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REGULAR COLUMNS

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Cover: Child using PECS - Picture Exchange Communication System (page 23)

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REGULAR COLUMNS

My Way to Language and Literacy

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INTRODUCTION

This article shares how my cerebral palsy has impacted on my learning to read and write. This is my personal experience and may not be relevant to others; it includes my challenges of reading, sounding out, spelling, writing, developing vocabulary, and finding my inner voice, the impact on storytelling and developing social narratives. In order to put this together I contacted the two teaching assistants I had at infant then junior school, asked for feedback from my Mum and drew on my own experiences.

To put my challenges into context, I was a full term baby. Due to birth complications I have cerebral palsy which affects my gross and fine motor skills. I have a dysarthria, this means a muscle weakness around my mouth and tongue. I can speak but I have been assessed as being 90% unintelligible to a stranger. There was concern about my hearing from birth due to drugs. At six months I was diagnosed with a high frequency hearing loss. This means I do not hear *f*, *s*, *v*, and *th* sounds. At 10, I also developed a generalised loss – despite tests, we don't know why.

I was in mainstream school until I was 13. Things started to fall apart soon after I went to secondary school. It was only after I moved to a special school things got back on track.

LEARNING TO READ & PHONICS

From the beginning Mum read aloud to me a lot. When I was 15 months old, the teacher for the hearing impaired gave her advice about lip reading, speaking clearly, quiet locations and light and shadow.

At 18 months we got a computer at home and I learned to love 'P B Bear' which was an educational game. I went along to playgroup with a 1 to 1. Probably like other 2 year-olds, I liked to play alone or with adults who did what I wanted. In the year before school all children were introduced to reading. I loved this and it surprised no-one at the playgroup that I was the top reader.

So it came as a shock when I got to school and the teacher refused to believe I could read. Or maybe she just didn't understand what I was saying. I was put back onto picture stories which was boring! This was my first introduction to Jolly Phonics. For me it was not so jolly. I understand phonics are supposed to help children learn to read as it establishes the relationship between letters, groups of letters and sounds to help with sounding out. My teaching assistants think phonics helped me to learn my letters but both said sounding out was just tiring, and although it was hard to distinguish what I said, it was possible to someone who knew me well.

Phonics might have helped me learn letters but I find it impossible to sound out verbally or in my head. I only hear what either others or I can physically say so I had to learn other methods to learn to read and spell. Mum did lots of research and found different ways to help me.

WHOLE WORDS

At 4, my teaching assistant realised I could read, although she had to persuade the teacher. I have never been one to allow a mistake so would jump in if they tried to trick me. I needed to learn each word as a whole word using the letter shape. In junior school, as words got longer, we started to break down each word into groups of three letters, so I could see the shape. Nothing has changed, even at 18.

I still learn every word as a whole word by shape and recall whole words. My reading is slow and not helped by my finding page turning difficult. I read Harry Potter using unabridged tapes/CDs and following the book at the same time. This helped me decode words I already knew from general speech but couldn't spell or sound out and kept a good pace whilst I fumbled with the pages as I could catch up when ready.

MULTIPLE STRATEGIES

I do not have dyslexia but I got a dyslexia reading programme at home when I was 8. This involved hearing, reading and seeing words and starting back at the basics of reading. This was really, really boring but useful as I had missed lots by having glue ear. This also taught me that a text reader really helped for comprehension. I could follow the text on screen and at the same time hear the words. It might not help in exams but demonstrated I need to learn in a multi-sensory way. I now learn all vocabulary using multiple strategies.

In Key Stage 1, the teaching assistant used different contexts to help me learn new words. The special needs assistant in Key Stage 2 found that I used my DynaVox as a dictionary. I knew what I wanted to type and would go and search for the word, where I knew it was stored, so I got it right. I still do this today.

At home I was successful if I watched Mum say a word, she then gave me the word in different contexts, wrote it down, put it into the Lightwriter and explained other words that meant the same thing.

These strategies were coupled at the age of 10 with more advice from the teacher for the hearing impaired. This coincided with my first hearing aids. For all new vocabulary I needed a weekly one to one session to see and hear new words in context. To see the spelling, to lip read it and say it. Unfortunately mainstream secondary didn't think this was necessary. But once I got to special school they understood the issues and gave me what was needed.

Assessments have been annoying since I was little. My teaching assistant in Key Stage 1 says I didn't get enough time. The results were probably right but I was capable of much more. Whilst in Key Stage 2, my assistant said I never had enough time. I got 100 per cent extra but still left questions unanswered which automatically lowered my scores.

I've already mentioned strategies for reading and sounding out. The same goes for spellings. My teaching assistants knew I knew the words but I still found it all very hard. Sounding out was like having a chocolate hot water bottle. Useless! I can always start a word and know when it isn't right. But I can only experiment with the letters I know were in the word until the shape is right by the beginning, middle and end.

WRITING

My literacy wasn't helped by my hand writing looking like a giant spider had crawled over the page. I did everything to make the letters as easy as possible to form. Getting over this wasn't easy as I couldn't make the hand movements necessary to pattern the shapes. In the end, again after doing research, Mum had me do things like walking the letter shapes, doing hand over hand patterns, making giant play dough letters and writing in sand and water.

As I don't write well I find it best to type in lower case; the letters are even-sized and I just use capitals at the beginning of a sentence or for a name. This helps me recognise shapes, new sentences and names quickly. Word prediction is a life saver and I love the natural selection on the Lightwriter.

VISUAL STRATEGIES

Throughout school, visual strategies helped me learn. Everyone used different symbols, so I became used to recognising the words associated with different pictures. It might have been better if everyone had agreed on one symbol source because it sounds mad to have learned so many different variations for the same word. In fact it is not as mad as it sounds.

A couple of years ago I found I was different to most people in how I think. Every thought is turned into pictures, I don't use any words, just glorious technicolour images, these simply form themselves in my head. This might explain why some of the strategies used for people with dyslexia, and other learning difficulties, work better for me rather than phonics.

Maybe because I don't hear words when I think, I found it hard to develop my inner voice. I am told children move to reading silently about age 8. Not me! I practised lots but somehow it just wouldn't come. This normal skill has only developed in the last 18 months after I got an iPhone and began reading the news every morning. Suddenly I could just do it! Not being able to read quickly or silently had, and still has, a huge impact for exams and tests throughout school.

VOCABULARY

The explosion of vocabulary in secondary school and no specific vocabulary help meant that my reading plateaued. At this stage my hearing was also deteriorating and although I had hearing aids I was only getting 95% of what was actually said. The amazing thing for me was the change of hearing aids at 15 to a higher quality digital set. Now I hear 99% of what is said. Less than six months after getting these my picture word vocabulary had jumped by four years.

I learn and use new vocabulary every day, and whilst I still need to improve my English grade to get into university, I am pleased with my two current D grades in English Language and English Literature.

A great deal of credit has to go to my English teacher, Ros Brown. She has helped me move from preferring facts and never completing any work, including my first attempts at GCSEs, to being more descriptive and adventurous in how I write.

TIME FOR CREATIVE ENERGY

I wondered if my imagination was not good enough. In school everything takes much longer, teachers cannot wait for answers, so the focus for me was on just delivering the basics. My story telling needs scaffolding, but 'what happens next' is reliant on the programming in a communication aid this can be pretty difficult. I was exhausted by holding a pen, trying to type, or sit up so I could do the work. Children with cerebral palsy use twice as much energy as their peers to sit still, and up to 5 times more when we are active. I now know being creative means I have to relax. Creatively I am at my best in the bath or in bed when my body is 100 per cent supported. Sometimes I cannot sleep when my mind goes into overdrive. Now I know I am creative I just need the right time and space.

My struggle for time and energy does have an impact if I want to recall social stories when I am with others. If I am with someone who knows me well, and knows my social narratives, then I use them to help me. I might use a few key words verbally or on my Lightwriter then indicate for them to take up the story. Whilst this is a fast and effective method it is not reliable moving forward. I want to access my own narratives in an efficient way.

Functionally I think I am a good communicator but I do need a more spontaneous way of retrieving my stories. I have started discussions with Toby Churchill and as an alternative I now use another piece of technology at home – an iPad with Proloquo2Go, if that's to hand. But actually I want to keep just one communication device. Practically, it is not viable to have lots of different bits of technology to carry around.

SUMMARY

The outcome of my journey is that I do have good literacy and language. I did not follow a conventional learning route but things have worked out for me. It might have been different if assessments had been easier, or if I didn't need a scribe, or if the best hearing aids were available sooner. But I cannot change the past. The important thing is that I was given a lot of support by The Vale Primary School, Valence Special School and the Surrey ICT team. ✱

Beth Moulam

WEBSITE

The full presentation given at the CM2012 National Conference can be found on my website *www.bethmoulam.com*

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The Future of AAC Services in England

A framework for equitable and effective commissioning

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The 2008 Bercow Review of services for children and young people (0-19 years) with speech, language and communication needs highlighted that "children and young people who require Augmentative and Alternative Communication (AAC) face a particular struggle to have their needs met under the current commissioning arrangements" and that there was no consistent or equitable system (locally, regionally or nationally) for ensuring that those who need communication aids receive them.

The Review recommended a 'hub and spoke' model for AAC services, whereby local services would be supported by regional centres, and that the Communication Champion should review the effectiveness of AAC provision across the country. During her time in office, the former Communication Champion, Jean Gross CBE, developed a commissioning model for AAC provision that put flesh on the bones of the hub and spoke model for AAC services.

The Department for Education funded AAC Grants programme has provided the opportunity for the AAC sector to develop resources to inform commissioners on establishing and developing AAC services and equipment budgets, in order to address the current postcode lottery of AAC provision. These AAC grants were intended to support organisations' transition to new commissioning arrangements, and to help move provision incrementally towards the model of regional hubs and specialist expertise as envisaged in the SEN and Disability Green Paper *Support and aspiration: a new approach to special educational needs and disability*.

The identification of the key objectives has been based on the collective knowledge of the AAC sector to focus on specific issues relating to the emerging commissioning reforms, in light of the Health and Social Care Act 2012 and implications for AAC commissioning and provision.

REGIONAL COLLABORATION

Four regions – North, London, Midlands and East, and South – collaborated on eight key objectives, to enable commissioners and commissioned service providers to start working quickly and effectively to reduce inequity and improve service delivery across the country from April 2013. Each region included consortium members from health, education, and voluntary sector providers of AAC services as follows:

North

- ACE Centre (lead organisation for North)
- Barnsley Assistive Technology Team
- CandLE Ltd

Midlands and East

- Access to Communication Technology – ACT (lead organisation for Midlands and East)
- ACE Centre

London

- Royal Hospital for Neurodisability (lead organisation for London)
- Wolfson Neurodisability Team – Communication Service
- University College London
- Assistive Communication Service, Central London Community Healthcare
- CENMAC, Greenwich

South

- Bristol Communication Aid Service (lead organisation for South)
- Kent Communication and Assistive Technology Service
- Chailey Heritage Clinical Services
- Dame Hannah Rogers Trust

All regions led on specific objectives, with nominated people to liaise with the other objectives to ensure national consistency and coordination.

Jean Gross CBE described this Project as "an impressive example of inter-departmental co-operation: education and health working together for the benefit of people who need AAC. It has also

been an impressive example of co-operation between AAC specialist service providers. Working closely with stakeholders and with each other, they have developed models for what I hope will be a truly national specialist service". (The Future of AAC Services in England Report, 2013).

The full publication and additional files can be downloaded from the Communication Matters website at *www.communicationmatters.org.uk/dfe-aac-project*

1. STAKEHOLDER ENGAGEMENT

Central to achieving the outcome of the majority of the objectives was the need to engage all stakeholders effectively, and to consult with them on specific proposals (Fig 1). Stakeholder engagement was shared across all four regions, in order to ensure that as many of the stakeholders as possible, involved in the commissioning, delivery and receipt of AAC equipment and services, were consulted.

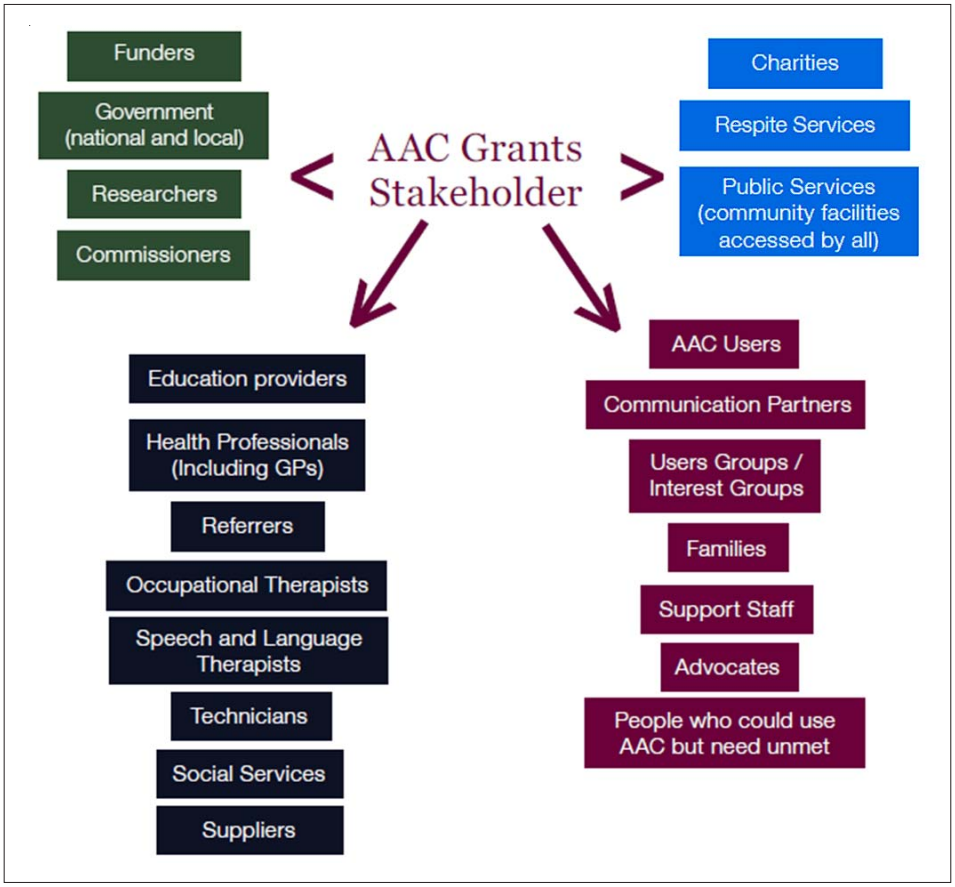

Figure 1 Stakeholder engagement

2. MAPPING AAC SERVICES

This section reports on the largest ever survey of services providing AAC in England. The data is used to describe the makeup and profile of AAC services including their provision of communication aids. Data were collected from 242 services and over 200 further services were identified.

Through this process, about 21,000 people who use AAC were identified, with about 3,400 of these using powered communication aids: almost 2,000 people were identified as having an unmet AAC need, with about 500 of these requiring powered communication aids. This concurs with the findings of the former Communication Champion, who identified that 0.05% of the population require specialist AAC equipment and services, and that provision is currently 0.014% of the population. Although the majority (64%) of the services mapped were funded purely through health routes, this also highlights the significant contribution to AAC provision from other sectors (Fig 2).

This work can be seen as a benchmark for services: both in providing a snapshot of services prior to the introduction of Clinical Commissioning Groups and in providing a profile of a 'typical' local AAC service. A summary of the data is in the report, with the full data set being available to visualise and download online.

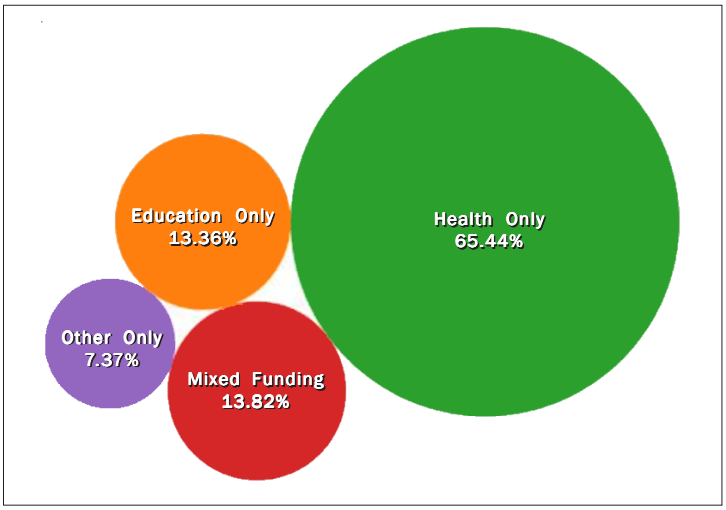

Figure 2 AAC Services Funding Sources

3. BEST PRACTICE GUIDELINES FOR AAC

The Best Practice Guidelines outline good practice evidence and supporting information for local commissioners, local AAC services, individuals and families. They were the result of extensive consultation with multiple stakeholders. The guidelines outline the roles and responsibilities of both the regional and local AAC services; referral criteria for regional and local AAC services; skills and resources required for provision of AAC services; and areas for joint working and joint responsibility.

