. This is an ongoing project aiming to create a Talking Mat framework for discussion of how important concepts such as race, gender, culture, sexuality and disability (amongst others!) are to people using AAC, in terms of representing their identity on the system they are using. This has meant carefully considering the question we are asking for the Talking Mat, and co-creating symbols that effectively represent some of these complex ideas.

We are currently at the stage of the project where a pilot mat has been designed and we are reviewing how this works when using it with different people. We've found that, in addition to being used for a discussion with people using AAC about what is important for representing identity on the system they are using, the resource also has value as a reflective tool to be used between clinicians working with people who use AAC. Ultimately, we hope that we will be able to roll this out as a tool that can be used across settings and within different groups to support conversations about identity, diversity and inclusion between clinicians and with people who use AAC.

Our work over the last year has helped us see that there is still much more to be done in terms of changing the way that we work and supporting greater opportunities to talk about what is important in representing someone's identity. We hope that we can continue to build on these small steps that have been made, and value any further feedback, from people using AAC or people who work with those that use AAC, to think about other ways in which this can be done.

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Using Google Slides to support Emergent Writers

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EVERY person, regardless of age, grade, cognitive and functional level, can produce written content that is meaningful to them. However, people who have significant motor, cognitive and communication challenges often have limited opportunities to produce written work and may not be provided with literacy instruction. Erickson & Koppenhaver (2020) outline many ways to support emergent writers in their book *Comprehensive Literacy for All*. They also highlight the need to create a culture of writing both in classrooms and at home by valuing and demonstrating writing for a variety of purposes. For writing to be meaningful, it needs to have an authentic purpose and an audience.

In our digital society, it is easy to share writing that has been created digitally. Google Slides can be a free, fun, versatile, and interactive way to support emergent writers to compose for a variety of purposes and help them see the value of writing. When composing in Google Slides, you can easily set your sharing settings so that either anyone on the Internet can see the writing, or anyone with the link; it's also possible to set them for specific people. In addition, you can print the Slides and create physical books. If you have a device that supports text-to-speech or access to Read&Write for Google Chrome, emerging readers can hear the books read to them. There are many digital content creators, so why use Google Slides? The table shows a few of the benefits and limitations of Google Slides from my experience.

As shown in Table 1, there are a lot of advantages to using Google Slides with emergent writers. But what kind of texts can be created? In my practice as a Speech-Language Pathologist (SLP), I have used Google Slides for a variety of texts and have found that by taking turns with writing, it supports interactive writing, which increases my clients' engagement and interest in writing. We have written a wide variety of texts such as the steps to get ready at night, making predictions in science experiments, wish lists, alphabet books, and early creative stories. Below are some examples of texts that my clients have composed. They are shared with client consent and identifying information removed.

In Figure 1, a client was studying gravity and made predictions about whether items would fall fast or slow.

In Figure 2, three people made vision boards for 2021. Each person's Slides are a different color, and the images were taken from the clients' communication devices.

In Figure 3, a client and I took turns finding things in their communication device that were slow and writing about them. The images are from searching within Google Slides.

Table 1

Benefits of Google Slides	Limitations of Google Slides
Easy to share, no login or account required	Harder to compose paragraphs
If the person's AAC system works as an alternate keyboard, they can type directly into Slides	Can be difficult with an iPad
Easy to make books	Needs Wifi connection unless offline editing is enabled
Variety of layouts	Students don't see demonstration of someone handwriting
Easy to change backgrounds	
Supports simple text well	
Easily create a variety of text types	
Easy to layer pictures/images	
Multiple people can collaborate on the document at the same time	
Slide Translator add-on lets you voice type into the slide	
Color code collaborators/co-authors	
Emergent writers can see a demonstration of the same production method they use	
Easy to edit to teach the editing process	

As you can see, the writing is different in each of these examples but each one has a purpose, and since they were shared with others, they have an audience. When using Google Slides to compose, I follow the following steps:
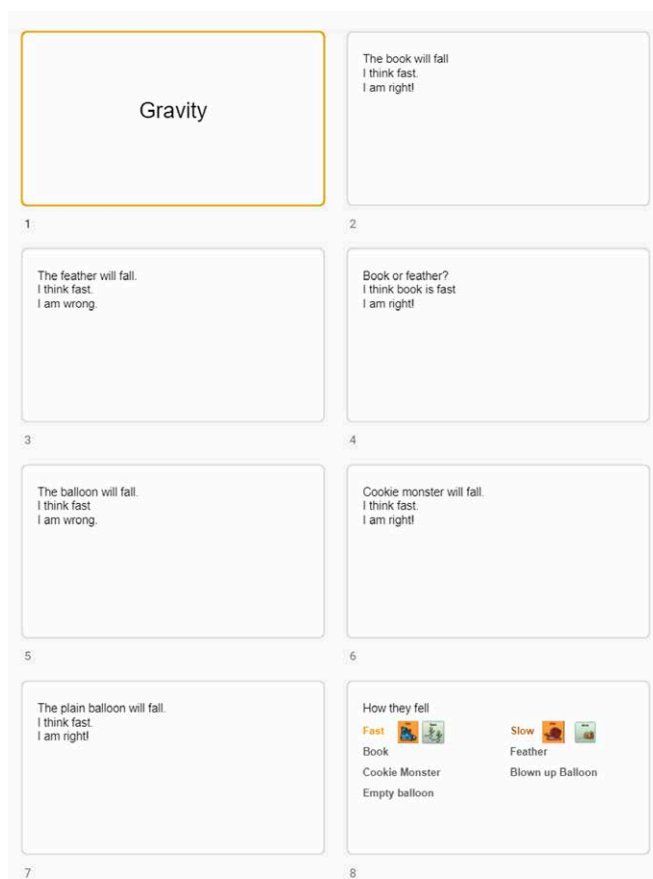
Figure 1

Figure 2

1. Create a Slides document (usually before our session)
2. If the client uses their communication device to type directly into Slides, I share the presentation with them either during or before the session
3. I show the client a blank presentation with either color or theme options showing, and have them pick the color of background and theme
4. We decide if we are going to give it a title, either before we start writing or at the end
5. I use language therapy techniques such as demonstration and dialogic writing to support generating content
6. I usually get pictures from the Google Image search within Google Slides, since these have the right copyright permissions, or from my computer
7. We listen to what has been written with Read&Write for Google or iOS 'speak selected text' features
8. We edit if the client wants to
9. We share the work, and I share it with the client's parent(s) if I haven't already done so

When sharing the work, I have started creating QR codes with links to the Slides. I then post one QR code each month in the waiting room of my private practice. Then, anyone who is in the waiting room can read what my clients have written. If you work in a school, you could also post QR codes somewhere to share, as long as the student and parent(s)/guardian(s) give permission. You could also send the link to families or colleagues to help publish the work.

Figure 3

While Google Slides may not be the right tool for everyone, it has helped my clients who are emerging writers be more engaged with writing for a variety of purposes. It has also helped them publish their work and have wider audiences, which further builds their interest in writing.

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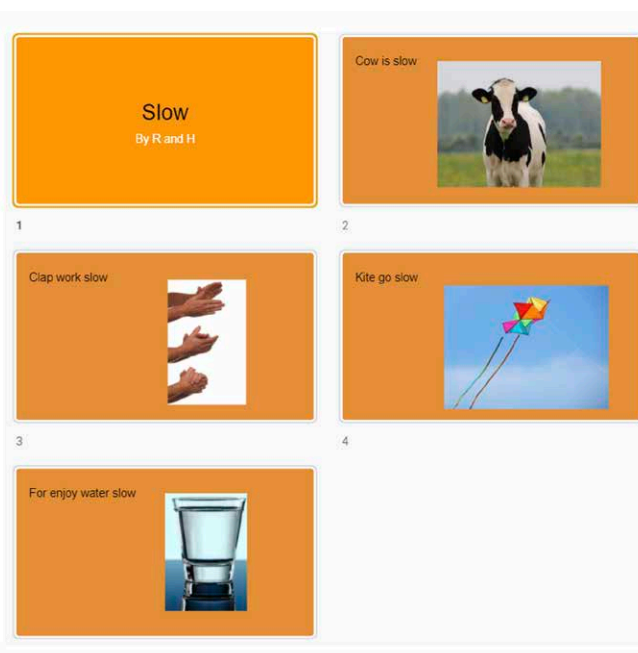Read&Write for Google Chrome information: https://www.texthelp.com/products/read-and-write-education/for-google-chrome/

EasyTalk: An assistive text-writing system for Leichte Sprache (Easy-to-read German)

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What is this text about?

We describe the computer system **EasyTalk**.

EasyTalk supports writing with few spelling skills in **Leichte Sprache**.

Leichte Sprache means: easy-to-read German.

Germans with intellectual disabilities or learning difficulties use Leichte Sprache.

We show:

How people can write down their ideas with EasyTalk.

Why did we make EasyTalk?

Some people with intellectual disabilities or learning difficulties cannot read or write well.

Therefore:

Complicated texts are difficult for them.

But:

They want to inform themselves independently.

Therefore:

They call for easy-to-read information.

German people can use **Leichte Sprache**.

The short word for Leichte Sprache is: **LS**.

LS uses **LS-rules** to make the text easy to understand [1, 2].

For example:

- Write short sentences.
- Use simple words.
- Do not use commas.

LS-text uses the LS-rules.

Who usually produces LS-texts?

Writers with good reading and writing ability create the LS-texts.

LS-readers read the LS-text.

And:

They answer the question:

Is the LS-text easy to understand?

We have asked ourselves:

What help do LS-readers need to write LS-texts themselves?

So:

We made the writing system EasyTalk.

Are there other writing systems for LS-readers?

Some people with communication difficulties use **Augmentative and Alternative Communication with symbols.**

Figure 1 shows 2 German systems.

Figure 1: MyCORE 13 and Tobii Gateway on a tablet computer.
Retrieved on 26.11.2021 from https://www.rehamedia-shop.de/mycore-eyecontrol.html
and https://rehamedia.de/2019/12/19/gateway-is-back/

The systems run on the computer.

The people are the **users**.

The users write on a **symbol-keyboard**.

Figure 2 shows 2 symbol-keyboards.

Figure 2: MindExpress 5 and TD SnapCore First.
Retrieved on 26.11.2021 from https://www.jabbla.com/en/
mind-express/ *and* https://de.tobiidynavox.com/pages/
td-snap-core-first

How do the symbols support typing?

Look at the example in Figure 3:
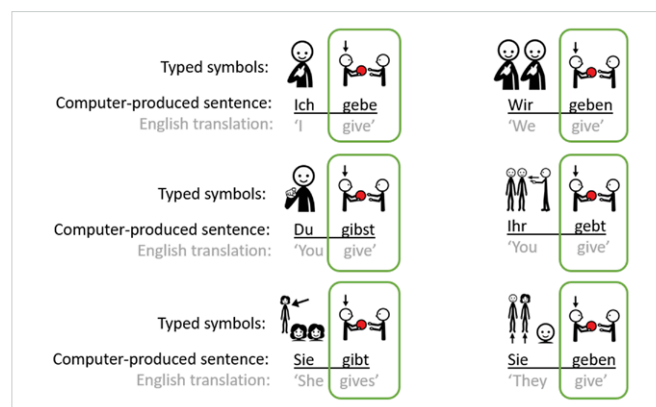
Figure 3: The same symbol can produce different words in a sentence. The form of geben *'to give' changes with symbol 1.*

The user types the same symbol for word 2.

But:

The user starts with 6 different symbols.

The computer writes the correct word-form for all symbols in the sentence.

Compare the 6 underlined computer-produced sentences.

German has many word-forms with slightly different endings.

The term from **Linguistics** is: **Rich Inflection**.

What else is difficult in German?

Word-order in German is free.

We explain this with the following terms:

There are different **Grammatical Functions** in a sentence:

You find the **Subject** in a sentence by asking: **Who** does it?

You find the **Indirect Object** in a sentence by asking:
To whom does the Subject do it?

What does free word-order mean?

The same symbols in the same order can have different meanings.

For example:

The Indirect Object can be symbol 1 in a German sentence.

This **emphasizes** the Indirect Object.

Look at Figure 6:

The symbols are the same.

But:

The sentences have different meanings.

Ask: **To whom** is the book given?

The answer in sentence (1) is: der Frau.

But:

The emphasized answer in sentence (2) is: mir.

Figure 4: The same series of symbols can mean different sentences.
Ich is the Subject (Who?) and der Frau is the Indirect Object (To whom?) in sentence (1).
Mir is the Indirect Object and die Frau is the Subject in sentence (2).

How do writing systems decide on the correct meaning?

Many systems simply choose sentence (1).

But:

This is a problem.

Because:

The user might not notice an unintended meaning.

How can EasyTalk write the right meaning?

EasyTalk uses **Natural Language Processing.**

The short word is: **NLP**.

NLP is an advanced computer technique.

NLP uses **Linguistics**.

We have already used Linguistics in Figure 6.

But:

We used easy words for terms from Linguistics.

EasyTalk does the same:

It talks in easy words about Linguistics to the user.

EasyTalk

EasyTalk is a new writing system for LS-readers using NLP.

Which NLP ideas does EasyTalk use?

EasyTalk uses **sentence plans**.

Sentence plans contain the LS-rules in an internal computer format.

The format is called **Performance Grammar** [3, 4].

The user fills a sentence plan in an easy way [9]:

- The sentence plan has **slots** with questions to the user.
- The questions use easy words for Grammatical Functions.
- The slot can also ask for a **Sentence Modifier**.