4. AAC CARE PATHWAY

A draft National AAC Care Pathway has been developed (see Figure 3) based on discussion and consultation with various stakeholders and on the draft AAC service specification. It reflects the relationship between local and specialised AAC services, which will be commissioned separately, and the challenge to define a complex communication need that could not reasonably be met at a local level.

There is a further challenge that there is no correlation between complexity of need and complexity of equipment to

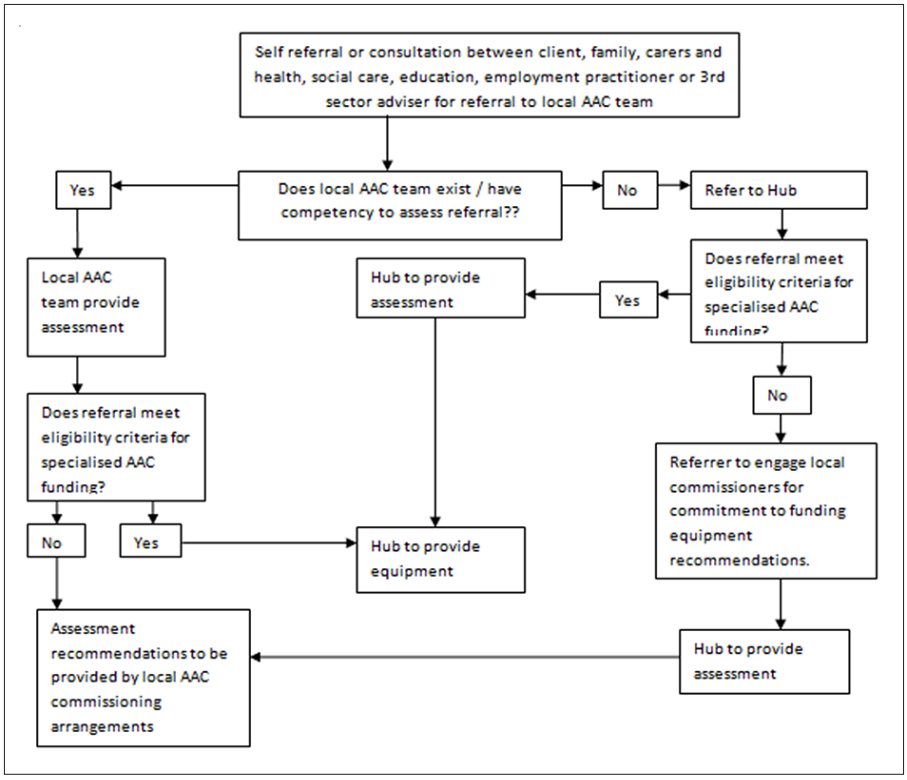

Figure 3 Draft AAC Care Pathway 2013

meet need. The draft service specification for specialised AAC services attempts to illustrate how this could work in practice, depending on procurement arrangements which are still to be agreed.

5. SPECIFICATION FOR AN AAC DATABASE

The management of data is crucial to all health, education and social care settings. It is particularly important when many different services and professionals need to co-ordinate their work. However there is currently no consistent method of collecting, managing and analysing data relating to the provision and use of AAC in England. Following analysis and consultation, a total of 39 potential different types of data users for AAC data have been identified. These have been grouped into 12 proposed groups who would have similar requirements and similar levels of access to the data.

A table is presented outlining 26 proposed groups of related data which have been identified with regard to service users and their pathways. Consultation with stakeholders will continue to refine the data groups, match the data users to permissions to view the data groups and identify individual fields, data types and coding systems within each data group.

6. PROCUREMENT

This objective has mainly concentrated on specialty service procurement by considering different options and possibilities, to prepare the way for further work by the Department of Health Clinical Reference Group, and in particular for its AAC sub-group during 2013/2104. Three models for procurement, recycling and technical upkeep have been considered: single national procurement centre; subset of specialist centres procure on behalf of all specialist centres; all specialist centres procure for their own needs.

Recommendations include:

- development of a National Framework Agreement
- procurement should be the responsibility of each Specialist Service within that framework
- each Specialist Service should have technical capacity
- national data source should be provided, where cost effective, to promote and facilitate recycling of equipment.

7. REMOTE DELIVERY OF AAC SERVICES

This section explores whether it is possible to provide services to some people remotely, either by remote computer access for training or equipment support, or by video conferencing to replace or enhance face-to-face appointments.

A combination of methods was used to inform the recommendations, including literature reviews and cost analysis, a small number of structured remote access and video-conferencing trials, and a user survey. Detailed findings are reported, including: high levels of awareness of the use of remote access and video-conferencing tools amongst service providers, with 70% having used remote access technology personally or at an organisation level. Of the people surveyed, over 50% found video-conferencing most useful from home or in a school. Importantly, the majority of AAC service users are happy or comfortable with the remote delivery of AAC services.

8. NATIONAL AAC TRAINING AND LEARNING

This objective investigated regional variation in availability of training to professionals supporting people using AAC in England, the amount and type of training currently provided, and priorities for future training. In response to a survey of 187 services, 80% indicated they provide some form of AAC-related training to professionals. Use of specific AAC products, systems and technology and introducing/awareness raising of AAC products are both rated as high priority; they are two of the three subject areas in which services are delivering the highest proportion of training activity.

Respondents to the questionnaire highlighted a strong emphasis on their provision of training to speech and language therapists, teachers and care assistants, with training in the use of specific AAC products, systems and technology a primary focus of activity. Training appears most commonly offered at foundation level (introduction to basic concepts in AAC), and typically delivered monthly or twice yearly.

CONCLUSION

The challenge of the AAC Grants programme has been to consult and make recommendations in a rapidly changing political, technological and economic environment. It necessitated the need to reach consensus with the wider AAC community about the future of services and provision for children and adults who need and use AAC.

As a result of the activities described in this report, the AAC community is better informed and engaged, and has a higher profile in the public domain than ever before. There is still much to be done to untangle the myriad of issues, but all involved are driven to improve AAC provision by the recognition that AAC changes people's lives. ✱

Sally Chan, Judith de Ste Croix,
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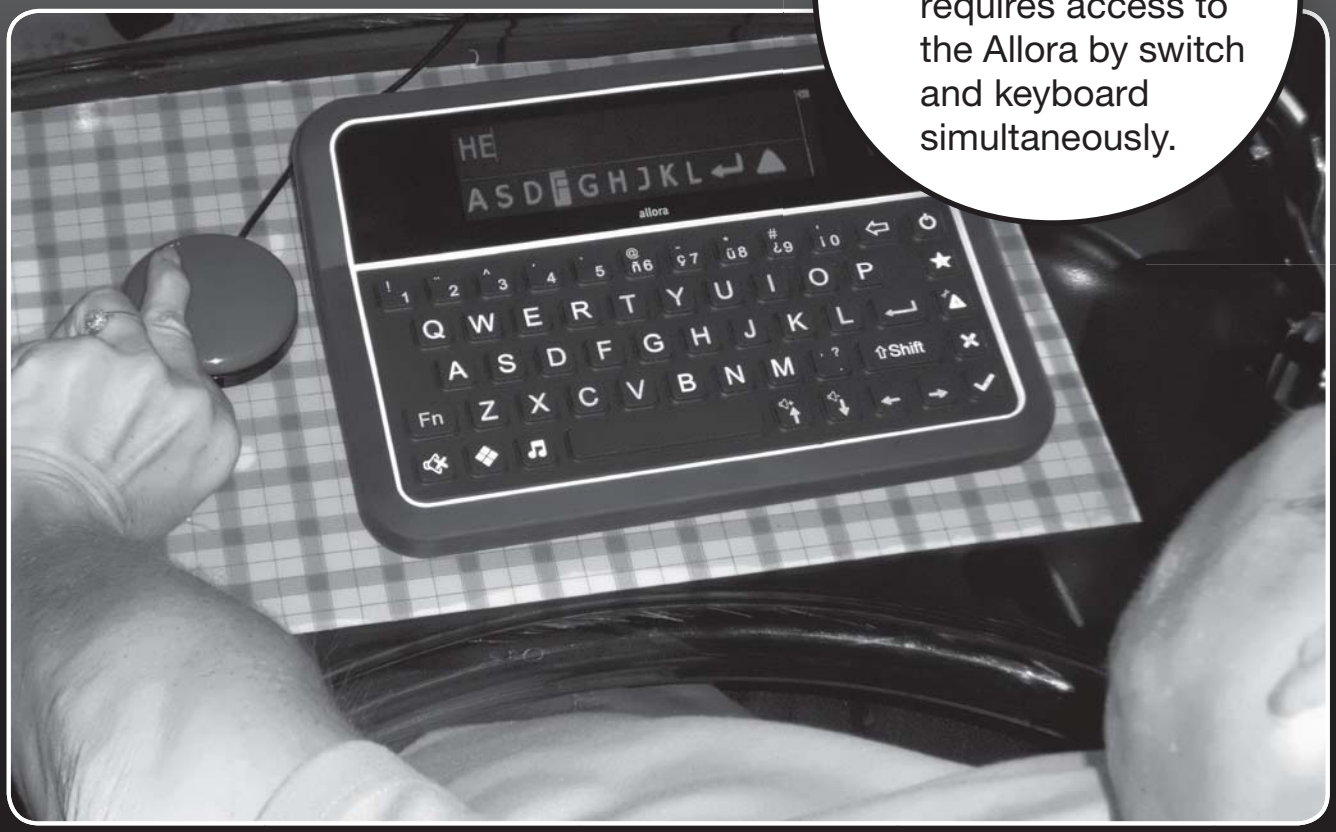

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Fun and Core Words

LORRIE CLEMIE

By the time you read this I shall be a retired Speech and Language Therapist. I have worked for the NHS for 34 years, most recently working for Leeds Communication Aids Service. I have always loved the job, in particular working with people using augmentative and alternative communication.

Over the years I have been lucky enough to attend a number of Communication Matters conferences. At each one I have learned about new devices, picked up useful tips, been motivated to try new things and enjoyed glasses of wine with inspiring colleagues.

Last year I thought I would have a go at presenting a paper called 'Fun and Core Vocabulary'. My intention was to video children and young adults using a variety of core words in fun situations. The children and young adults were all from the Leeds area.

In practice I only managed to video children demonstrating the teaching of words 'go' and 'want' as it took so long for the children to speak these words using their VOCAs (as we all know it does) and I wanted to limit the video to ten minutes so that we had time during the presentation slot at conference to work together as a group and decide collectively how we would teach other core words. I hoped then to be able to produce a list of ideas that therapists could try in the future.

It was wonderful the way everyone present added their ideas. The video clip of 'go' and a food blender obviously triggered some speech and language therapists to remember bygone days and we had a few giggles and reminiscing stories from the audience.

We had many similarities in the way we taught each word but there were also some games and ideas that in thirty-four years I had never thought of. I went back to Leeds and had great fun experimenting with these new ideas and I am very grateful. The children in Leeds benefited and I enjoyed trying something different. The collated lists now follow for all to use and I acknowledge with thanks all of those who attended the session and contributed their ideas and expertise.

It made me feel very humble to be a small part of such a great conference and to be listened to by people that I have grown over the years to respect and like.

IDEAS FOR TEACHING THE WORD...

'BUY'

Go out to a café.

Shopping memory game: "I want to go to *buy* a..."

Till/toy food/baskets/toy money.

Research the internet to compare prices/goods to *buy*.

Silly games of things you wouldn't like to *buy*, e.g. smelly socks, to make more fun.

Catalogues to look at, toys to *buy* or not.

'HELP'

Sabotage activities, e.g. remove spoon from yoghurt, child has to ask.

Games with physical element, e.g. Pop Up Pirate and child has to ask peer or staff for *help*.

Teaching child to say 'no *help*' when they don't need assistance.

Role plays, e.g. Fire brigade could link with environmental controls.

Dressing dolls – make up and hair session, where *help* is requested.

Mr Potato Head, where he needs *help* to put on eyes, nose, glasses, etc.

Who *helps* us? Involve school staff, e.g. caretaker, lunchtime staff, teachers.

Pictures of people who *help*. Discussion.

Photos of children helping others, e.g. I *help* Mum...

'LIKE'

YouTube music clips.

Switching activities set up for children to select.

X Factor style game.

Develop own Communication Passport with headings for activities, people, places, stories, films, and books. "I *like*...".

Favourite TV programmes with reward being clip of favourite film.

Making a smoothie – choosing ingredients they *like*.

Hairstyle and make-up session, either as practical or from photos. Voting on whether they like or dislike the changes/styles.

Smelling different smells and saying like/ don't like.

Food tasting.

Which game/toy is best?

TV characters.

Review a book/school trip movie.

'MAKE'

Playdough.

Shapes for cookies.

Musical instruments – "What *makes* this sound...?"

Choosing activities/games:

- *make* smoothies.
- *make* tower/construction/robot.
- *make* bigger/make smaller, etc.
- *make* facial expressions (smile, cross face, etc).
- *make* sounds together, animals, etc.
- *make* a card.
- *make* a bookmark.

'SEE'

Kim's game.

Half hidden activity...what do you *see*?

"Who can you *see*?" Mirror work.

Books – "Can you *see*/find...?" Child replies "I *see*...".

I Spy...

I go to the shops and I *see*...

Dominoes.

Sand tray – find small animals/toys.

Hide objects around the room.

Register – who is here today, who can we *see*?

Watching TV clips.

Reading 'Brown Bear' book. ("What can you *see*? I *see*...")

Supermarket trip.

Peek a boo – "I *see* [name or object] hiding under the blanket..."

Hide and seek – "Who is missing?"

Spot the difference.

Watching videos – reward for asking to *see*.

'WANT'

Card making.

Mr Potato Head – *want* [body part].

Want foods; activities; music; books; clothes; more...

Want toys; playing with; singing; computer games.

Deciding where you *want* to go, with older children. Planning activities, what they *want*.

Discussions re. who you *want* to win e.g. X Factor.

TV programmes using "I *want*".

I *want* numbers for dominoes. ✱

Lorrie Clemie
Retired speech and language therapist

How I use the Internet and Social Media

Experiences of young people who use AAC

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INTRODUCTION

This article summarises the presentation I gave at the 2012 Communication Matters National Conference and the 15th Biennial ISAAC Conference. It contains research data collected between November 2011 and June 2012 regarding the experiences of using the internet and online social media from young people who use AAC in the United Kingdom.

BACKGROUND

Young people are at the forefront of technological changes within society that are altering the ways people communicate with one another. Research has shown they share candid and intimate information online about their interests, social activities and family dynamics, which support, reinforce and enrich their offline social relationships (Mesch & Talmud, 2010). Adolescence is a key developmental stage and young people who use AAC are likely to have the same aspirations and challenges as their peers, only with additional communication considerations (Smith, 2005).

Being online may address complex factors for social participation and inclusion by offering opportunities to build and enrich relationships beyond the confines of time, space and physical challenges (Seymour & Lupton, 2004). Opportunities to use online technology are increasing in the AAC field as communication aids become multi-purpose and language applications are developed for mobile technologies, e.g. iPads (Chapple, 2011). Research carried out in Australia indicates that young people who use AAC reported that access to the internet and good technical advice helped mitigate feelings of loneliness (Cooper, Balandin & Trembath, 2009).

There is a specific research gap in the United Kingdom for the self-reported experiences of using the internet and online social media by young people who use AAC. My research aims to capture their experiences of access to and use of the internet and their perceptions on how this impacts on self-representation and friendships.

METHODOLOGY

The research is following a constructivist grounded theory approach (Charmaz, 2006) which is a method of carrying out qualitative research following a set of consistent procedures to collect and analyse data with an aim to develop theory.