For example:

'When' asks: At what time does it happen?

What is the difference between the 2 slot-types?

EasyTalk **forces** the user to fill the Grammatical-Function slots.

Because:

EasyTalk writes correct and complete German sentences.

EasyTalk **does not force** the user to fill the Sentence-Modifier slots.

But:

The information may be important for the **Readership** [7].

There is an easy question to decide this:

Does the reader of the sentence know this information?

Yes? → Leave the slot empty.

No? → Fill the slot.

EasyTalk updates the sentence plan for each new **filler** of a slot.

The information comes from a **Linguistic Lexicon** [5].

EasyTalk uses the information to suggest the next words with a **Paraphrase Generator** [10].
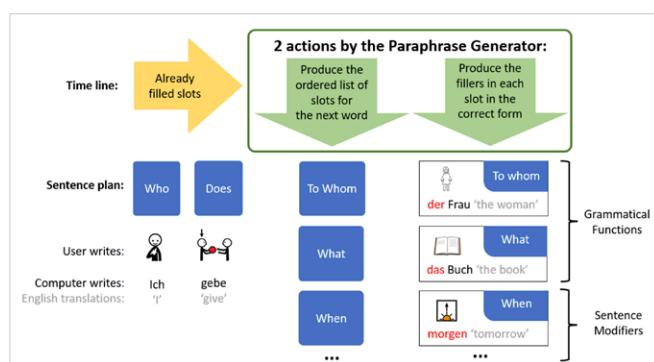
Figure 5 shows an example.

Figure 5: Snapshot of the support by the Paraphrase Generator for slot filling.

The user has already filled 2 slots with the sentence-beginning: *Ich gebe* 'I give'.

The user can fill the next word into the following slots now:

The 2 Grammatical Functions 'To Whom' and 'What' for 'give'.

And:

A list of Sentence Modifiers.

Figure 6 only shows one Sentence Modifier.

The Paraphrase Generator produces the **correctly inflected word-forms** in each slot.

For example:

der Frau in **Dative Case** in the 'To-Whom' slot.

What can't we explain here due to space limitations?

The Paraphrase Generator can automatically produce natural German word-orders.

And:

EasyTalk can handle more complicated sentences and a very large lexicon.

You can see details for writing sentences like 'I want to eat an ice cream' in [7].

How to write with EasyTalk?

EasyTalk cannot have a complicated interface.

Because:

The users cannot read very well.

And:

A complicated interface might confuse the user.

So:

EasyTalk uses simple and easy-to-learn actions at fixed places.

EasyTalk shows 4 **Panels** in 3 areas of the screen to the user:

- The **Previous-Text-Panel** is in the top.
- The middle area of the screen switches between 2 panels: the **Current-Sentence-Panel** and the **Sentence-Connectors-Panel.**
- The **Next-Word-Panel** is at the bottom.

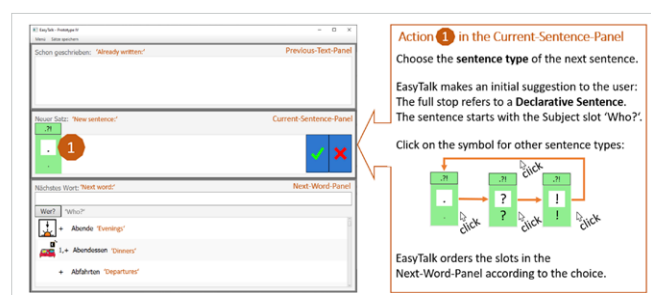The order of the panels is reminiscent of a letter, or a text written with pen and paper.

11 **actions** in the 4 panels support the writing of a text.

Action 1 takes place at the beginning of any new sentence.

We show a snapshot from the beginning of a session here.

So:

The Previous-Text-Panel is empty.

We write a new word in the Next-Word-Panel now.

We want to add it to: I give the woman the book.

What is the problem with the next word?

Only the user knows it.

So:

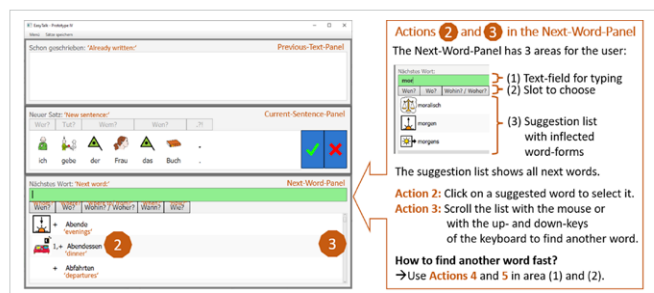EasyTalk has 4 actions to go to the next word.

EasyTalk always shows inflected word-forms in a **suggestion list**.

The user selects the wanted next word with **Action 2**.

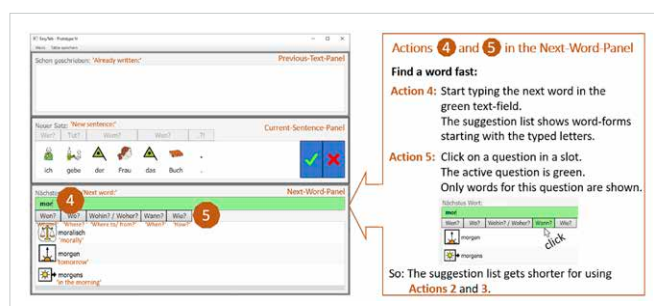The user can scroll the suggestion list with **Action 3**.

But: this can take a long time.

Actions 4 and **5** jump to the wanted word.

What is important to mention about the Next-Word-Panel?

The user can write long sentences in small steps.

Because:

EasyTalk always shows the list of slots here.

So:

1 The user cannot forget to enter the Grammatical Functions.

2 EasyTalk reminds the user to add important information for the reader.

Action 6 and **7** use the 2 buttons on the right side of the Current-Sentence-Panel.
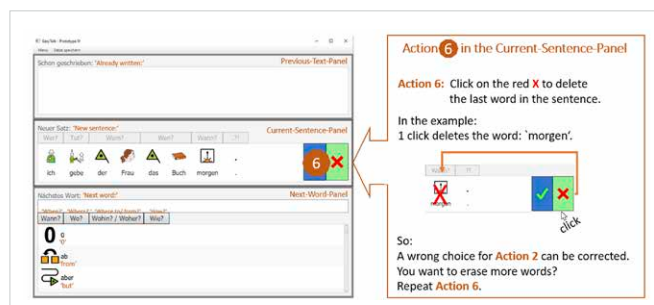
Action 6 deletes the last word of the current sentence.

So:

The user can correct mistakes.