At the time of the presentation, seventeen young people aged 14-24 who use AAC had taken part in face-to-face semi-structured interviews lasting between one and two hours and on one occasion five people were seen as a group prior to their individual interviews.

In ten of the interviews, a communication partner supported the young person. All interviewees used high-tech communication aids except for two who chose not to, and two due to technical problems. In these cases, low-tech alternatives were used (Makaton signing, communication book, alphabet board, E-tran frame). There was a wide range of ability in areas such as literacy and many variables regarding accessibility.

On most occasions the interview was the first opportunity for everyone to meet and challenges existed in terms of technical equipment, available vocabulary, communication breakdown, fatigue, illness and time, but despite these limitations many important points were raised.

The information represents initial themes seen within the data. Grounded theory ultimately aims to identify a theory within the data; however, at the time of the presentation data analysis was still ongoing. In order to protect privacy I have used pseudonyms and not identified what brand of communication device is being used.

THEMES

Desire to be online

The most powerful theme to have emerged is the desire to be online. The young people unanimously say they are interested in using the internet and online social media. They expressed views such as *"wanting to use it more"*, being *"excited"* and *"happy"*, having their lives made better and how sad they would be if access was removed. Olivia says Facebook is *"fun"* and Georgie used an E-tran frame to say Facebook makes her feel happy. Xavier told me without the internet *"I would be very upset, I would lose independence, I'd be lost without it"*.

Independence

Independence was identified as an important aspect of being online as it lessens the impact of having to rely on others and offers more control. Xavier identified *"I can organise things like meetings myself"* and Peter says he uses the internet for *"planning trips with my personal assistant"* Harriet runs her own business and advertises this via her status on Facebook.

Independently following interests online is a big bonus. Peter says he used to *"have to rely on others to find things out"* and Nicholas likes looking at newspapers and following his basketball team and shows they are *"special"* to him by posting information about them on Facebook. Will likes to look into alternate access to mainstream technology, Moira loves the Paralympic sport of Boccia and Becky likes sharing news about Rebound therapy, which is a form of trampoline exercise to support movement.

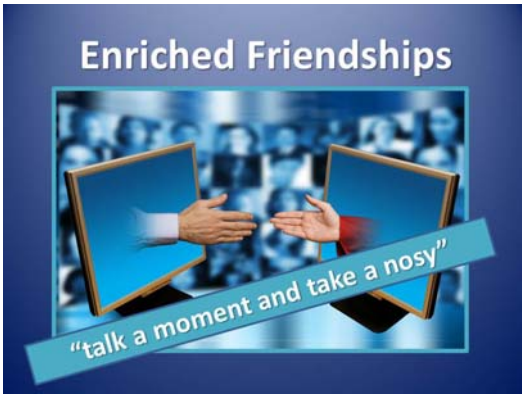
Independent access to entertainment is also enjoyed. Will loves playing online golf and linking up with other virtual players but as an indirect switch user is excluded from lots of online games explaining *"I cannot play"* due to intricate controls. Peter uses games on a BBC website for young children as the controls are simpler but often finds them childish and wishes more mature games were available with simplified controls. Moira (who has direct access) says she likes to play *"anything"* but doesn't want to link up with virtual players and finds the integrated computer on her communication aid limiting as *"I can't play a game"*.

Privacy is an important aspect of independence and being online can be supportive. Harriet says her father and brother have Facebook 'apps' on their mobile phones and she can message them confidentially if she has an issue with her staff. She also communicates privately between different staff members and explains they can *"talk to me on Facebook"*. Some people used the text facility on Skype to increase their privacy and prevent their phone calls being overheard by support staff.

Personal Representation

Carol signed during the interview and explained her love of Facebook by passionately pointing at herself. To clarify, I asked if she meant telling people about herself and she nodded 'yes' vigorously. Facebook helps people express their personality and humour and share their views. Keith says, *"I like Facebook because I like seeing me holding Pikachu"* and Will says he uses it to tell people *"a lot"* about himself and to show people *"what I think"*. Profile pictures are used to show activities such as bungee jumping. Harriet uses hers to make people laugh although she joked new friends *"would probably run"* when viewing her page. Facebook can also act as a repertoire for memories and the timeline feature was particularly popular for the speed of sharing *"really old"* events.

Enriched friendships



Being able to communicate with friends was identified as incredibly important. A wide range of methods are used to keep in touch: texting, Facebook, email, Bebo, MySpace, You Tube and Skype. Facebook was particularly popular and Twitter, although used, did not appear as popular and was described as *"different"* and not as social as Facebook.

Xavier says Facebook allows him to *"talk a moment and take a nosy....especially when I am here"* referring to residential college. Carol used the Makaton sign for *'friends'* when asked why Facebook was her favourite social media site. Keith uses Facebook to keep in contact with people from his old school and Georgie links up with everyday friends and her sister. Many people said keeping in touch with staff from previous schools or friends who had moved on was great as well as supporting long distance relationships in places such as New Zealand and Canada.

Online challenges

Although everyone desired to be online and most said nothing unpleasant had happened, some potentially negative factors were reported but had been met with resilience. Bertie's teaching assistant said she thought he'd been upset by one of his friends criticising his online computer game skills. He was adamant this wasn't negative and said "*I blocked him*" and when I asked if he sorted online problems out for himself said *"yes"*. Keith said *"one of the people wasn't very nice to me"* on Facebook however *"I told them off"* and they are still friends.

Moira doesn't have her photograph on her Facebook profile because strange people have tried to befriend her and she uses a funny slogan. Harriet reported receiving unwanted friendship requests on Facebook after a video with her real name was posted online by her brother. He had her permission but neither had anticipated the outcome. She was not frightened but is cautious about posting personal information. All independent internet users said they had online safety training from their educational settings and received advice from family or friends.

Time

Having more time available when online was perceived as beneficial for showing communicative ability. Moira said it shows people they *"have to wait to hear what I say"*. Real time opportunities were also popular with Fiona saying she likes a *"quick chat"* on Facebook.

Role of technical and human support

Technical support within educational settings was excellent but some barriers were identified. Moira lost WiFi access when she moved flats and had to wait for wider college coverage. Simon and Davey used Skype at their family homes and wanted it on their communication aids but having potentially roving cameras was a major obstacle for the college and it was not clear if this could be resolved. Olivia wanted Facebook and texting set up on her communication aid but after five months was still waiting.

Outside of educational settings, family support was important. Peter's sister suggested using Facebook when she moved away and his dad helped him until acquiring 'SwitchXS' meant he could *"go on everyday"* independently. Mary's family all had computers and she uses MSN with them. She likes connecting with her sister from their respective bedrooms and was advised by her sister not to use Twitter because of the *"rude people"*.

Lack of technological knowledge amongst parents and personal assistants can also be a barrier. Peter's dad found it difficult to access technological information and Fiona (via limited pre-stored vocabulary) managed to say she had a problem with Facebook. Her personal assistant (PA) clarified that a previous PA had set up her account but when she left the password was lost. The current PA was unclear about whether she could rectify this. Carol told me several of her staff didn't like computers and couldn't help her to use Facebook.

Accessibility

This is a difficult area to explore via self-report. Nicholas said he used *"special switches eight"* and Xavier demonstrated using social media on his communication aid but was unable to use his voice software simultaneously.

The young people with direct access and good literacy skills used the internet and online social media via a desktop computer, multi-purpose communication aid or hand-held device (e.g. mobile phone). They used a wide range of sites and, as Moira reported, this supported communication, friendship and entertainment opportunities.

People with good literacy and indirect access (scanning/switch access) faced stronger challenges for going online. Satisfaction was reported with multi-purpose communication aids and other types of assistive technology such as Bluetooth. Xavier said he could go online more frequently now he had a multi-purpose communication aid and Peter was able to achieve independent access from the suggestion by a special college to investigate 'SwitchXS'.

Access constraints and low literacy skills impact on independent online activity but collaborative access was very popular among the ten young people who went online with support from others. Some social media sites were easier to use than others: Mary said MSN was *"easy than Facebook"* which she said was difficult to *"read"* without her mum.

CONCLUSION

Data collection continued until December 2013 and a further eight people were interviewed but their data is not represented here. Additional information has also been collected from manufacturers, technical departments, educational support staff and parents to contextualise factors raised by the young people. The thesis is due for submission in September 2013. *

Amanda Hynan, *PhD Researcher*

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Realistic and Supportive AAC Intervention for a Client with Cerebral Palsy

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INTRODUCTION

This paper introduces a young man called Reece with cerebral palsy who is learning to use high-tech AAC. The aim of the paper is to demonstrate the importance of considering an AAC user's wellbeing and family/carer circumstances during high-tech AAC intervention. Family members who facilitate the implementation and ongoing support of AAC are integral to the process. Facilitators, including family, typically need to have the skills to be operationally competent in programming electronic AAC devices. (Baxter S., et al, 2012; Beukelman, D & Mirenda, P., 2005).

People who use AAC share their experiences of living with a communication impairment in the book titled *Speaking Up and Spelling It Out* (2000). Christopher Featherly's contribution in the book describes life with cerebral palsy, the benefits of AAC and the invaluable support from his 'Grandma' and her belief in his potential to communicate. Flexible AAC management can allow plans to change in light of the AAC user and their family/carer's capacity to take on new learning demands.

BACKGROUND INFORMATION

Reece has quadriplegic cerebral palsy and is non-ambulant. He lives at home with his mum who is his main carer. He also has siblings who are no longer at home. He attends a day centre and enjoys meeting up with friends there.

Reece is unable to speak, he uses vocalisations and facial expression to good effect and he is able to respond to a range of yes/no questions by the use of coloured wrist bands. Reece was referred to our service when he was nineteen. His experience with AAC was limited. He did have some experience using a low-tech AAC system; this Makaton symbol based aid was mostly used with unfamiliar listeners and not with his family and friends. Reece was not assessed for high-tech AAC until further education. At school he had been assessed with an eye-gaze system. Reece showed some skills and potential to use this device to develop his communication skills. However, due to funding issues there was no further opportunity for him to trial the eye-gaze device, and for this to be evaluated as an effective access method. There was

Figure 1 Reece uses 'Yes' and 'No' wrist bands to help him communicate

no evidence that he had used other access methods such as switch/es to access high-tech AAC. It was reported that in the short time that he had tried an eye-gaze system, Reece demonstrated that he was motivated to use high-tech AAC and showed aptitude by problem solving, unprompted.

During education Reece had not acquired literacy skills. Referral information received by ACAT stated that Reece was a bright young man who appeared to be held back by his complex physical difficulties, which impeded his communication. At the time of his referral to ACAT he was using nonverbal communication and was not using any low- or light-tech AAC. From the assessment it was evident that he had not had a chance to develop the appropriate skills to help him become a more competent and independent communicator. His mum reported that Reece is bright and she believed he would be able to communicate much more if given the chance. She also felt that Reece was restricted in his social life and that if he was given access to a suitable communication aid this would open up more opportunities for him.

AAC INTERVENTION – ASSESSMENT

All multi-disciplinary assessments and subsequent support visits and reviews were carried out at Reece's home. The aim of the assessments was to explore a suitable access method for Reece, and

Figure 2 Reece using his head switch; he is more comfortable when reclined in his wheelchair

a Voice Output Communication Aid (VOCA) with appropriate symbol-based vocabulary package which could be edited and personalised. Reece had good head control therefore using a head switch or eye-gaze were identified as appropriate access methods.

Reece was set up with a head switch and the Ingfield Dynamic Vocabulary level A (IDVA, Grid2 Sensory Software Ltd) package was selected, as it enables progression (levels A to D) and because Reece was familiar with the symbols from school. This was installed onto Reece's laptop.

Figure 3 IDVA home page (not personalised)

Posture and positioning

Reece has complex postural needs. During the AAC assessment process, it was evident that Reece's seating was not supporting his trunk and spine sufficiently despite specialist seating. However, he had been reviewed and assessed by the wheelchair service for a new seating system. ACAT staff liaised with the wheelchair service to try and help resolve some of Reece's seating issues.

For positioning purposes it was important for Reece to be posturally stable and comfortable prior to trial of an eye-gaze system, so the trial was postponed. A single head switch was set up with Reece's personal laptop to enable him to develop switching skills and learn the language on IDVA.

Family – listening to concerns

During the discussion with Reece's mum it became evident that she lacked confidence in supporting her son with the high-tech AAC.

It was known from the outset that Reece's mum was 'not techy' by her own admission. Initially it was planned to train and support Reece's mum so that she would feel confident in editing Reece's grids, adding new vocabulary and so forth. She had received training but she was concerned about making mistakes. One of Reece's siblings did provide some music and photographs for Reece's AAC.

Health issues

During the period of learning single switch scanning and his IDVA vocabulary, Reece suffered episodes of ill health and tiredness. Reece eventually received his new wheelchair but unfortunately he was still uncomfortable and sometimes in pain when sat in his new seating system.

During ACAT support visits it appeared that Reece's mum had a lot to deal with in coping with Reece's ongoing postural and positioning difficulties, amongst other things.

PROVIDING SUPPORT

It was decided that Reece's mum would just be involved in gathering vocabulary and ideas to help personalise Reece's AAC to ensure that his vocabulary was relevant, current and meaningful. Her role in editing Reece's AAC was put on hold, as this required some technical skills. Reece's mum expressed relief at not having to be involved with the editing.

During discussion regarding how much she could manage, she also offered to take some photographs of the local area to add to Reece's communication grids. It was not long before the Adult Learning Disability (ALD) staff started to support Reece and his mum. The ALD staff also added new words and messages. Gradually, Reece's mum was shown how to edit Reece's AAC. All training was paced with regards to how much she could manage at any given time. Reassuring Reece's mum was equally as important as the verbal and written training instructions.

Reece made good progress with switch scanning. It was decided that eye-gaze would still not be implemented until all the seating issues were resolved. Also, introducing another access method at this time could have added new learning demands on Reece and his mum at a time when they were not ready. It was important to be realistic about what could be achieved at any given time.

Reassurance

Ongoing confidence building and reassurance were essential. Reece's Mum started to add new words onto Reece's communication aid independently and she reported feeling more confident. During a support visit she commented on how many new words she had added and reported that she felt 'chuffed'. She had added new messages in keeping with new events, Reece's interests and activities.

Reece's progress

Over a period of a few months Reece's fluctuating health meant that he was not using his AAC very much and support visits were often cancelled. However, he did use AAC to communicate important messages about when he was uncomfortable in his wheelchair and how he was feeling. The vocabulary on his personal care page was developed to enable him to direct his mum and carers on how to care for him during this time.

Gradually, Reece became more familiar with his symbol communication and his navigation skills improved. When he felt well enough he would use AAC at the day centre. Once he had recovered from a period of illness, Reece was able to use his AAC functionally and spontaneously to direct others, communicate his feelings, tell others about what he had been doing, people he had seen and places he had visited.

DISCUSSION

At the start of Reece's AAC journey it was not anticipated that the AAC intervention would require so many support visits and reviews. The barriers that can arise during implementation of AAC are well documented in the literature. Reece's health problems and difficulties with postural support were barriers in the sense that he took longer to develop AAC skills as he was not always using AAC. However, following reviews by the wheelchair service and with physiotherapy support, fortunately Reece became more comfortable in his wheelchair.

The importance of family and facilitator support and commitment in the implementation of AAC cannot be overestimated. They can significantly affect outcomes (Angelo, 1997). Having built up confidence and technical skills, Reece's mum was able to facilitate

Figure 4 Reece trialling an eye-gaze system

Reece's AAC so that he had access to appropriate, functional and motivating messages when communicating.

Joint working with the ALD service enabled Reece and his mum to receive more support visits at their time of need than would have otherwise been possible. The ALD team was a significant link in the process of moving AAC forward. Reece made progress and he was able to use his AAC to engage in conversation, tell jokes, and initiate topics of his interest. He was able to use AAC with a variety of conversation partners. Delaying the eye-gaze trial was a decision based on Reece's lack of stability and comfort in his seating system and to avoid putting undue pressure on Reece and his mum. It was crucial for AAC intervention to be realistic: introducing eye-gaze at an inappropriate time could have led to failure or rejection of this access method.

CONCLUSION

It is essential to be aware of the capacity for learning, both for the person using the AAC and the family supporting them. Reece and his mum were encouraged to learn at their own pace and training was tailored to their needs. In our experience, listening to voiced concerns and observations of how people are coping are fundamental in the AAC intervention. Modifying earlier decisions and taking practical steps to provide well supported AAC intervention can lead to positive results. Building confidence and empowering families/facilitators can lead to a strong supportive environment in which the skills to access and use a high-tech AAC can develop.