And:

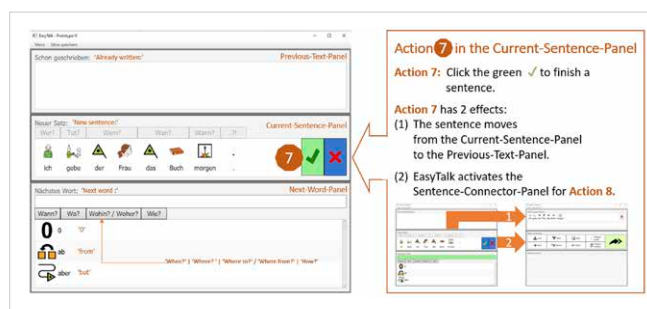The user feels safe.

Action 7 ends the current sentence.

So:

The sentence becomes part of the text.

And:

EasyTalk switches to the Sentence-Connector-Panel.

What are sentence connectors good for?

They help the reader.

Because:

They relate the sentences in the text.

These relations are called **coherence specifications** [10].

Action 8 chooses a Sentence-Connector.

Easy talk adds it to the text in the Previous-Sentence-Panel.

And:

EasyTalk switches back to the Current-Sentence-Panel after **Action 8.**

So:

The user can add a new sentence to the text.
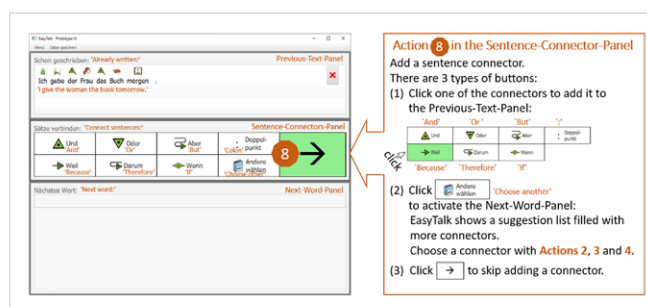
We explain **Actions 9** and **10** and **11** in the Previous-Text-Panel now.

The user can activate them at any time in a session.

Why is this helpful?

The user might like to read or hear the previous text for backing up their train of thought.

And:

The user can export the text in the Previous-Text-Panel other formats.

So:

The user can use the text outside of EasyTalk.

You can watch a video with all actions here:
http://inasteinmetz.de/easytalk/

Which personal settings does EasyTalk offer?

EasyTalk offers personal settings for the user:

- **Personal vocabulary:**

  The user can add personal words to the lexicon.

  For example: the names of family members and friends.

- **Personal symbols:**
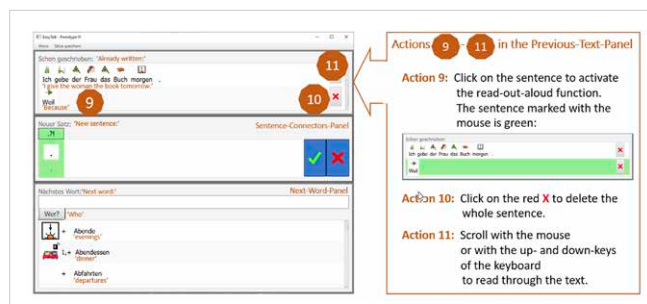
  EasyTalk uses the free **ARASAAC symbol collection** [8].

  The user can change the symbols.

  The user can also add symbols for personal words.

  Or:

  The user can turn off the symbols.

- **Extended read-aloud functionality:**

  EasyTalk can read aloud all texts and all interface elements to the user.

How do people judge working with EasyTalk?

We interviewed different users with intellectual disabilities or autism spectrum disorder.

The users found these things positive:

- EasyTalk is easy to learn and easy to use.
- The reading-aloud function helps LS-readers.
- EasyTalk makes it easy and fast to write correct sentences.
- EasyTalk helps to add important information to the text.

The users found these things negative:

- Spelling errors in the Next-Word-Panel lead to confusing suggestion lists.

  We want to add better help here.

- EasyTalk is hard to use for users with poor vision.

  We want to add personal settings for colors and font size.

What did we obtain and what is next on our to-do-list?

We presented the LS-writing system EasyTalk.

EasyTalk uses NLP for fast and correct writing in LS.

The users can write at their personal skill level.

EasyTalk reminds the user to add important information for the reader.

EasyTalk asks the user to connect the sentences for producing coherent text.

We end our presentation with two issues from our to-do-list:

- We want to develop an EasyTalk app for smartphones and tablets.
- We want to find out:

  Do users improve their writing skills over time by using EasyTalk?

  So:

  We want to test EasyTalk with LS readers for a longer time.

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This article has no commercial aim.

The Unspoken Voices Project: what are the experiences and expectations of people who have been referred to AAC services?

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As a Speech and Language Therapist (SLT) leading a local Augmentative and Alternative Communication (AAC) service in the adult SLT team in Gloucestershire, I became interested in what our service should provide to support people to achieve greater success using their AAC equipment. This question led me into a research journey. The following article will provide a little background to my current project, describe The Unspoken Voices Project, and share some of the things that I have learnt along the way.

Background

I wanted to find out how my local NHS service for adults could provide the best possible support to people using AAC, so I set out on a journey into research to understand what we could do differently. This journey started with a research internship at the Bristol Speech and Language Therapy Research Unit in 2014. During this internship[1], I looked at the existing published research concerning AAC interventions, and I also asked some of our service users in Gloucestershire their opinion about what they thought we should do to support them. I discovered that the term 'intervention' was used broadly in published research literature and referred to a wide range of equipment and support services. I also learned that there is no clear definition of what 'success' using AAC means, especially from the perspective of people who use AAC. The service users that I spoke to during my internship each had very different ideas about what support they wanted to help them use their AAC (Broomfield & Harding, 2016). So, I ended the internship with more questions than answers. This encouraged me to apply for more funding to carry out a PhD, and the journey continued.

The aim of the PhD was to learn with and from people who use AAC about their experiences of getting and communicating with AAC devices. I wanted to enhance our understanding of what supports people to engage with AAC and what the barriers are to engagement. I also wanted to find out more about what outcomes are important from AAC and what success looks like. My intention was that this new knowledge would inform the future development of tools that professionals could use with people who use or need AAC, to understand what outcomes are important to them. Such tools will also support the involvement of people who use AAC in decision-making and enable AAC users to evaluate whether the AAC and support that they receive have been successful.

The Unspoken Voices Project

I began my PhD project, The Unspoken Voices Project, in 2017. To begin, I conducted 2 systematic literature reviews – both of which have been shared at previous CM conferences (2018, 2019). These reviews helped me to find out what is already known about my area of research: a) what are the existing clinical tools used to record outcomes from the service user's perspective? (Broomfield et al., 2019), and b) what do we already know about the experiences of communication using AAC? (Broomfield et al., 2022 in peer review). The results helped to shape my research project so that it fills some of the gaps in existing knowledge about AAC. A fantastic group of AAC users have been keeping me and the project on track; you can read more about the expert advisory group to this project on my blog[2] or in a published article (Broomfield et al., 2021).