Latest news (February 2013): Reece is trialling an eye-gaze system. ✱

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Clinical Scientist

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Supporting Two Young Students with iPad/iPod Touch and AAC Apps

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INTRODUCTION

This paper follows the success and pitfalls of providing Apple mobile devices to support communication. It examines the motivation and technological advances created by such a 'cool' device to two students and their communication partners. Will it still work when it has been dropped in a muddy puddle? Would we have been in a position to provide a dedicated communication device to these students, with a budget that is not increasing and more referrals coming to the team?

We discuss the highs and lows of providing a device to students with challenging behaviour. Does this challenging behaviour improve when they are provided with a high-tech communication system?

We look at the Means (*how*), Reasons (*why*) and especially the Opportunities (*where, when* and *whom*) to communicate. We consider the students' social networks, empowering them to be in control of improving their communication with a wider circle of people, enabling them to become more independent and in control of their lives.

BEN AND SCOTT

Ben and Scott attend secondary education in a Cornish special school. They both have some behavioural difficulties due to the frustration of not being able to communicate verbally. They use Makaton but this reduces their circle of communication partners as they are getting older as not everyone understands their 'personal' signs and others do not understand Makaton signing at all. Scott had been given various communication aids throughout his school career to support his communication, however this had not been successful. The reasons for this are that Scott was perhaps not ready for a high-tech device; he did not need to communicate with a wider circle of communication partners when he was younger and the devices did not motivate him to communicate. Ben had used signing; within the safety of his home and school, those around him could understand him.

INTRODUCING IPAD/IPOD TOUCH

The introduction of the Apple iPad devices enabled the Cornwall Augmentative Alternative Assessment Team (CAACAT) to work through our Care Pathway to see if these students would benefit from the provision of these new devices. The scope of the apps available made us feel that there must be motivating software to support the two students in a way that we had not been able to in the past.

Flo Longhorn has written that "a skills curriculum is really, really important but I do hope that this is a 21st Century curriculum that includes other vital and essential aspects of being a real human being" She listed aspects such as: *creativity, rascality, wowability, emotionality, personality, dignity, conviviality, sensory, pleasurability, sensuality, singularity, flexibility, sensitivity.*

Motivation was an essential part of introducing the devices to these students, and these words have motivated us to provide the equipment with the apps which will support all these aspects of life. The affordability of the iPad/iPod devices and the apps allowed us to assess these students and provide trial equipment to see if it was appropriate to provide high-tech communication.

OUTCOMES

Ben has increased his social communication using the device in various ways. For example, he is so keen to communicate with everyone he meets. He may even use the Fart Piano to get your attention! Last time I went to visit him in school, I sat down beside him, and using Proloquo2Go he said "you smell nice"!

Scott loves using video and photographs which he puts into a Pictello Talking Book. His family, short break staff and school staff support him with the text and he loves showing new communication partners what he has been doing. He has a very close family and can name everyone using Pictello. Face Goo provides hours of fun which allows Scott to to stretch, pinch and twist your photos in crazy ways!

Figure 1 Proloquo2Go

Figure 2 Scene & Heard

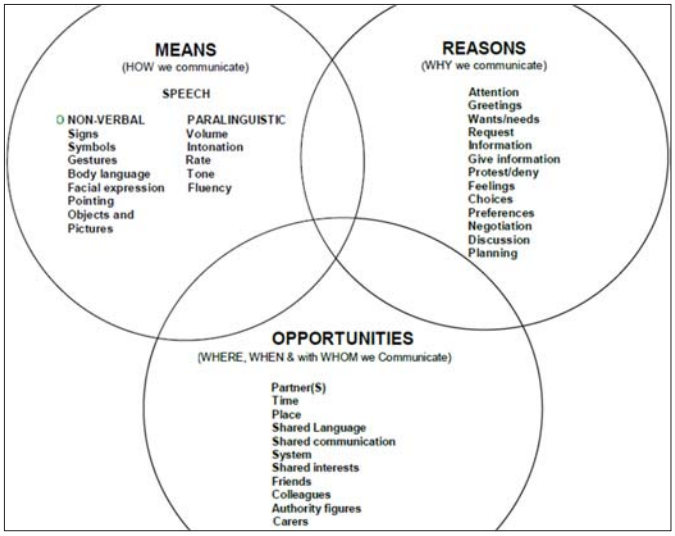

Figure 3 Bulpitt's Means, Reasons and Opportunities Model

The iPad was dropped in a muddy puddle and survived after drying out slowly! The Apple devices work as soon as they are switched on which reduces frustration. There has been a reduction in challenging behaviour for both students.

Pitfalls

Ben was introduced initially to the iPad. We then decided that an iPod touch would be more portable (although this in time may be a disadvantage as it is easier to lose; it is also more difficult for communication partners to share, when using visual apps).

Scott insists that everyone should share his Pictello stories, and it sometimes gets in the way of his learning if someone new comes into school (but is this a pitfall?).

eSafety

eSafety must be considered with these devices. We ensure that they have web protection software and apply 'Restrictions' to disable access to many internet sites (with iOS 6 we use 'Guided Access').

Apps

Particular apps have allowed these students to communicate with a wider circle of communication partners. Ben uses Proloquo2Go and the Fart Piano as well as photographs of his interests. Scott uses Scene and Heard, Pictello and Face Goo as well as videos and photographs that he takes with the device.

OUTCOMES AND ONGOING REVIEW OF DEVICES

Following assessment, the students are reviewed by the CAACAT for approximately six months (the number of reviews varies for each individual) before they go back to the community speech and language therapist. We use the Bulpitt Means, Reasons and Opportunities Model to set the device up, relate these to Flo Longhorn's "vital and essential aspects of being a real human being" and look at ongoing outcomes using Blackstone & Hunt (2002) Social Networks.

I adapted the social networks to include photographs as well as names, to make it more meaningful for the students, as they are encouraged to participate in the use of the circles and make decisions about which circle each communication partner should be placed in.

SOCIAL NETWORKS

Social networks influence the kinds of opportunities and experiences a person will have. Strong social networks result in better health, quality of life, employment, and acquisition of competencies (e.g. educational success, social skills). Eriksson & Granlund (2004) note that "As social connections increase, social inclusion expands. Conversely, individuals who do not have opportunities to build social networks develop a sense of isolation or loneliness". Beukelman (2003) writes that "Individuals with chronic disabilities face unique threats and challenges; and they need robust social networks to support them so they can remain resilient and experience a high quality of life". ✱

Anne Williams, *AAC Officer*

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Information about apps

Proloquo2Go: www.proloquo2go.com

Pictello: www.assistiveware.com/product/pictello

Scene & Heard: www.tboxapps.com/scene_and_heard.aspx

Links to Social Networks and Means, Reason and Opportunities

Allsopp, L. et al, "GOAL! Creating a resource to facilitate client input to goal setting": www.raate.org.uk/uploaded/Lynne%20Allsopp.pdf

Blackstone, S.W. & Oxley, J. "Considering a Social Networks Framework in AAC: Part II": www.ussaac.org/allthatjazzdocs/SocialNetworks%20Part%2011.pdf

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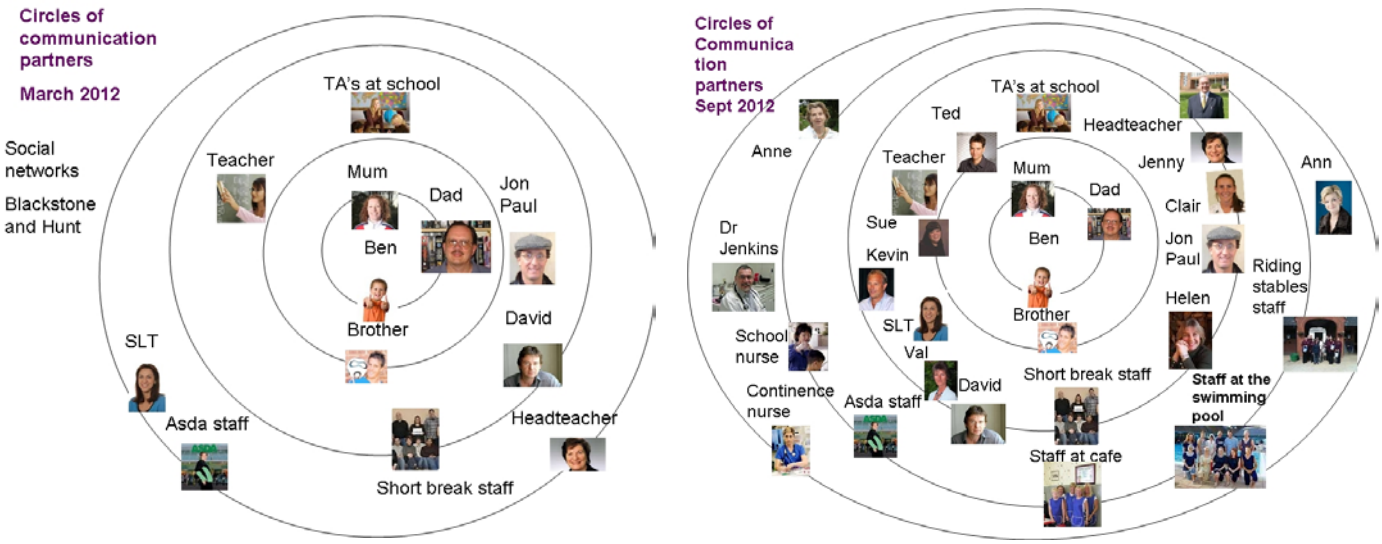


Figure 4 Circles of Communication Partners

FROM CATHERINE HARRIS, CHAIR OF BOARD OF TRUSTEES

I have nearly completed (and survived!) my first year as Chair of Communication Matters (CM) and have been reflecting on all that has been achieved over these last months. It is a transition time for service delivery and funding, so it has been a privilege to be in a position to influence for positive change.

Communication Matters has always 'punched above its weight' in my opinion and certainly there have been many opportunities to be involved. I represent Communication Matters on the Communication Trust Consortium, the Specialised Healthcare Alliance and the AAC Sub Group for the Clinical Reference Group for Complex Disability Equipment. These groups have all contributed to shaping legislation.

There are obviously frustrations but overall I feel that AAC has a higher profile than at any time in the 35 years of my career so far.

HIGHLIGHTS OF THE YEAR

AAC Evidence Base Research Project

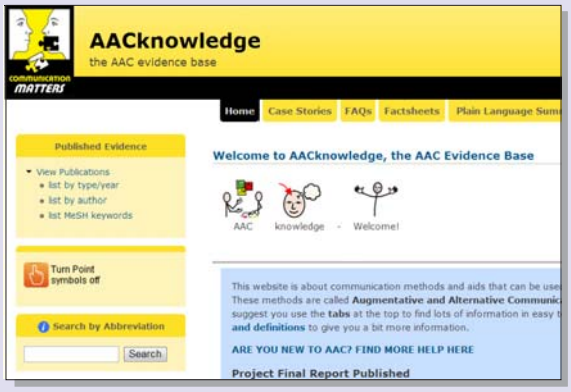
'Shining a Light on AAC', the final report of the *Communication Matters - Research Matters: An AAC Evidence Base* project, was launched in April around the UK, in partnership with the launch of the Department of Education (DfE) AAC Project.

The events were well attended and even though we had hoped to attract more Commissioners, there was good representation from different stakeholders. These two projects represented huge and potentially significant pieces of work.

For more information about the research project, and to download the final report and data, please go to *www.communicationmatters.org.uk/aac-evidence-base*

To download the report of the DfE AAC Project, entitled **'The Future of AAC Services in England',** seminar presentations and AAC services mapping data, visit *www.communicationmatters.org.uk/dfe-aac-project*

With the **hand-over** of the AAC Evidence Base project (funded by the Big Lottery Fund) from our research partners to Communication Matters, the trustees have been considering various routes of ongoing funding. In particular, there is obviously a responsibility to ensure that the **AACknowledge** website is updated regularly so that it continues to have a positive impact. The AACknowledge website contains a huge range of useful information about AAC, including published evidence, plain language summaries, case stories, factsheets, FAQs, links and a glossary. Manchester Metropolitan University has been commissioned to gather additional content. We are delighted that new FAQs and Plain Language Summaries are now available... do have a look at *www.AACknowledge.org.uk*



Marketing

Sandra Hartley was contracted on a short-term very part-time basis to oversee the CM Marketing Strategy. The aim has been to raise awareness, increase membership and encourage fundraising. New marketing materials are now available from Patrick Poon via the CM office and at Roadshows and Study Days.

A particular challenge is supporting people who use AAC through transition into being an adult. Sandra will be sharing some of the findings at Conference. We have been working with 1Voice to see if we can develop closer links and an exciting development is that we aim to have a joint study day in 2014. We are very aware that there are many people who have not even heard of Augmentative and Alternative Communication (AAC) or Communication Matters, and we want to get the message out more widely so that others can benefit from sharing experience and resources.

Lobbying

We have continued to work with the Whitehouse Consultancy during the year and there is no doubt that this has given us opportunities which it would otherwise have been very difficult to organise. Meetings have been arranged with interested MPs and Lords. A meeting with Norman Lamb was particularly significant.

We were so pleased that Paul Maynard MP was able to table a question in the PM's Question Time, resulting in a more overt commitment to funding specialised services. Paul is a keen supporter of AAC and it is great that he has agreed to be a Keynote Speaker at Conference this year. He will contribute to our new *Communication Matters On the Sofa* Chat show and then speak at the Monday Plenary Session to open the conference.

TRUSTEES' NEWS

New Patron

Following last year's Conference we were delighted when **Lee Ridley** accepted the invitation to become a CM Patron. Lee is a great advocate for AAC. Through comedy he is able to address thought-provoking issues with a serious underlying point. He is bringing his highly acclaimed Edinburgh Fringe routine to Conference for the Sunday night entertainment!

CM2013 National AAC Conference in Leeds

The programme and abstracts are now available at *www.communicationmatters.org.uk/programme*. We have accepted over 70 abstracts so delegates can look forward to a very full and varied programme this year. There are a number of new initiatives including a *'CM On the Sofa'* Chat Show; a Creative Workshop for people who use AAC; and a session for Leeds speech & language therapy students. There will also be an opportunity for you to contribute to discussion about the future plans for Communication Matters.

While many people are having holidays, this is a really busy time for Patrick Poon and Peter Head in the office, so I want to express my particular thanks to them for all they are doing in Conference planning and logistics. No doubt there will be some 'teething problems' with a new venue but we will learn from any mistakes and will value any constructive feedback. More delegates are booked in than at this time last year, so we are really pleased that we made the decision to change venue to Leeds University in order to increase our capacity. It is not too late to book (although the Earlybird rate has expired). Conference is a great place for networking, sharing ideas and being (re)inspired. I am looking forward to meeting up with old friends and also forging new relationships.

CHAIR'S DIARY HIGHLIGHTS: APRIL-SEPT 2013

11 Apr	Meeting re ACE Centre/1Voice/CM Project
17 Apr	Specialised Healthcare Alliance, London
22-26 Apr	CM-RM and DfE launched throughout UK
20 May	Abstracts Committee
21 May	CM Board Meeting
1 June	Stroke Conference, Nottingham
11 June	Communication Trust Consortium, London
19 June	Children and Families SLCN Working Group
25 June	Conference Programme planning
26 June	CM Roadshow, Birmingham
4 July	AAC Subgroup
14 Aug	Final site visit to Leeds before Conference
14 Sept	CM Board meeting
15 Sept	Conference begins in Leeds!

If you wish to raise an issue with a Trustee, please email via *admin@communicationmatters.org.uk* ✱

Catherine Harris, *CM Chair*

BHTA AAC NEWS

It seems everything is *changing* and much of the discussion at our last meeting (June 2013) was regarding change. I reported earlier this year that we had changed our name from BHTA eCAT to *BHTA AAC* and also that the body that monitors the Code of Practice of the BHTA that members agree to, is changing from the Office of Fair Trading (OFT) to the Trading Standards Institute (TSI).

By now, many of you will know about the changes at DynaVox with them effectively closing down their UK company to sell products through Toby Churchill. However, in early June this change was still 'news' and meant that we could welcome DynaVox product sales back into the 'BHTA fold' as Toby Churchill are existing members of BHTA.