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1   Clinical academic internship funded by Health Education England South West
2   https://unspokenvoicesproject.wordpress.com

Following on from the systematic literature reviews, I have conducted 2 phases of interviews to gather information from people who use AAC. In the first phase, I recruited 5 participants from the specialist assessment service in the Southwest of England: AAC West of England Specialist Team (AAC WEST[3]). During this phase I interviewed people at 5 different time points: 1) before they had an AAC assessment, 2) after the assessment, 3) after they received their AAC equipment, and then at 4) 6 months and 5) 12 months after they had received their equipment. During phase 2, I interviewed people who had experience of using AAC for a minimum of 2 years. The interviewees for phase 2 were contacted via the Barnsley Assistive Technology team (the specialist assessment service for Yorkshire and Humber) and St Roses School in Stroud, Gloucestershire. My learning so far has come from the systematic reviews and phase one interviews.

Learning: Systematic reviews

There are currently no measures specifically developed to evaluate outcomes of AAC from the perspective of the people who use AAC, which have been used in research projects (Broomfield et al., 2019). Of the measures that have been used in research projects, it is not clear whether they measure what is important to people who use AAC, and they have not been adapted so that they are accessible for people with communication and/or physical difficulties.

The results of the review of existing research on the experiences of people who use AAC to communicate can be described in terms of the value that AAC holds for individuals and the outcomes it enables them to achieve, within the context in which people use it. People value AAC because it provides them with a sense of 'humanness' i.e., independence, identity, and agency. They use AAC to communicate basic needs, to build connections with others, and to access wider opportunities to engage in various life activities such as work or education. People also like to use aspects of their AAC for tasks unrelated to communication such as organisation e.g., using a diary function, making lists, accessing the internet etc. The contextual factors surrounding the person who uses AAC have a significant impact on both how they value AAC and the outcomes they achieve from using it. One of the limitations of existing research with people who use AAC is that it tends to report on the *words* that participants use during interviews (Broomfield et al., in review). Researchers rarely report the range of communication methods that people who use AAC employ to give voice to their experiences. This observation inspired me to conduct research that was much more closely connected to how people communicate using AAC, and therefore authentically report their experiences.

Learning: Phase 1 Interviews

During phase 1 of The Unspoken Voices Project, I learned from the people I interviewed that there are many different messages which inform the creation of shared understanding with people who use AAC: natural speech, synthetic speech from AAC, Talking Mats, writing, drawing, typing, communication partner facilitation, interviewer interpretation, signing, pointing, clapping, gestures, glances, whispers, laughter, shrieks, snorts, splutters… too many more to mention! These messages converge with the history of the relationships between the people involved in the interview, and the background context of the questions that are posed, to generate the "voice" of the person who uses AAC. Carrying out and reviewing these interviews helped me to realise that the 'data' I needed to look at was far more complex than the verbatim transcript of the conversation that I recorded and then typed out. This realisation helped me to shift the focus of my attention; to consider much more than what was said during the interviews when I was interpreting the results. I gathered all the clues from the participant, their communication partners, my knowledge of their background and context, and my own feelings and responses to the interview data. Going on a journey with people through their AAC assessment, receipt of equipment, and training gave me precious insight into their experiences.

I discovered that people didn't really know what they wanted from AAC before they had their specialist assessment. They didn't have a clear idea of what they wanted to be different as a result of getting a new AAC device. Their expectations of AAC grew after their initial assessment, once they became aware of the range of possibilities available. However, they still weren't always able to identify specific goals or expectations from AAC. I wondered how clinical tools and measures could be developed to support shared decision-making so that people are encouraged to identify what they want to change, and how AAC can enable this to happen.

Once they had received their new AAC, people felt largely positive about their devices and there was often a surge of activity related to training and programming during these early days. However, people also experienced some challenges and disappointments that were often difficult for them to overcome, for example functions that they had anticipated but which weren't available on their new AAC. These challenges were often exacerbated by the pandemic, and the reduction of in-person support available from services.

Frequently, what people liked and found most helpful about their new AAC had changed after 6 months, and by 12 months their use of AAC as well as their needs and expectations from it had changed again. People's circumstances altered a lot during the 18-month period during which I was meeting with them. Their health changed, where they lived, who they spoke to, and what they wanted and needed from AAC were all very different 12 months after receiving new devices than it had been when they were assessed by the specialist service. This finding led me to reflect on how we can structure our services to meet such a changing need.

My research data supported the findings from my systematic review i.e., that experiences of communication can be considered in terms of the values, outcomes, and context of AAC. However, my thoughts about what these concepts mean was challenged by the experience of meeting and journeying alongside people who used AAC. I worked with the expert group for my project to explore the words 'communication' and 'outcomes'; to expand my use of them by developing a broader, shared understanding of what they mean to people who use AAC and how they can be applied within the project. I am currently reviewing the data from phase 2, with these newly developed concepts in mind, to reimagine what using AAC means to people who have communication difficulties and what is important to them about their experience of communication.

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3   https://www.nbt.nhs.uk/bristol-centre-enablement/services-at-centre/aac-west-service

Conclusion

My research journey has led me to reflect on and challenge some of the norms of conducting research with people who have communication difficulties. I have worked closely with my project group, and with the participants who have been recruited to the project, to learn what people with communication difficulties need to support them to be involved in research. This process has taught me how to adapt what I do during data collection interviews and when reviewing the data afterwards. This shift in my perception of my role as the researcher and what I consider to be 'data' has helped me to generate interpretations from my project that have disrupted my assumptions about the meanings of the terms 'communication', 'values' and 'outcomes'. As I look to the next steps of my journey, and review the data from the second phase of interviews with people who use AAC, I intend to use the findings that I have generated so far to learn more about what is important to people who use AAC. I hope to be able to share these with you at the next Communication Matters conference in 2022. If you can't wait until then, or anything that I have written about here inspires or provokes you – please get in touch.

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Can Scotland be Brave?
Incorporating UNCRC Article 12 in Practice

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Introduction

The 16th of March 2021 was a significant milestone in the life of the Scottish parliament. Politicians from all sides voted unanimously to pass the UNCRC Bill. Everyone agreed that children and young people should be regarded as equal citizens and that their views should be allowed to influence decisions that affect their own lives as well as influence decisions in public life. Whilst the political will is clear, what is not so clear is how to make these rights a reality for Scotland's young people. This project investigated what practitioners in education, health and the third sector were doing in their own services to make rights-respecting practice a reality. Organisations rated themselves using the Laura Lundy model of participation and then practitioners were trained in how to use Talking Mats.

Scope and Aims of the Project

In order to provide rights-respecting services, effective communication is essential. Practitioners must actively create opportunities to seek the views of children, so they are central to decision-making. We concentrated on enhancing participation, by training practitioners in best practice interview skills, using Talking Mats (TM), and asked them to evidence how a child's view had influenced what happened next.

The Lundy Model of Participation

It is not enough to merely capture the views of children: we must also tell them how their views have been considered and provide clear feedback on how their participation will influence outcomes.

The Lundy model and checklist was selected because it provides a clear structure for practitioners and allows them to demonstrate change in their practice.

Lundy identified four distinct, but interrelated, elements of Article 12 as illustrated in Figure 1.

Why use Talking Mats?

Talking Mats is an evidence-based interactive picture communication tool. The 'mat' (physical or digital) provides a space for the conversation – a place to put thoughts down.

There are three sets of picture communication symbols – **topics** (whatever you want to talk about), **options** (relating specifically to the topic), and **a visual scale** (to allow participants to indicate their feelings about each option).

The practitioner's role in the Talking Mat is to be a 'listener'. Training the listener is key to ensuring that proven principles are adhered to, such as using open questions, being non-judgemental, and giving time for reflection.

Who participated in the project?

We used settings where a children's rights agenda was already being actively implemented.

This model provides a way of conceptualising
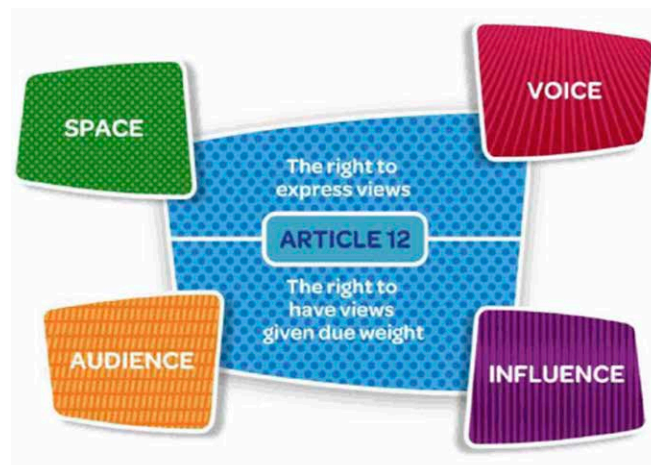Article 12 of the UNCRC

Figure 1 – Lundy's model of child participation

- **Indigo childcare** is a Glasgow-based social enterprise.
- **Langlees Primary school** in Falkirk was chosen as it was involved in the Rights Respecting Schools Awards scheme
- **Children and Young People's Occupational Therapists** - Fife Health & Social Care Partnership

Process

1. A pre- and post-project questionnaire was sent to all practitioners who attended training.
2. The practitioners agreed to submit case examples of mats they carried out. They were asked to reflect on the reason for doing the Talking Mat and the outcome.
3. The young people who were the "Thinkers" (i.e., they did the mat) were asked for their views about it.
4. A focus group was conducted with children and young people to gain their views on Talking Mats as a way of achieving the 4 principles of participation - Space, Voice, Audience and Influence.

Results

In total, 56 CYP (Children and Young People) practitioners completed TM training:

A total of 90 case examples were received.

The age of the Children and Young people ranged from 2 years to 16 years.

Summary of results of Self rating on the Lundy Model of participation

All of the respondents indicated that they found the Lundy model useful in helping them to understand what was required.

> *"It is evident this model allows for children to know their voice matters"* (Teacher)
> *"This has shown me a way to achieve the Article for young people"* (Occupational Therapist)

Finding a safe space

Providing a safe space can be challenging for different reasons. In a busy school environment or in some of the childcare services, finding a **physical space** with few distractions is difficult. We need to be aware that what seems like a safe space to adults might not feel that way to a child. It is easier to provide a quiet space in a clinic. The physical environment can act as a barrier to participation.

Providing a **confidential space** dedicated to children's views can be challenging. Health practitioners talked about having a parent present in the room. At times, their non-verbal communication was distracting and leading. Some parents directly contradicted their child's views, whilst other parents respectfully gave their child space to respond.

> *"His parents were so pleased with what he expressed that they didn't know before."* (Occupational Therapist)

Providing a **thinking or reflective space** is helped by having a structure such as a Talking Mat (*see Figure 2*).

Figure 2

A Unique Perspective in the health setting.

The child has a powered wheelchair at school but currently does not qualify for an indoor/outdoor one for home.

Objective: to understand reasons for child using/not using the power chair at school. Conflicting views from home and school. Mum wanting K to have access to it when he wants to. School saying that they are giving K every opportunity to use it.

"The talking mat helped clarify K's thoughts and views with regard to him accessing activities at school and in the community"

Paediatric Occupational Therapist

K is choosing not to use his power chair at school as he is worried that he will drive into others.

He would like to take his dog for a walk and to go to the park with his brother and friends (too tiring to self-propel in wheelchair). If he feels he can't keep up with peers at school in playground (when in manual chair) he chooses to stay inside at playtime. The child's quotes about his electric chair were included in the report to wheelchair services to support an application for a new indoor/outdoor power chair that he can use at home and in the community.

"Everyone at school thinks it's cool and it's like a "Lamborghini" ...

"I feel like I'm involved again, instead of being at the back."

Although all services had processes in place to actively seek the views of Children and Young People, it was recognized that this is often for a set purpose such as Pupil Councils, peer reps or inclusion groups. Lots of children find it difficult to *initiate* a conversation with an adult to give their views or raise concerns, despite adults offering an open-door policy.

UNCRC states that it is up to adults to actively seek the views of Children and Young People

Voice – capturing views in a meaningful way

Child participation has been a key focus within all the services and the principle of capturing and recording a child's voice is well-established. What is not well understood is that it is the responsibility of the adults to:

- let the child know they do not have to give their views if they don't want to. Children should be asked what decisions they want to be involved in, rather than practitioners being in control of that decision.
- provide accessible information to support understanding so a child can give an informed view

UNCRC states that the children must be facilitated to express their views

Audience – who is listening?

All services had established processes for sharing children's views but not all of them informed the children who their views were going to be shared with. The most common setting for sharing views was at multidisciplinary team meetings. Children were not always told who would be attending the meetings.

UNCRC states that the children have the right to have their views listened to.

Influence – so what?

> ***"I think the main thing that stands out is the influence part. I feel children need to see that their voice is having an impact"*** (Health Practitioner)

It is easier for the child's view to have an influence if it is something that can be done in the **immediate** context. Issues around education are typically tackled at school, whereas health issues are easier to address in the clinic. Within each context there was a lack of confidence that, if a practitioner passed on an issue to other agencies, something would change.

Across all services, very little was done to report back to the child how their view influenced a decision. Adults should give feedback explaining the reasons for decisions taken to those who give their views.