Ray Hodgkinson MBE, the Director General of the BHTA, also enlightened us about other changes that may happen in the future. He stated that Norman Lamb MP, the Minister of State for Care and Support, would like to see a wider use of assistive technology for people with disabilities and he is of the opinion that the Government favours personal health budgets as the way forward in terms of funding, which is a change that doesn't necessarily fit directly with other funding proposals recently made.

ACCREDITED VOLUNTARY REGISTERS

Another change happening is the introduction of Accredited Voluntary Registers (AVRs) authorised and maintained by the Professional Standards Authority to promote and monitor standards delivered in the field of health and social services. The Assistive Technology Practitioner Society, which is part of BHTA, and is setting standards for practitioners in the healthcare industry who do not belong to any other recognised organisation such as the RCSLT, has submitted an application to have AVR status for healthcare professionals, which is currently under review.

CHANGES AFFECTING PRODUCTS

Other changes discussed at this meeting included the increasing demand for products supplied to the NHS to all be bar-coded; the restructuring of the Medical Devices Directive, which is under way; and the calls for Random Control Trials to take place for higher class devices. In addition there is also a debate in progress regarding 'single use', in which the EU Commission are of the opinion that if a company refurbishes a product, they become a manufacturer. If this change goes through it could have a significant impact on suppliers of products in the field of AAC.

Benjamin Franklin once said that "…in this world nothing can be said to be certain, except death and taxes". Well, he was wrong – there are three things that are certain: death, taxes…and *change!* ✱

David Morgan
BHTA AAC Chair

PRESS RELEASES

SEN MAGAZINE FEATURES AAC EVIDENCE BASE REPORT

SEN (Special Educational Needs) magazine has published an article by Catherine Harris, Chair of Communication Matters, based on the AAC Evidence Base report. The article is entitled 'Without a voice' and begins:

"If you are unable to walk, it is natural to expect access to a wheelchair. If you cannot talk or express yourself, why then are you unable to access a communication aid that could change your life, giving you the independence a wheelchair gives the non-walker?

"It is a human right to be empowered to communicate. Yet in the UK, low levels of public recognition exist around augmentative and alternative communication (AAC) and in particular the needs and abilities of those who need AAC support. Without access to AAC, life for those with speech difficulties can be lonely, difficult and isolating.".

Read the article online at *www.senmagazine.co.uk/articles/1249-without-a-voice*

You can also download the article in PDF format from www.communicationmatters.org.uk/sites/default/files/downloads/news/SEN_article_without_a_voice.pdf

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MONOGRAPH ON FUNDING SYSTEMS FOR AAC

Alexis Egerton has athetoid cerebral palsy. Until he was 16 years old he communicated by pointing at letters of the alphabet and signs called Bliss Symbols on a board. He then met David Mason who had built Professor Stephen Hawking's communication aid and offered to build a similar one for Alexis.

Alexis started his PhD in 2006 at Glyndwr University, Wrexham, on 'The Effectiveness of the Present Funding System for Augmentative Alternative Communication Equipment'. He completed his PhD in the summer of 2011 and graduated in November of 2012, and was presented by the Glyndwr University with the Alpha Kappa Prize for the potential impact his research will have in the community.

His research has been published as a monograph entitled 'Funding Systems for Assistive Technology (AT) or Augmentative and Alternative Communication (AAC)'. This publication assists the reader to contextualise the past and present funding systems for this key assistive technology.

A copy of the monograph is available for £21.30 to cover publishing and postage costs (£8 of each copy sold will be donated to the ACE Centre) from: *mike@northwestacademicpublicationonline.co.uk*

PRESS RELEASES

NATIONAL OCCUPATIONAL STANDARDS FOR ASSISTIVE TECHNOLOGIES

Skills for Health is undertaking a project to review the National Occupational Standards (NOS) for working with Assistive Technologies in healthcare. Skills for Health previously developed a small number of competences related to the assessment, planning and installation of assistive technology. These now need to be reviewed and any new NOS for additional functions now undertaken are to be developed.

Assistive Technologies are used in health to support individuals with long-term conditions and other healthcare needs. The use of Assistive Technologies in healthcare is a growing area of service provision with an increasing focus on healthcare delivered in individuals' own homes and therefore millions of individuals potentially benefitting from the use of assistive technologies.

The project Working Group will be revising the standards over the summer months and a wider public consultation will be held in September.

For further information about the consultation and to be placed on the mailing list for this project, please email *competences@skillsforhealth.org.uk*

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MMU ANNOUNCE TWO MSc LEVEL AAC MODULES

Manchester Metropolitan University are delighted to announce two Masters' level modules focussed on complex communication needs. These modules (within our MSc Professional Practice Development at Manchester Metropolitan University) are for all clinicians/practitioners experienced in AAC. The two modules give an opportunity to reflect on practice in both clinical decision making (assessment) and intervention.

The modules are on offer to all experienced practitioners over the months of April and May 2014.

More information at: *www.hpsc.mmu.ac.uk/aac*

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THE MAKATON CHARITY ONLINE SURVEY

The Makaton Charity wants to learn more about the children and adults who use Makaton to communicate and the people who share their lives.

Learning about you and your Makaton experience will help The Makaton Charity to give the best possible service in the future.

Please complete a short (5 mins) online survey at: *www.makaton.org/mysay*

DIARY DATES

15-17 September 2013 — *Leeds*
CM2013 National AAC Conference
Contact: 0845 456 8211 www.communicationmatters.org.uk

27 September 2013 — *Bristol*
Communicate: In Print 2
Contact Bristol Comm Aid Service: 0117 3533613 sally.chan@nbt.nhs.uk

7 October 2013 — *London*
Recent Advances in Assessment for Children with Communication Difficulties
Contact UCL Institute of Child Health: 0207 905 2699 bit.ly/12GGSth

11 October 2013 — *Bristol*
Boardmaker Studio
Contact Bristol Comm Aid Service: 0117 3533613 sally.chan@nbt.nhs.uk

15 October 2013 — *Bristol*
The Use of iPads for Children with Complex Needs: Intro
Contact Bristol Comm Aid Service: 0117 3533613 sally.chan@nbt.nhs.uk

16 October 2013 — *Bristol*
The Use of iPads for Children with Complex Needs
Contact Bristol Comm Aid Service: 0117 3533613 sally.chan@nbt.nhs.uk

16 October 2013 — *Oldham*
Autism Awareness Day
Contact: 0161 358 0151 www.acecentre.org.uk

4 November 2013 — *Bristol*
Communication Matters Road Show: Bristol
FREE Tel: 0845 456 8211 www.communicationmatters.org.uk

5 November 2013 — *Bristol*
Clicker 6
Contact Bristol Comm Aid Service: 0117 3533613 sally.chan@nbt.nhs.uk

6 November 2013 — *London*
Clicker 6
Contact CENMAC: 020 8854 1019 www.cenmac.com

DIARY DATES

7 November 2013 — *Edinburgh*
iPads – Easy to Use Picture Apps to Support Basic Level Communication
Contact CALL Scotland: 0131 651 6235 www.callscotland.org.uk

12 November 2013 — *Sheffield*
Communication Matters Road Show: Sheffield
FREE Tel: 0845 456 8211 www.communicationmatters.org.uk

14 November 2013 — *London*
Clicker 5
Contact CENMAC: 020 8854 1019 www.cenmac.com

19 November 2013 — *Oxford*
AAC SIG Meeting: Androids, iDevices and tablets - help!
More information: www.aacsig.org.uk

21 November 2013 — *Manchester*
Kidz up North
Contact: 0161 607 8200 www.disabledliving.co.uk/Kidz/North

25 November 2013 — *Coventry*
RAatE Conference & Exhibition
Contact: 024 7615 8001 www.raate.org.uk

28 November 2013 — *London*
Clicker 6
Contact CENMAC: 020 8854 1019 www.cenmac.com

16 January 2014 — *Edinburgh*
Speech Recognition
Contact CALL Scotland: 0131 651 6235 www.callscotland.org.uk

27 February 2014 — *Edinburgh*
iPads and Communication – AAC Apps from Symbols to Text
Contact CALL Scotland: 0131 651 6235 www.callscotland.org.uk

6 June 2014 — *Edinburgh*
iPads to Support Pupils with a Visual Impairment
Contact CALL Scotland: 0131 651 6235 www.callscotland.org.uk

WANT TO HOST A COMMUNICATION MATTERS ROADSHOW?

The Communication Matters Roadshows are great opportunities to learn all about the latest communication aids and software from some of the UK's leading AAC suppliers.

CM Road Shows are held every year at various locations in the UK - and they are free!

We are always looking for new venues to hold CM Roadshows, so if you would like to host one in your area, please do let us know.

Communication Matters will handle much of the adminstration and organisation, including taking delegate bookings.

For more information, please contact Patrick Poon on Tel: 0845 456 8211 *admin@communicationmatters.org.uk*

Reduction of Self-Injury through the Introduction of The Picture Exchange Communication System (PECS) and Visual Supports

LOUISE MALKIN
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Email: lmalkin@pecs.com

INTRODUCTION

When an individual lacks the ability to communicate functionally they may find their own methods to get their needs met, which might include contextually inappropriate behaviours. Bosch & Fuqua (2001) define inappropriate behaviours as "those that have a negative impact on welfare, learning, and performance." Clearly an individual's quality of life will benefit from learning communication skills to replace such behaviours.

In order to select a suitable skill to replace inappropriate behaviour, it is vital that the original function of the behaviour be considered, e.g. does the behaviour regularly result in the individual accessing preferred activities or escaping from difficult tasks? Interventions that are selected based on the function of behaviour have been found to result in the best outcomes (Iwata, Pace, Cowdery and Miltenberger, 1994).

An individual who engages in inappropriate behaviour to gain attention from others, for example, might be taught to request attention with a phrase such as "talk to me" or "play a game with me" (Durand and Carr, 1992).

Carr and Durand (1985) found problem behaviour that usually led to escape from difficult tasks reduced when the phrase "I don't understand" was taught to request help with that task. Danov, Hartman, McComas and Symons (2010) meanwhile worked with a three year old boy with autism who injured himself in order to gain access to preferred items. Through Functional Communication Training (FCT) the child was taught instead to make requests with the Picture Exchange Communication System (Bondy and Frost, 2002) and self-injury reduced to zero.

THE PARTICIPANT IN THIS STUDY

The current study reports work undertaken with a seven year old boy with a diagnosis of autism. He began attending a school for children with Special Educational Needs eight months prior to work commencing, having previously being home educated. The family was extremely supportive throughout and gave their consent for the work described.

During initial observations the participant demonstrated limited expressive and receptive communication skills and high levels of self-injurious behaviour (SIB). Behaviour included hitting his head on surfaces and hitting and biting his own body, often resulting in first-aid treatment being required. The aim of the work undertaken was to reduce this self-injury through improving communication skills.

ASSESSMENT OF THE FUNCTION OF INAPPROPRIATE BEHAVIOUR

Due to the dangerous nature of the self-injury, it was not felt appropriate to conduct a full Functional Analysis of behaviour (see Iwata et al 1994 for a full description of this process). Instead a Functional Assessment was undertaken with the aim of identifying possible events surrounding self-injury.

Indirect assessment methods were used (Motivational Assessment Scale and O'Neil Functional Interview) along with Antecedent-Behaviour-Consequence (ABC) data recording, and the measurement of the time between various events and self-injury in classroom activities. Following this procedure it was hypothesised that self-injury had multiple functions, including positive reinforcement (access to preferred items and activities and adult assistance) whilst also being related to transitions.

METHOD

The reduction of self-injury involved four phases that aimed to replace self-

injury by improving the individual's expressive and receptive communication skills. Firstly, the Picture Exchange Communication System (PECS) was introduced to teach an appropriate method to request preferred items/activities (reinforcers). Secondly, a token system was introduced to visually indicate when these preferred activities would become available on occasions when they were not delivered immediately following the request. Thirdly, the introduction of a visual timetable combined with a warning signal (a timer) and provision of a reinforcer for appropriate movement between activities aimed to ease self-injury during transitions. Finally the exchange of a 'help' symbol was taught to request adult assistance.

RESULTS

Figure 1 shows that before intervention (at baseline) self-injury consistently occurred when preferred items were present (m=8.83 per min, Range=7-11 per min) and appropriate requests were never made. When PECS was introduced, self-injury decreased to zero, whilst requests with PECS rose to approximately 1 per minute (m=0.98 per min, range=0.4-1.6 per min). The single occurrence of self-injury during session 8 was at the introduction of Phase IV of PECS when a slight delay to reinforcement was caused by forming and exchanging the sentence strip ('I want' symbol + reinforcer symbol).

Figure 2 shows the frequency of self-injury when a delay between requesting and obtaining a reinforcer was created (due to a task being completed) at baseline and following token system introduction.

Each session consisted of several trials. At baseline, self-injury was observed at least six times per minute in all sessions. When the token system was introduced self-injury rose to a frequency of ten per minute, but this may have been an extinction burst as self-injury rapidly reduced following this initial session, falling to zero by session 12.

The time between a preferred item being requested and accessed at each trial was also measured during baseline and

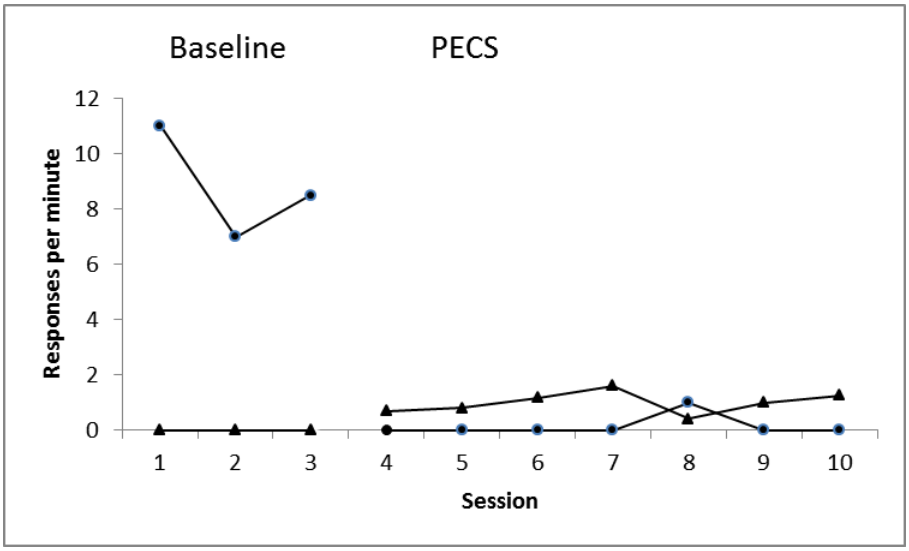

Figure 1 Self-injurious responses and PECS requests per minute when preferred items were removed at baseline and during PECS training

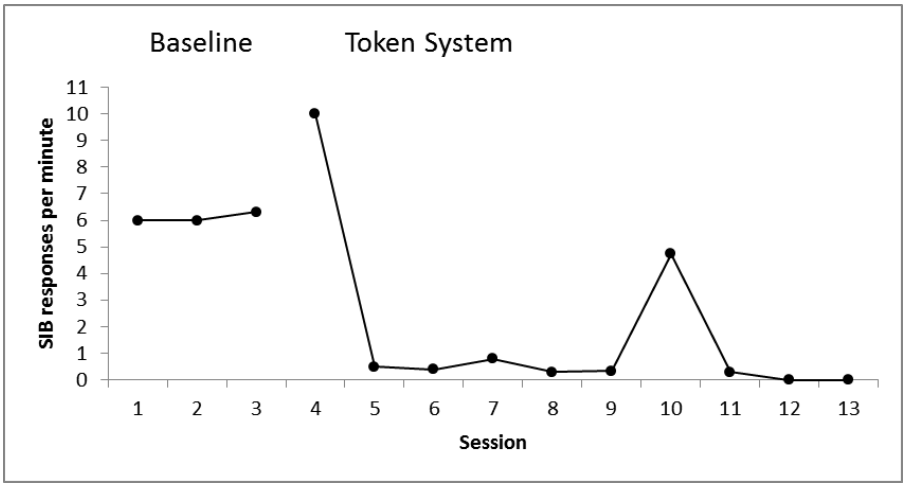

Figure 2 Self-injurious responses per minute during delay to reinforcement/ token system training