UNCRC states that the children's view must be acted upon, as appropriate

Talking Mats supporting conversations

Before training, only 23% of practitioners said they were confident, or very confident, that a child's view was reflected in the final decision. After training, 89% of practitioners were very confident or confident that their agreed actions genuinely reflected the views of the child (*see Figure 3*).

What did the young people say about using Talking Mats?

After doing a mat the listener (facilitating adult) asked the young person how they felt about using a Talking Mat.

a) What do I think about my Talking Mat?

b) What would I say to other people about doing a Talking Mat?

Figure 3 - Confidence in capturing the views of CYP after training

Topic: My world

17 of the 18 comments included the words *good* and *fun*. '*It's good. I would say it's funny and fun.*' One young person said, '*it was boring as I could just talk to you anyway, but interesting because it's different.*'

Topic: About me

2/11 when asked what they thought about their mat said they didn't know. 9/11 included the word *good* in their comments, '*I think it's a good mat. Yeah, it's good 'cos you get to talk about things*'
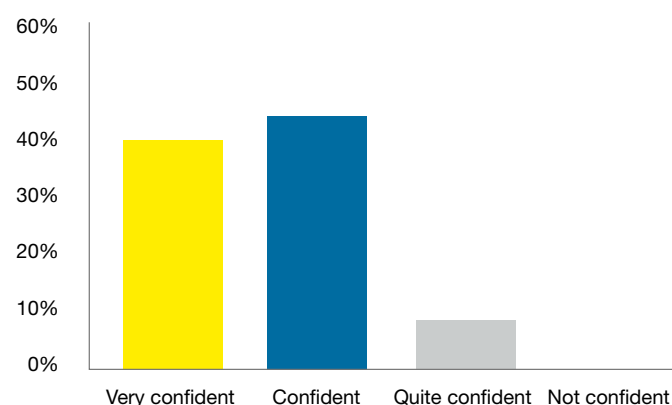
Topic: What I do

8 comments were gathered for this specific topic. All were positive *'(The mat) ...can help you through a difficult time'*

Discussion

When children are given the opportunity to voice their (often hidden) opinions of their lived experience and are allowed to come up with their own solutions, real change happens. Those practitioners who were willing to wait, before jumping in with solutions, saw first-hand how children could be empowered and motivated. Seeing how a child's perspective can change a course of action motivates practitioners to further embed opportunities for listening into their practice.

Practitioners in all settings agreed that the project had helped them to give more weight to the views of children but were acutely aware of the need for a whole-systems approach.

They raised concerns about allowing a child too much say in a decision they didn't fully understand. Children's participation in decision-making should be in keeping with their developmental abilities. However, adults can be a stumbling block if they are too quick to make judgements about a child's capacity to influence a decision.

"Recognising children as active agents in their own lives, entitled to be listened to, respected and granted increasing autonomy in the exercise of rights, while also being entitled to protection in accordance with their relative immaturity and youth."

The importance of using visual materials and how that altered the dynamic of the conversation was discussed. Often there is too much emphasis put on the spoken word and this can be difficult for many. It is up to practitioners to keep information accessible.

The children in this pilot were not confident that much would change as a result of sharing their views. If Scotland is truly to be brave in fully embracing the spirit of UNCRC, then this must change.

Conclusion

It is every practitioner's responsibility to be proficient in obtaining the views of children and to adapt their communication style to match the needs of each child. In practice, the more opportunities for decision-making that children are given, the more they will develop the skills required. Going forward, we need leaders and management teams who will encourage their staff to develop practices that break out of traditional moulds, and which ensure that children's rights are fully respected, protected and fulfilled.
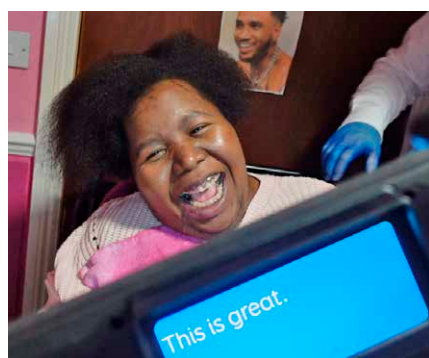
Navigating the challenges of providing AAC in the independent care sector

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Background

In October 2019, Smartbox joined the CareTech group. Joining with one of the leading social care providers presented a unique opportunity to work in partnership and explore the possibilities and challenges of providing AAC to individuals within these settings. The 100 Voices project aimed to support one hundred people who, for whatever reason, have not been able to access an AAC device, funding or support. As well as providing AAC, we were also hoping to:

- Find out more about how AAC was perceived and understood in the independent care sector
- Explore what software and hardware best served the ongoing needs of this group of individuals
- Enable better levels of engagement with their care network
- Better understand the training and support needs within settings so users can maximise each and every AAC opportunity
- Find out more about how the communication needs of this group of individuals changes over time so that we can respond to new challenges and needs
- Use the data and positive outcomes to influence change and a need for funding and consistency across all local authorities.

The individuals taking part in the project have come from different services within CareTech to allow us to gather a broader range of data and understand more about the different needs and challenges of AAC users within the different services. Fifty individuals were chosen from Children's Services, largely Cambian schools; forty-five individuals were chosen from Adult Services and five individuals were chosen from Specialist Services. It was important that any devices provided were done so as part of a robust evaluation process before being purchased and that other services were not bypassed as part of the process but, rather, we acknowledged that the individuals we were working with did not meet the criteria for specialised services and that not all areas had local provision available.

Getting Started

At the very start of the project we spent time sharing information about AAC with services. The project team met with Heads of Service in each of the service areas to talk about AAC, explain the project and outline what we were hoping to achieve. Following these sessions, CareTech teams identified individuals who might be suitable for AAC and therefore to be part of the project. Initially we had around two hundred individuals nominated. Before even visiting individuals, we completed a pre-qualification call to find out more about the individual, their needs and whether High-tech AAC would be the right thing for them at this point.

We also engaged an independent Speech and Language Therapist (SLT), Euan Robertson, to make sure that decisions being made were made with sound clinical reasoning and without bias. With Euan's oversight, around 160 individuals were visited and evaluated for a communication device and 100 device recommendations were made. Where there were Speech and Language Therapists within the service, visits were done in partnership with them. This process took approximately six months.

Early in the project, we also started to think about how we would measure outcomes and set up an advisory panel to provide governance throughout the project.

Progress so far

The project is being delivered over four phases:

1. Evaluation
2. Training
3. Implementation
4. Impact Analysis

The evaluation phase included a pre-qualification call for every individual nominated, followed by a visit for 166 individuals. As many of the pre-qualification calls as possible were done via video call and were completed with both the key worker and individual. With oversight from the independent SLT, appropriate devices were recommended and quoted. What was interesting about the evaluation phase was not just the opportunity to recommend devices for individuals, but also to be able to offer early support and signposting to services in cases where the user might not be ready for High-tech AAC; their settings could then be implementing the use of symbols, for example, where they had not before.