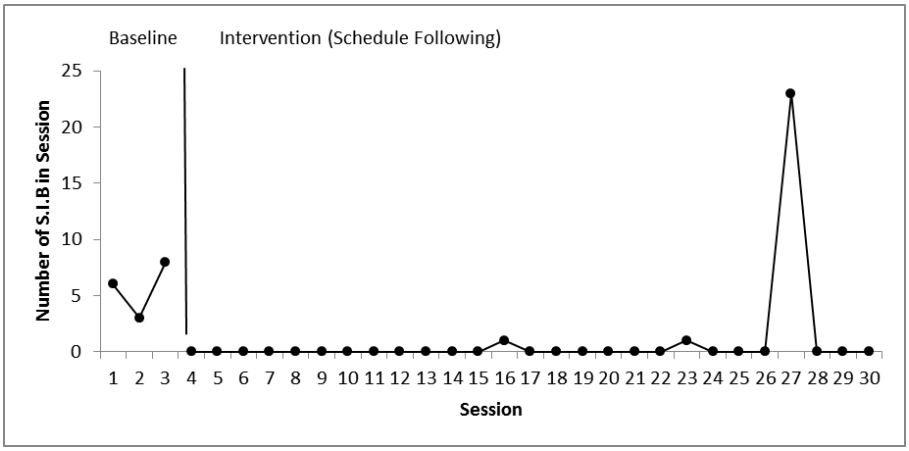

Figure 3 Number of self-injurious responses at baseline and intervention during transitions

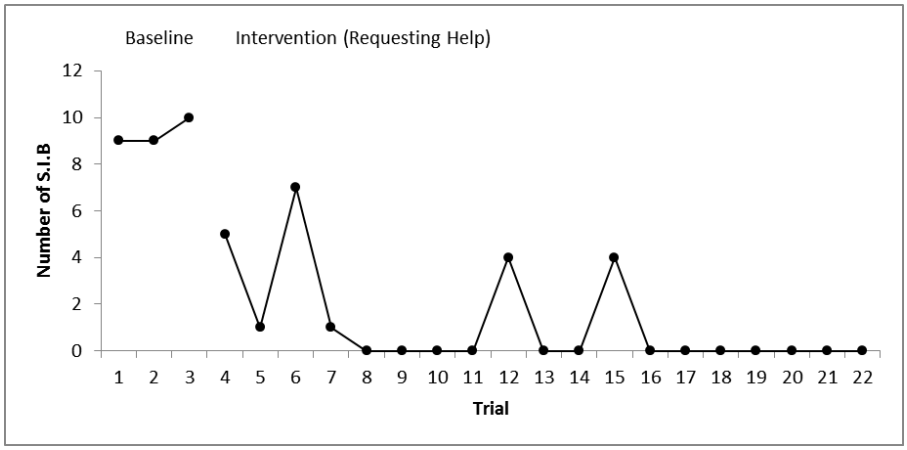

Figure 4 Number of self-injurious responses at baseline and during help training

the introduction of the token system. The delay to reinforcement increased as the intervention progressed (baseline: m=13secs, range=7-18s, session 4: m=14.4secs, range=3-22s, session 13: m=4m59s, range=4m56s-5m2s). By session 12 a five token board was in use and there was a five minute delay between request and access of reinforcement on average.

Figure 3 shows the number of self-injurious responses recorded during transitions at baseline and intervention. Self-injury occurred regularly at baseline (m=5.6, range=3-8 per transition), and dropped to zero when intervention began. By transition 12, single pictures were followed independently when placed in the child's hand and a portable schedule was introduced. The schedule was used independently upon hearing a timer on transition 26 and 28. The high level of self injury at transition 27 occurred moving from the field (a highly preferred area) to the playground.

Figure 4 shows the occurrence of self-injury during baseline and 'help' training. A reduction in self injury is apparent. At trial 4 and 6, the request for help had been made successfully, and the adult was building the marble run, but self-injury occurred whilst waiting. This was repeated when waiting for help eating jelly with a spoon at trial 12 and 15. Spoken reassurance was offered in the following trials e.g. "I'm helping you with the marble run", which reduced self injury to zero levels (trial 16 onwards).

DISCUSSION

The work described reduced the individual's self-injury from baseline to intervention in all phases. He was able to fully integrate back into the school day so accessing many more learning opportunities, and teachers and support staff reported that he demonstrated a calmer and happier demeanour.

The finding that different communication skills were required to reduce self-injury in different conditions suggests the functions of this individual's behaviour were multiple. Replicating the findings of Danov et al (2010), learning to functionally request preferred items using PECS reduced self-injury, suggesting gaining access to reinforcers was one function of the behaviour. When reinforcement was delayed, self-injury reappeared even though PECS was available. Self-injury during a delay to reinforcement only reduced when the visual reinforcement system (a token system) was introduced. For some individuals spoken words such as "Wash the plates then you can play with the cars" might not be as clear as a visual support to aid receptive communication, in this case being shown a picture and the tokens that must be collected before that activity will take place.

The baseline for transitioning was taken when PECS and the token system were in place, but self-injury during transitions only reduced when the timetable was introduced with a timer. It may be that self-injury during transition was related to a lack of understanding of the daily structure (as suggested by Dooley et al 2001), difficulty with unexpected changes (reduced with the timer to provide warning) or to avoid relinquishing reinforcement in the current setting (reduced by offering reinforcement for transition).

Even with all fore mentioned interventions in place, self-injury persisted when the individual encountered difficulty with preferred items, only reducing when FCT to request help was implemented. These findings support the assertion of Iwata et al (1994) that multi-functional behaviours require multiple interventions.

The series of AB designs employed in this study are recognised as being less experimentally rigorous than other designs. Had a reversal or multiple baseline across settings design (perhaps home and school) been employed it may be stated with greater certainty that the intervention was responsible for SIB reduction, rather than maturation for example. The relative stability in the baselines measured (not demonstrating a downward trend) suggests self-injury would not have decreased without intervention, though a longer baseline measurement period may have added strength to this assertion.

Baseline data was collected for a short period of time due to ethical considerations. The observation that no self-injury incidents requiring first-aid were reported during or following the intervention might be considered a follow-up measure; demonstrating self injury was not temporarily suppressed due to factors outside of the intervention.

For behaviour change to be effective new skills must be maintained over time and generalised across settings. The token system required a high level of adult vigilance (providing tokens contingent on appropriate behaviour) so longer term the visual schedule might be used to signal when reinforcement will be available and facilitate independence through the day. Similarly, whilst FCT to recruit assistance reduced self-injury and is a useful skill, the individual should also be taught independent problem solving and skill development to better perform tasks without assistance.

It cannot be stated that the communication skills taught in this study will reduce self-injury in every individual. This single case design study does however support the notion that if the function (or functions) of behaviour can be identified, and alternative methods of getting those needs met are taught, then inappropriate behaviours can be reduced and the individual's quality of life improved.

FURTHER INFORMATION

For more detail on the study and the methods utilised, or for a full copy of the work, please email the author at lmalkin@pecs.com. ✱

Louise Malkin
Pyramid Educational Consultants

THANKS

I would like to thank the staff and children at Danecourt School for their help, the participant's mother for her on-going support, Dr Peter Baker at the Tizard Centre (University of Kent) for his advice in making this work a success and, of course, Dr Andy Bondy and Lori Frost (co-founders of PECS) and all at PECS UK for making this possible.

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In Memory of Edna Nicol (1924-2013)

Founding Director of CENMACH, London

Edna Nicol, whose original training was in secretarial work, trained as a teacher and was employed by the Inner London Education Authority (ILEA) to teach commercial typing to pupils in special school.

In the 1960s, it became apparent that there was a need for the use of electric typewriters by children with a physical disability who were unable to control a pen, might have little or no speech and were therefore barred from participating in the full range of classroom activities. When ILEA sought a teacher on secondment to research the needs of these children, Edna applied and was selected. In 1968, after a year's research which culminated in a thesis on the use of electronic writing aids, she was appointed as the Director of the new ILEA resource Centre for Motor and Associated Communication Handicaps (CENMACH) based at Charlton Park School in Greenwich.

As Director, her work focused on the most severely disabled pupils in Charlton Park School and in the other schools for children with a physical disability across the ILEA. Electronic typewriters might have wooden keyguards or enlarged keyboards or be attached to switch activated scanning light boards which were controlled by a pupil's hand, foot or head movement. Edna worked tirelessly, seeking technical help from hospital and college workshops, and as a result her pioneering work was recognised and respected by the then Senior Staff Inspector for Special Education, Dr Marie Rowe. In the 1970s under Edna's leadership, the Centre expanded both in staffing and in the amount and sophistication of equipment loaned to the pupils.

In response to the growing numbers of pupils with a severe physical disability being admitted into the Authority's schools, Edna Nicol was asked to talk about her work at medical and educational conferences. In 1979, Edna was approached by Patrick Poon, a postgraduate electronics student at King's College, London University, who was planning to research ways in which the speed of writing by communication aid users could be increased. CENMACH became involved in this project and software was created on an Apple personal computer which would allow children and adults, to write, draw, use synthesised speech and control other computers.

In order to disseminate this expertise, CENMACH organised regular study days at ILEA's Centre for Special Educational Needs and also held Open Days at Charlton Park School. At these events, Edna and her staff gave presentations to teachers, therapists and educators from all over the UK and from abroad. The name of the Centre was eventually shortened to CENMAC (Centre for Micro-Assisted Communication), an organisation which continues the pioneering work of Edna Nicol by supporting pupils in both special and mainstream schools in the London area.

Edna retired from CENMACH in April 1985. Although she was an intensely private person, away from home she was very sociable and interested in people. She enjoyed walking holidays with the Holiday Fellowship, where she would join in the social activities with enthusiasm. Her love of music led to her regularly meeting up with friends to attend concerts and joining music holidays. Art was another interest and she took holiday courses in drawing. She had an enquiring mind, and liked to follow up her interests and read for further information.

After a short illness, Edna died peacefully on 21 March 2013. Her funeral was held at Croydon Crematorium attended by friends and colleagues. ✱

Myra Tingle, Ruth Boxall,
Dorothy Hayes & Peter Head

Language Acquisition through Motor Planning

LAMP: A Review of the Evidence

HAYLEY POWER & ANDREA MCGUINNESS
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INTRODUCTION

Autism is a neuro-developmental disability (Eigsti, Bennetto & Dadlani 2007) which causes language challenges. It is reported that there are over one million individuals in the UK with Autistic Spectrum Disorders (ASD). Twenty to thirty percent of children with ASD do not develop functional speech (Volkmar, Lord, Bailey, Schultz & Kiln 2004). It is therefore difficult to predict who will require augmentative and alternative communication (AAC).

It is reported to be difficult to select treatments for non verbal individuals with ASD. Research remains limited to low level evidence for many approaches although there is a growing body of research into different well known methods such as high-tech AAC, Picture Exchange Communication Symbols (PECS) and Applied Behaviour Analysis (ABA).

Language Acquisition through Motor Planning (LAMP) is one of these methods. It is a relatively new therapy approach in the UK but has been more widely used in the US. It is a therapy approach that relies on a set of core principles and use of a voice output communication aid. As current practice increasingly demands approaches to be evidence based, we wanted to research the existing literature around use of LAMP.

SUMMARY OF THE LAMP APPROACH

LAMP was developed by an American speech and language therapist and an occupational therapist as a result of clinical practice. The approach is based upon five core principles which are found to be impaired in ASD, but which are the key to developing successful communication.

Five Core Principles

- Natural consequences
- Readiness to learn (encompassing modulation/arousal & sensory issues)
- Auditory signals
- Consistent and unique motor plans with the aim of automaticity
- Shared focus.

AAC System used with LAMP approach

The device mainly used with the LAMP approach is the Vantage Lite voice output communication aid, with the Unity software vocabulary package. This package best supports the LAMP principles as it contains tools such as Vocabulary Builder that is a quick and simple way for the clinician to choose the vocabulary to be shown on the device, rather than manually searching through pages to reveal and hide vocabulary as necessary. The principle of the Unity page set also supports the LAMP principle that each vocabulary item has a unique motor plan. The principle of long-term learning is also supported through this approach as the position of vocabulary learnt on the device never changes; more vocabulary is revealed using the vocabulary builder tool, and the vocabulary that the person has already learnt permanently remains in the same place. This supports long-term learning and removes the difficulty of needing to change device or page layout as the individual increases in their competency.

EVIDENCED BASED PRACTICE

Evidenced Based Practice (EBP) requires the collection, evaluation and integration of the best evidence available. The types of evidence used to drive the EBP process are critical to making decisions that a difference to the client outcomes.

It soon became clear that there would be a limited numbers of papers to read and review. We considered five key papers which were a combination of Masters thesis papers and case studies. The following is a brief summary of each, considering the type of study, the methodology and results interpreted.

REVIEW STRUCTURE

The following structure was used to evaluate the papers found:

- Source of information
- Number of participants
- Length of study
- Approaches used
- Robustness

By using a consistent review structure it was then possible to compare the studies. The following common themes have been identified.

Source of information

There were no common themes in relation to the sources of information. Only one paper was published; the remainder were conference presentations, Masters projects or pilot research projects.

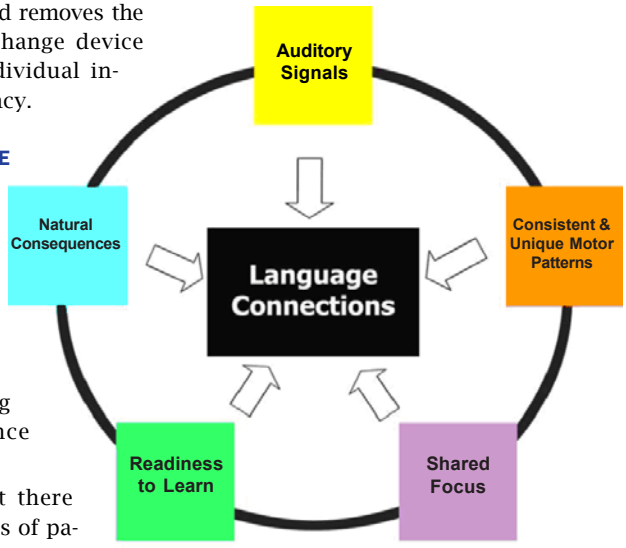

Figure 1 Five core principles of LAMP

Number of participants

In general, the numbers used in the studies were low. Only Paper 1 (see Appendices below) contained a relatively high number of participants (twenty eight), with the other studies containing between one and seven participants.

Length of study

Although the length of the studies varied, in general the majority considered students' progress over a number of months/years. Therapy sessions were counted up and all were longitudinal studies.

Approaches used

The majority of studies used only LAMP as the intervention strategy. Some cited other approaches being implemented alongside LAMP.

Robustness

Most of the papers were descriptive in nature, so while they described good progress for the participants in terms of increased vocabulary and sentence length, there was little critical evaluation of the studies. The description of the studies was not outlined in detail and this makes it difficult to audit or replicate the studies to directly compare results. All of the studies are open to scrutiny due to poor randomisation and poor documentation of demographic data.

CONCLUSIONS

All studies demonstrated overall gains in communication in children with ASD. There were increases in vocabulary use and demonstrable gains in symbolic communication and sentence length following LAMP intervention. In the current climate of EBP and commissioning requirements, evidence and outcomes are required to be robust. In all new interventions, however, small scale studies play an important role in developing EBP and these need to be undertaken as a pre-cursor to larger scale experimental designs.

The Center for AAC and Autism have begun to collect demographic and treatment data and will be attempting to address factors such as:

- Age and severity of impairment
- AAC use across multiple settings
- Follow up regarding: generalisation; maintenance; ecological validity (e.g. bilingualism, cultural considerations).

Certain pre-treatment characteristics are likely to influence outcomes in AAC use and this would be an important factor to consider in ensuring the best outcomes for children.

The papers that were considered and evaluated are summarised in the Appendices below. ✱

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APPENDICES - OUTLINES OF STUDIES

PAPER 1

LoStracco, H. & Collender, R. (2010) Improving Verbal and Language Skills using AAC.

Description of study

- Twenty eight children, aged 3-21
- Diagnosed with ASD
- Device use 3 months to 3 years.

Outcomes

Baseline data

- 50% 0 words
- 50% up to 50 words.

Post treatment data

- 7% 0 words
- 54% up to 50 words
- 14% up to 100 words
- 14% up to 150 words
- 11% up to 300 words

PAPER 2

Hodder, N. (2011) LAMP - Pilot Research Project Autism Spectrum Australia (Aspect).

Description

- Three children, aged 6-9
- Diagnosed with ASD
- Control and treatment group
- All sessions videoed.
- Random 25% cross checked for inter-rater reliability and further 25% intra-rater reliability with primary clinician
- Measured use of symbolic communication: communication using the AAC device (where available); spontaneous verbal communication; imitated verbal communication.