It was recognised early in the project that support for devices would be crucial to ensure individuals were as successful as possible. With each device we delivered a pack of resources that centres could use. This included a communication diary with goal-setting pages, a 'top tips' for supporting AAC development poster, copies of device care guides and an at-a-glance AAC plan to document key information and meeting dates. Training for centres was a key activity. The starting point for this was to deliver ½ day training with each device, looking specifically at device set-up and the basics of editing, as well as spending time looking at the vocabulary the individual would be using. Training also included an overview of strategies that key workers could use when supporting AAC development, *Simple AAC*. After the initial training, centres were supported for a three-month period with fortnightly check-in calls to discuss progress and identify any concerns or need for additional support.

During the training phase we identified that several centres would need support beyond the initial training that had been provided. Some individuals did not have access to a Speech and Language Therapist to lead their AAC development, and staff at many centres were very new to AAC. The implementation phase therefore saw us put additional support in place to ensure that individuals had every opportunity for success and were well supported by teams around them. Firstly, we developed and delivered 2 wrap-around training modules. These were delivered via recorded videos through CareTech's online learning platform, where they could be pushed out to all teams. Level 1 included videos on *Typical Language Development*, *Foundations of AAC* and *Strategies for Developing AAC*. These videos were delivered by our independent Speech and Language Therapist, Euan Robertson. Level 2 videos included *AAC Basics*, *Supporting AAC Development* – the role of a communication partner – and a detailed look at simple AAC strategies. These were delivered by the Smartbox team. Alongside this, we decided that individuals that didn't have access to a Speech and Language Therapist would be provided with clinical support by a therapist from the Smartbox team. Working with the independent Speech and Language Therapist, a framework was identified that would enable them to assess the level of intervention needed and what that level included. Sessions were delivered both face-to-face and virtually, and a comprehensive pack of resources was developed to support continued AAC development following the clinical support.

The implementation phase of the project aims to be completed by the end of Summer 2022, at which point centres will continue to support AAC development themselves, but with access to Smartbox support and the Clinical AAC Specialist at Smartbox as needed.

Measuring Outcomes

A key aim of the 100 Voices project has been to be able to measure the impact of High-tech AAC for individuals. There are several different data sets being collected throughout the project that will provide us with a wide range of information over a 12-month period. Wherever possible, we have used existing tools and adapted them as necessary for the project, rather than creating tools from scratch.

When looking at gathering evidence around an individual's communication, we looked at the *Pragmatic Profile for People who use AAC, (Martin, S., Small, K., & Stevens, R. 2017).* The Pragmatic Profile for People who use AAC allowed us to collect data about the wide range of reasons why someone might communicate. We adapted it to simplify it slightly but to also include areas such as remote communication. Data focused on an individual's communication was taken at the very start to provide a baseline, 3 months after receiving their device, and again at 12 months. We have also asked teams to keep a communication diary which includes a section on goal setting. This will provide us with more anecdotal examples of success and the challenges an individual may face during AAC development.

It is also important for us to look at staff skills and knowledge as part of the project. As already mentioned, for some staff, AAC was completely new, and we wanted to understand what the long-term needs might be for the development of teams' knowledge and understanding. For this, we based our staff survey on the *IPAACKS (Scott, J (MBE), NHS Education for Scotland, 2014).* Again, it was simplified and shortened and some of the language adapted for the audience we would be sending it out to.

Most importantly, we need to gather user voices as part of our data set. We will be asking each AAC user to complete a questionnaire to gather their opinion about their device and how it has helped them communicate. We have developed a grid set questionnaire that can be completed as a Google Form. The responses to each question have been kept simple and consistent, with the choices being: 'Yes', 'No' or 'Not Sure'.

Finally, we are already gathering lots of anecdotes, video and photographs that provide us with more information about how the devices are having an impact on individuals.

We are gathering a lot of data, and much of 2022 will be spent pulling all this data together and analysing it. To do this, we have defined three themes that we want to focus on when looking at the data:

1. Empowerment

We will be looking at AAC empowering someone to be able to carry out something that they weren't able to do before having the device. Enabling the user to be able to have an impact on their environment in a way they wouldn't have been able to previously. The environment adapting to create opportunities for successful interaction which is listened to and respected.

2. Connection with Others

Now more than ever, connecting with family, friends and professionals is recognised as being essential to wellbeing, health, and fulfilment. The introduction of AAC in a supportive environment can help foster relationships, build friendships, and enable access to vital services.

3. Participation

Participation focuses on AAC enabling someone to take an active part in the community around them; to contribute to the wider community as an individual, sharing thoughts, ideas and opinions.

Challenges

As with any project, there have been challenges to the 100 Voices project and it is important that these are acknowledged.

Key challenges have been:

1. The knowledge and understanding of communication and AAC amongst teams. This was a challenge we expected. We have been working with some teams who have come across AAC before but also some teams who have no knowledge of AAC and very little understanding of communication. This has and continues to impact the rate of AAC development in some settings, but also highlights where we can be offering additional support and training.

2. Multiple demands on staff supporting AAC users. As we are all aware, the role of those in care settings is huge and the demands are high. We knew that we were asking settings to add more into their ever-growing list of demands needing to be met and that some settings would be able to rise to the challenge whereas other settings would find it more difficult. Alongside staffing shortages in some areas and many other things, this has meant that implementing AAC has at times proven a challenge.

3. New demands on infrastructure. This is perhaps one that we hadn't expected, and we took for granted. The 100 Voices project has highlighted where settings may require better internet access for example to enable videos calls, device set-up and virtual clinical support to happen. Improving some of the infrastructure can take time and has been something that we have had to make allowances for throughout the project. It has also given us a much greater understanding of what is needed for the future.

4. Continuing to work alongside/signpost to statutory services. Wherever appropriate along the way, we have signposted to statutory services and asked centres to engage with them alongside the work being done as part of the project. This is easier in some areas than others due to the commissioning of services in different areas and the demand on these services.

5. It would be hard to talk about a project in the past 18 months without mentioning the pandemic. That has presented challenges around being able to visit, cancelling visits/training, staff shortages, working in PPE and so on. We can't underestimate how hard teams have worked together to overcome the additional challenges that the pandemic presented.

Where are we now?

By the end of 2022 we can reflect on a significant achievement by all involved in the project.

- We have 100 AAC users with devices on their AAC journey
- We have care and education teams with more awareness of AAC and how to support its development
- We are engaging with commissioners to help them understand more about AAC and how it can be funded
- We are already starting to see services within CareTech look at how they can embed AAC as part of their practice and develop a new way of working.

We will continue to gather more data and begin to analyse what we have gathered so far. It will also see services begin to embed key learning from the project into their practice, such as training modules for all staff on AAC and looking at the need for AAC at the point of referral. We hope to be able to share greater impact analysis of the project over the next year, for the benefit of the whole sector.

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