Outcomes

- All 3 children made clear and sustained gains in proportion of symbolic communication
- 90-100% of symbolic communication compared to 25% or less at outset of study.

PAPER 3

Stuart, S. & Ritthaler, C. (2008) Case Studies of intermediate steps/Between AAC evaluations and implementation.

Description

- Two children, aged 3 and 7
- Complex communication needs including a diagnosis of autism.

Child 1

- Age 7
- Second opinion - 10 sessions, acquired 10 new vocabulary items (7/10 food choices) and linked some words, *e.g. I eat, mum eat*
- Swapped devices – Mini-Mo (schools request)
- Further 24 private sessions – navigates Mini-Mo and uses up to 5 words together expressively.

Child 2

- Age 3
- 12 initial sessions
- Bilingual - therapy in English
- 40 4-5 word utterances in 12 sessions
- 48 further sessions over 9 months.

Outcomes

Child 1

- 5 words together expressively
- 80-100% accuracy.

Child 2

- Increasingly verbal - now does not use AAC device.

PAPER 4

Martin, J.H, Mizuko, M, Linder, A & Mizuko, M (2007) Autism: Effective therapy tasks to visually support use of generative core language in common routine.

Description

- Phase 1 - Single case study
- One client - 8 years old
- Diagnosed ASD – later changed to Landau-Kleffner
- 75 therapy sessions, 45 minutes in length
- Each session followed the 5 LAMP principles.

Outcomes

- MLU increased from 1.0 to 3.9
- Turns per session increased from <10 to >50
- Little progress in speech or sign
- With device – creates up to 4 step utterances
- Increase in language functions, e.g. emotions, questions, direction.

PAPER 5

Potts, M. & Satterfield, B. (2012) Studies in AAC and Autism: The impact of LAMP as a therapy intervention.

Description

- 7 children
- Ages 3-7
- Phase 1 –small group intervention study
- Diagnosed ASD/PDD with severe receptive/expressive language disorder
- Baseline data collected, supplemented by parental report
- All trialled LAMP for up to 24 months with 1-3 sessions per week.

Outcomes

- All made communication gains (e.g. MLU increased, receptive vocabulary increased, increased shared attention) and reduction in difficult behaviours
- Parents report wider implications.

Creative and Fun Peer Interaction for Improving Access Skills with Head-mouse and Eye-gaze Technology

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INTRODUCTION

A communication group was set up purely for Head-mouse and eye-gaze users from Key Stage 2 & Key Stage 3 (KS2 & KS3). This article shows how the group progressed from the first term until today and how that was achieved. It identifies the key aims for the group and how it evolved as the group progressed in ability and confidence.

A support assistant working with KS3 students was allocated to the group to help increase her skills and utilise them back in the classroom with the students. This article also shows how her skills, confidence and perceptions changed along with the group.

WHAT WE DID TO SET UP THE GROUP

As a school, we were setting up communication groups to improve the skills of our non-verbal students and those of our support assistants. It became apparent that as well as having a VOCA group using direct access, an additional group was needed to allow further time and development of skills for those using eye-gaze and head-mouse access.

The group of students was selected by looking at their level of understanding and type of access used for their dynamic screen devices. They were five students from KS2 & KS3. The group were all using different devices (Tellus 3+, Tellus 4, DynaVox Eyemax, Tobii C12, and C15) these having been allocated to meet the needs of the individual students and the availability at the time of issue by the Suffolk County Communication Resource Centre. The students had had their devices for varying amounts of time. The vocabulary sets were based on CALLtalk and Grid 2.

Each student had their individual speech therapy programme on receiving their devices and now had technical support and reviews. The students were making little progress in learning their vocabulary, relying on single programmed pages or their keyboard when in class. They were still having access problems in terms of their head control, the length of time they were able to use their devices, problems with dwell time and confidence issues. Several of the students were passive learners and not contributors within their classroom, relying on yes/no answers.

Having established who would be in the group, both myself and the speech and language therapists considered the general aims for the group. These altered on a termly basis. Individual targets were also set to allow for differentiation and meet the individual needs of the students. Below is a list of aims covered during the course of the year.

AIMS OF THE GROUP

General aims

- Have an opportunity to spend time with other head/eye users.
- Identify and add additional vocabulary they wanted, e.g. more jokes, conversational comments.
- Have an opportunity to explore how environmental controls work within school.

Operational aims

- Check calibrations and discuss if they have any access problems and try different settings - in discussion with the speech and language therapist (SLT).
- Have time to become familiar and explore their vocabularies.
- Navigate from top page to other pages at speed.
- Improve accuracy of selections.
- Expand beyond one word answers.
- Understand functions, e.g. plurals and tenses buttons, delete and clear button.

Social aims

- Be given time to answer in a quiet environment.
- Initiate conversations using their aids
- Give their own opinion on how they would like to extend the function of

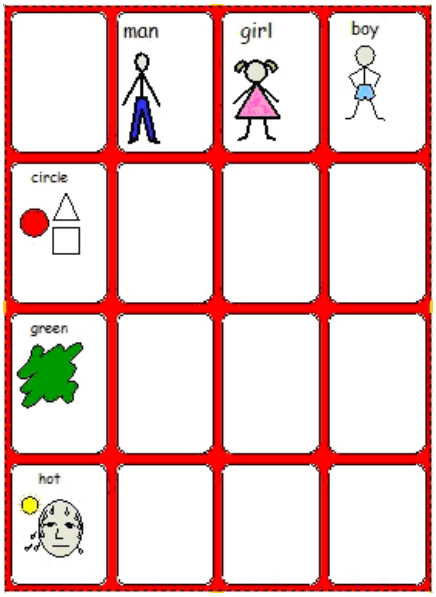

Figure 1 Battleships

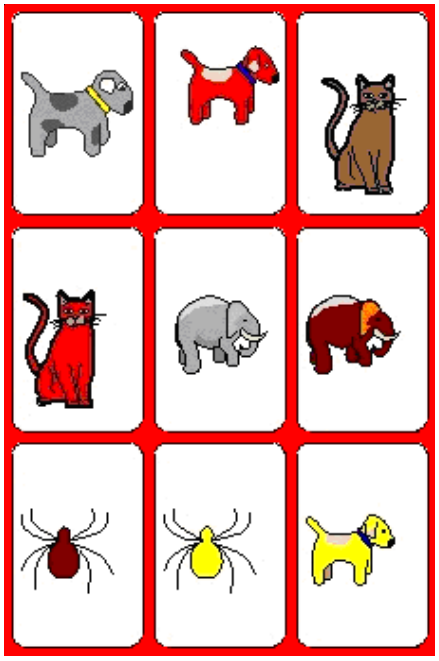

Figure 2 Guess Who

their aids, e.g. environmental control, music downloads, games.

- Give feedback to each other and use social comment pages, e.g. *stop, that's funny, pants.*
- Take turns to start and stop things.

WEEKLY SESSIONS

The 45-minute session was broken into sections to address different aims. An initial format of the weekly sessions was trialled, but we had underestimated how long some aspects would take. Below is a list of what we planned to cover:

1. Calibration checks: tweak any speed, colour, pointer size issues.
2. Remind of individual targets.
3. Introduction: give piece of news or information to the group.
4. Activities to learn specific location of vocabulary categories, e.g. animals, people.
5. Free time to explore their own VOCA, e.g. talk to peer/adults, play games, scan own vocabulary.
6. Options section: select from a choice to look at a particular area outside communication.
7. Share feelings of how session went.

AREAS TO FOCUS ON

Each term we developed specific areas to focus on for the Group.

Autumn term 1

- Identifying music preferences and adding them to VOCAs.
- Identifying animal vocabulary and how to access it from different pages.
- Looking at games already on VOCAs and possible extras.

Autumn term 2

- Joke telling.
- Playing music: basic level (play); standard (start/stop on request); extension (start, stop, change volume).
- Vocabulary focus: clothing, question words.
- Perform a short sketch or poem (e.g. *The Night Before Christmas*) or funny sketch to share in assembly or with their own classes.

The group felt ready to do a short sketch and chose *The Wide Mouth Frog*. Each student was given a part and the most able student was given more lines to recite at the appropriate time. They did not want to do the sketch to the whole school, but did come up with a list from their People Page of which adults they wanted. They also invited their pastoral classes.

Spring term

- Environmental control focus.

The group was split in half to look at the environmental controls available. The first group went into the environmental control suite. The second group had several pieces of equipment and worked with two support assistants. They then swapped over. They gave each other instructions to operate different items and used their feelings pages within the session when things did/didn't work.

After half-term, the group used the disco ball, fan and bubble tube to create their own disco. They had to talk to each other to decide who would operate what and choose the order of music to be played. This was led by one of the students.

Name and action
Where you see them
Use adjectives to describe the person
Describe person using a colour
Describe a sound that reminds you of the person
Think of a feeling you have about the person

Figure 3 Speed poetry frame - About a person

Line 1 - Animal name
Line 2 - Adjectives and name
Line 3 - Action word and description
Line 4 - Feeling or a complete sentence
Line 5 - Sum up the animal

Figure 4 Poetry frame - About an animal

Summer term 1

- Games playing: individual and group games.

The games were modified versions of Guess Who and Battleships, revising vocabulary they had used in the past and introducing some new sub-categories. (Figs 1 & 2 show adapted boards used.)

Summer term 2

- Poetry writing and performing.

This term saw them write poetry and playing games together. They wanted to perform again, but each doing something individually. They selected a framework to write their own poetry. The poems required the students to move from one vocabulary section to another and use appropriate vocabulary. The completed poems were then shared with their peers. (Figs 3 & 4 show frames used; Figs 5 & 6 show poems created.)

Leana plays Xbox
At Ben's house
Long Brown hair
Shiny, gold
Her voice is like a good violin
I feel happy
When I see her laughing

Figure 5 B's poem about his ex-girlfriend

Bird
Red, rusty bird
Loud, shouty singing bird
Broke wing bird
Ouch bird, remember bird

Figure 6 J's poem about a bird

WORK WITH THE SUPPORT ASSISTANT

The support assistant was given time with the technician before the group sessions and learnt how to set up all the devices. She also used this time to programme the device with any new vocabulary for use back in class and at the next session, thus reinforcing her skills. Within this time, problems arising from programming issues and difficulties with devices were flagged up, e.g. music downloaded but controls for volume, stop/start not functioning. These difficulties were then problem-solved with the technician and/or by contacting the relevant support teams.

RESULTS OF RUNNING THESE SESSIONS

The success of the group has been in developing:

- Students' access skills, increasing speed and accuracy.
- Increased awareness of their vocabulary.
- Student and staff awareness of the scope of VOCA and user's skills.
- Awareness within whole school of the scope of VOCA and user's skills and value of group.
- Staff training and consequent carry-over of individual communication objectives to the wider curriculum.
- The group and individual performances have raised peer awareness of the need to be patient and listen to others. Their peers have said they enjoy the joke-telling, music and games.
- They have also found a way to be naughty, e.g. starting music, playing games, making us cold by turning on the fan.

INDIVIDUAL RESULTS

Each student had individual target sheets which showed the small step progress and level of support to achieve them. However, further additional achievements were also noted.

One student was voted Winner of the Suffolk Communication Cup. He has increased his VOCA use in class. When he came to the group, he was unable to select consistently from a nine-cell page. He was often difficult to calibrate, tired after a very short time, or put his head down in frustration. On asking him his thoughts about being in the group, he replied that he was not looking forward to it.

Now, he can access nine cells and turn through a much wider selection of pages. He toots his horn when he wants people to listen to him. He plays his stock car music loud whenever he gets the chance. His calibration score has improved and his stamina increased. He has learnt to use his rest button and has a different view on his aid and the group.

Another student has seen how using the pre-prepared vocabulary has increased his speed in answering questions and has found it to be less tiring. He is able to answer in more complete sentences, using the vocabulary he wants and the correct tenses. He was the lead character in the class play, has introduced assemblies and played music in productions. He is now learning to programme his own device with new vocabulary, create and save speeches and pieces of writing for literacy.

IMPACT ON THE SUPPORT ASSISTANT

- Confidence within session increased.
- Confidence in problem solving.
- Programming skills kept up to date and extended, e.g. adding music, speed of adding vocabulary.
- Impact on use of aids back in her class; helped reinforce learning from the group to the classroom.
- Understand capability of the students; see how to set achievable targets.
- Regular liaison with SLT technician.

CONCLUSION

The group has proved a big success and has shown the students just what they can achieve. The knock-on effect has been seen back in the classroom with students using their aids more speedily and accurately. They have been included in a more pro-active way within performances and class assemblies. The group has continued in the new academic year and so far they have enjoyed using their eye-gaze to work a variety of devices in cooking, performed a group poem at the carol concert and played more group games.

The confidence of the support assistant has grown and her skills in programming and problem-solving have increased significantly beyond a basic level. When her class has been planning assemblies or productions, she has actively made suggestions as to how the VOCAs could be used if the students using them want to.

As a result of its overall success, ways are being looked into developing an ongoing rolling programme for current and future students and support staff. ✱

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A case study

How Low-Tech AAC Can Support the Move to High-Tech AAC

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Treloar College is a National Specialist College of Further Education for young people between 16 and 25 with physical disabilities. Approximately 27% of learners use Augmentative and Alternative Communication (AAC).

The aim of this article is to discuss a young person's journey from having no AAC to acceptance of low and high tech communication methods. Additionally, the consistency between low and high tech AAC promoted and facilitated the use of both systems. Finally, it is suggested that the similarity between these systems accelerated acceptance and increased use of AAC.

BACKGROUND

Ceris transferred to Treloar College in 2009 at the age of 16, having been a student at Treloar School. She has athetoid cerebral palsy and has no intelligible verbal communication/speech. Due to a number of factors, Ceris arrived at College with no low-tech (wordbook) or high-tech device. Before she started at the College she had been primarily using a wordbook (symbol and word communication book) to communicate; unfortunately, this was destroyed by the family dog over the summer holidays. She was adamant that she did not want this replaced.

Additionally, Ceris had previously used a Pathfinder at school. Initially, she had made good progress in learning Language, Learning and Living (LLL) vocabulary software. However, her enthusiasm and commitment to learn the programme started to wane and she no longer wanted to continue with the Pathfinder; this was exacerbated by her access difficulties.

Ceris had been given the opportunity to trial eye-gaze with the My Tobii P10, but this proved unsuccessful as she was unable to access the system accurately. She quickly became frustrated and unmotivated by not being able to select the target icon. Direct access was not a viable option due to her limited control of movements. Although slow, her most accurate method was using a single switch, with a row/column automatic scan pattern.

Ceris had a deeply held belief that she was able to express everything through non-verbal unaided techniques and she was not concerned by the limited amount of messages that she could convey. Millikin (1997) suggests that this is not uncommon, as messages can be expressed quickly, efficiently and are available to the individual at all times. Her family reinforced this attitude and felt they were able to understand exactly what she wanted, in any context, through interpreting her gestures, facial expression and limited vocalisations.

Another factor that contributed to Ceris's reluctance to use any form of AAC was that a group of her friends from school, who were all verbal communicators, had started at the College a year previously. They were highly skilled at understanding Ceris's unaided communication and would use the 'twenty questions' technique by asking a series of Yes/No questions to interact with her. This is a difficult system to use as it is often only successful when referring to what is happening in the present; however, communication breaks down when the individual tries to refer to ideas, objects, people and events outside of the current context (Milkin, 1997; Chung, Carter and Sisco, 2012). This method can also frequently fail where the communicative partner is unfamiliar with some of the idiosyncratic gestures and vocalisations, or is unable to determine what the individual is trying to say, and therefore starts to lead and take control of the conversation (Chung et al 2012; Milkin 1997).

SPEECH AND LANGUAGE THERAPY PLAN

One of the main priorities for Speech and Language Therapy intervention was to introduce an effective and acceptable AAC method for Ceris. As access was such an issue, it was imperative to review this within a multi-disciplinary team approach and see if it would meet her current needs, especially as she had become increasingly irritated by the slowness of her single switch access method. The importance of repeating AAC access evaluations has been acknowledged in monitoring the changing needs of individuals and ensures accuracy and efficiency, thereby reducing frustration (De Coste, 1997). Another crucial factor would be to discover the motivating factors that would encourage Ceris to be a more effective communicator.

THERAPY PROCESS

Ceris's reliance on non-verbal unaided techniques was so ingrained that it needed to be challenged. Initial SLT sessions required Ceris to converse with unfamiliar people, talking about things out of context using only non-verbal methods. Ceris realised that she was unable to convey her thoughts and the limits of the finite number of messages she was able to express became apparent.

During one of the sessions, a general *Treloar Vocabulary Wordbook* was left on the table in the therapy room. Ceris indicated that she would like to use it to talk about what she had done during the week-

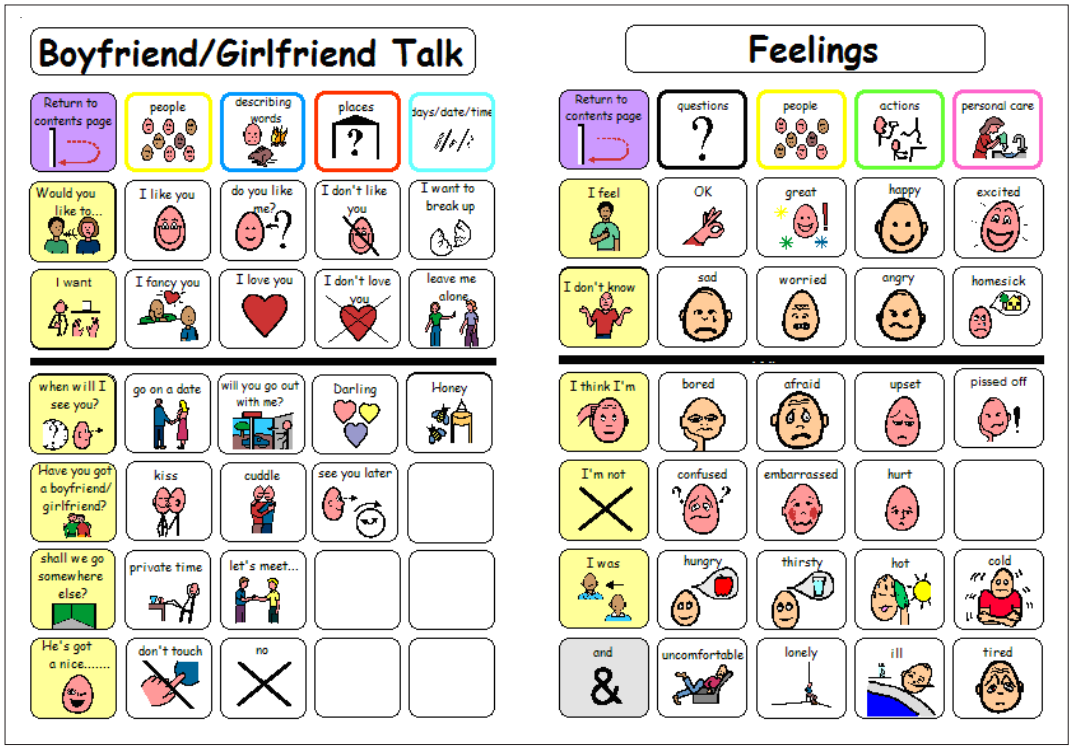

Figure 1 Treloar Vocabulary Wordbook - chat phrases

end. Following this successful interaction, Ceris made it clear that she would like her own copy of this wordbook.

WHY TRELOAR VOCABULARY?

The Treloar Vocabulary was developed with the aim of producing a symbol-based vocabulary suitable for the needs of teenagers and young adults using AAC. With emphasis on functional, social communication, it is designed to be accessible to young people with limited language and memory abilities and limited literacy (Weighton & Dodd 2011). Social interaction was seen as a key motivating factor for some students to use AAC. There are corresponding low and high tech formats available.

The *Treloar Vocabulary Wordbook* (*TVW*) comprises individual words, sentence starter phrases and pre-stored sentences. It is Picture Communication Symbol (PCS) based as this is the symbol set used at both Treloar College and School, and is the one most familiar to students. The wordbook is organised by categories accessed from a contents page. A clear, predictable page layout is maintained with consistent placement of function symbols and simple colour coding. There are quick links to other relevant pages from each page. The *TVW* includes specific chat phrases (Fig 1) and question pages, which allow the user quick access for fast chat situations. Other pages for specific situations – such as a doctor's appointment, hospital visits, booking a taxi, shopping and going to the pub – have been created. Both teenage and adult vocabulary for insults, chatting up and compliments are available.

The focus on social interaction and the access to teenage/adult vocabulary was very motivating to Ceris, as she wanted to interact at the same level as her peers. It is acknowledged that the selection of an inappropriate vocabulary can be an obstacle to effective and functional use of a communication aid (Murphy, Markova, Collins and Moodie, 1996).

An extensive amount of time was spent personalising Ceris's wordbook to allow her to discuss her favourite films and music. Ceris enjoyed having access to this new vocabulary and started to ask for her wordbook in different settings throughout College. This was helped by the AAC Technician who also worked as a Residential Support Worker at the college. The AAC Technician was able to support and promote Ceris's use of her wordbook socially with other students and staff members in the residential house, thereby encouraging use in another setting. Additionally, a weekly SLT AAC Chat Group was being held in the house and Ceris started to attend. Here, the AAC users planned outings to the local pub and restaurants. Ceris was an active member and was happy to use her wordbook on these trips.

REVIEW OF ACCESS

During the first year, there was a review of Ceris's access. She had the opportunity to trial eye-gaze and a head mouse but found it too difficult to select symbols from the screen. She used a joystick in the classroom for computer access with a large monitor, but found this method too difficult to use on the smaller screen of a communication aid. It seemed as though her original method of single switch with automatic row/column scanning was the most effective.

CHANGE IN ATTITUDE

Ceris's attitude started to change at the end of her second year at College. She wanted to take control of her personal issues independently without a third person facilitating. It was the final year for the cohort of friends that she had socialised with, along with their skilled interpretation of her non-verbal body language and facial expression. Ceris was proactive at the beginning of her third year at College and arrived at the door of the therapy department asking for a 'talker'.

A Tellus 3 device with the Treloar Vocabulary was available in the assessment resource at College. Initially, the therapy plan was to gradually introduce use of the Tellus 3 during individual therapy sessions to allow Ceris to develop confidence in using the device to communicate. The therapist's expectation and what was to happen in practice were completely different. When Ceris arrived at her first session, the therapist and the AAC Technician were both surprised at her immediate ability to use the device. Near the end of the session it was suggested that the device remain in the AAC resource room until the fol-

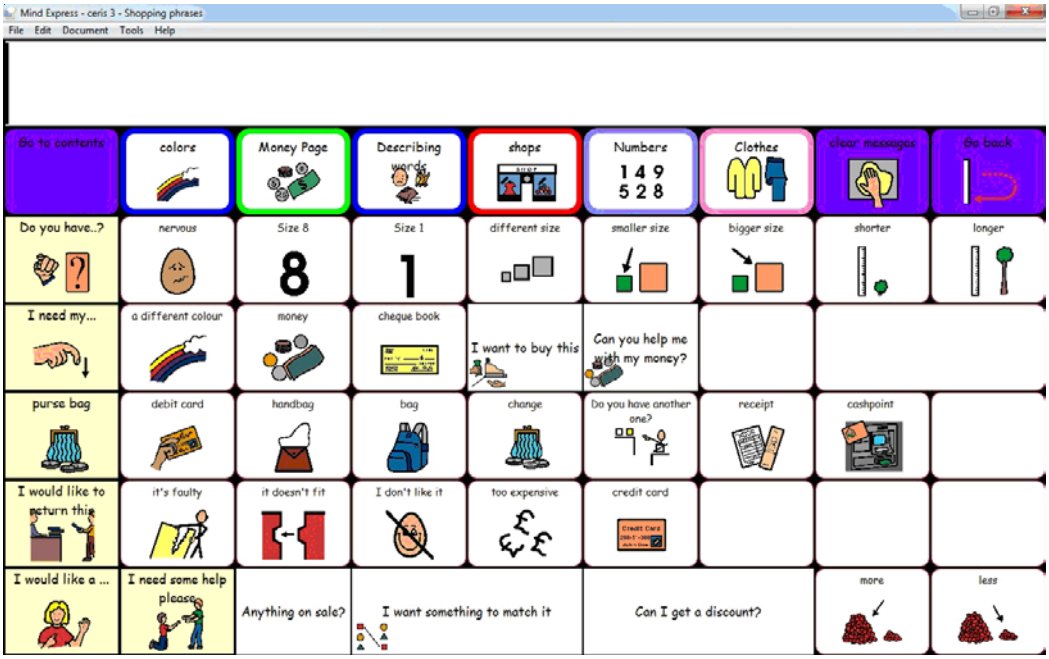

Figure 2 Ceris's personalised vocabulary

lowing day, but Ceris responded "I want!", (looking at the Tellus 3).

Classroom sessions were organised where the AAC Technician would spend an hour a day supporting Ceris. An intensive period was spent personalising the vocabulary for Ceris (Fig 2), although she would always want to begin each session discussing any issues that had arisen over the past week. A volunteer helper was also present at many of the sessions, who was able to ensure that any new page created on the Tellus could also be created for Ceris's wordbook using Boardmaker software. This simultaneous updating of both methods of high and low tech meant that systems were as current as possible and very motivating for Ceris. It also ensured that both were as similar as possible, which made it easier for Ceris to learn the layouts and any new vocabulary. Her use of the device was immediate and Ceris's tutor and other members of staff commented on how keen and enthusiastic she was to communicate independently with the Tellus. Community skills trips were organised and Ceris had the opportunity to use her Tellus in supermarkets, shops and the local library. The AAC Chat Group organised another outing to a local pizza restaurant and Ceris was able to place her order confidently using her Tellus.

One of Ceris's priorities was to use her Tellus to phone family and friends. Initially she found it difficult to gauge the information that was important and the sequence in which it should be given. With practice she improved her use of commonly used phrases and endearments that had been stored on her Tellus, which enabled her to speed up her interaction over the telephone.

CONCLUSION

A number of factors contributed to the successful outcome of Ceris accepting and using a low and high tech communication system effectively. One of the most important factors was that Ceris had to have control over the process. This took two years from challenging Ceris's belief that she could convey everything non-verbally to her wanting an independent form of communication. At present, increased pressure is being exerted by funding authorities to identify all required funding for a student's individual needs at the initial assessment stage, and to purchase any necessary equipment within their first year at College. This would not have been possible for Ceris. Her communication journey needed to develop at her own pace to be successful, rather than timescales being dictated by the funding body. Additionally, her motivation was maintained by simultaneously updating the wordbook and communication programme, with vocabulary that was relevant and important to Ceris. The immediacy of having this available in both formats encouraged her to use these systems to communicate.

It has become apparent while writing this article that there is very little research about consistency of symbol use. It was a struggle to find anything about how similarity between vocabulary and layout of a communication book and high tech device can accelerate learning and facilitate use of both methods. There is also a lack of evidence regarding the importance of being consistent when using symbols. Possibly research in this area has not been seen as a priority to date, as much of this could be perceived as common sense. However, having evidence to confirm this supposition is becoming increasingly important to support and justify this type of intervention, and to acknowledge how the consistency of page layout and symbols can help certain users to accelerate their learning and facilitate use of both low and high tech systems. ✱

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Visual Timetables

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INTRODUCTION

In this article we discuss different ways in which visual timetables were used, in four mainstream primary schools, by teachers and speech and language therapists. The examples are taken from a PhD research project conducted in schools in Cyprus and England. This project is co-funded by the Republic of Cyprus and the European Regional Development Fund of the EU through the Research Promotion Foundation of Cyprus.

GRAPHIC SYMBOLS

Graphic symbols are those where meaning is conveyed visually; in contrast to other symbols such as spoken (e.g. verbal speech) and manual symbols (e.g. sign language) (Fristoe and Lloyd, 1979; Lloyd and Blischak, 1992). As with all types of symbols, graphic symbols represent a variety of referents including objects (nouns), concrete (e.g. bird) and abstract (e.g. freedom) concepts, actions (verbs), adjectives, modifiers etc. The graphic symbols referred to in this article are usually, for example, the PCS set and the Blissymbol system.

THE RESEARCH PROJECT

The central purpose of the research was to explore the practice of professionals in four mainstream primary schools in Cyprus and England. A postal survey was conducted in two Local Authorities in England and in Cyprus, in order to identify the schools on which to focus. The two schools in England were given the pseudonyms Eastshire and Westshire, while the schools in Cyprus were named Seaside and Mountainside school. The participants in the schools in England were the Deputy Headteacher (also the SENCO), and the Foundation Year teacher, the Special Education teacher and a Speech and Language Therapy assistant. The participants in the Cyprus schools were two Speech and Language Therapists, and two Special Education teachers – one from each school; as well as one teacher for pupils with hearing loss. The main methods employed for data collection were interviews, schools observations (including photographs) and a reflective journal kept by the PhD student.

Figure 1 Visual timetables in the autistic unit

USE OF VISUAL TIMETABLES BY TEACHERS AND SPEECH & LANGUAGE THERAPISTS

Visual timetables are displays showing information about a sequence of activities to be completed in a specific period of time. Below, we discuss how the participants in the four mainstream primary schools use visual timetables in order to support their students.

One of the key features of visual timetables is that they can be used on an individual level, or with small group of students, or with the entire class group. How they are used mostly depends on the specialised role of the professional who uses symbols. For instance, for a busy classroom teacher, visual timetables will most probably be used as a tool for all students, due to time constraints. The SENCO mentioned that all classes in that school have visual timetables displayed on the classroom's whiteboard for easy access for all students. Similarly, the foundation teacher of the school uses the visual timetable for all

Professionals	All/Specific Students: student profile	Purposes of Use	Way of Use
*Foundation teacher**	*All students* - *Learning difficulties* - *English as an additional language* - *New children*	- *Support language development* - *Develop visual environment* - *As a reward*	*Vocabulary:* Activities for play time. *Access Point:* On the classroom's wall. *Method of Use:* Children choose activities from the 'choosing board'.
Classroom teachers (information taken from school SENCO)*	*All students*	- *Support all different levels of students (e.g. slow learners, foreigners, visual learners)*	*Vocabulary:* Activities of the day. *Access Point:* Classroom's whiteboard. *Method of Use:* Teacher comments on the activities for the day.
*Special Education teacher (autistic unit)**	*All students* - *Visual leaners*	- *Reinforce communication between teacher & student* - *Increase student's tolerance regarding changes*	*Vocabulary:* Activities of the day. *Access Point:* Classroom's display. *Method of Use:* Students refer to the visual timetable for the activities. When activity is completed, they drop the symbol in the 'Finish envelope' or stick the symbol on the velcro provided next to the visual timetable.
*SLT assistant***	*Specific student/Group of Students* - *Behaviour problems* - *Attention Deficit Disorder*	- *Reduce negative behaviour* - *Increase attention span*	*Vocabulary:* Activities for the session. *Access Point:* On the area of work. *Method of Use:* SLT assistant explains the activities. When activity is completed the student puts the symbol with the activity in a box.

Table 1 Information about the use of visual timetables for Eastshire and Westshire schools (Eastshire school, ** Westshire school)*

students. However, in the special unit for pupils with autism (in the same school) visual timetables are used on a more personal level. Although the special education teacher uses visual timetables for all pupils, each student also has his/her own personalised visual timetable (Fig 1). All students' timetables are displayed and visually accessible in the classroom. Each student's personal visual timetable has his/her photograph at the beginning (photographs are deleted from the examples in Fig 1).

Similarly, but not in quite the same way, the speech and language therapist (SLT) and SLT assistant use the visual timetables on a personalised level. A personalised visual timetable is provided for any of the students they support who might benefit from it. The SLT assistant also mentioned that she sometimes uses the visual timetables with a small group of students. Perhaps, whether visual timetables should be used for all students or for specific students at a more individualised level is not the most important question. A more useful question might be 'who might need these visually displayed activities?'

The participants in this research commented that visual timetables can be beneficial for students with learning difficulties; for those for whom English is an additional language; or for children just starting school (e.g. a foundation year teacher).

The special education teacher of the autistic unit believes that visual timetables are useful for students who communicate better through the visual mode. She comments:

"...we have three autistic children who respond to visual signs rather than speech. In fact, the less speech and the more visual the better for them." (Special teacher, 2011)

In Tables 1 and 2, we summarise all the information that participants gave about the characteristics of their students. These can be found in the second columns of the Tables under the title: 'All/Specific students – Student(s)' Profile'.

Visual timetables can also be used for further different purposes, linked to the

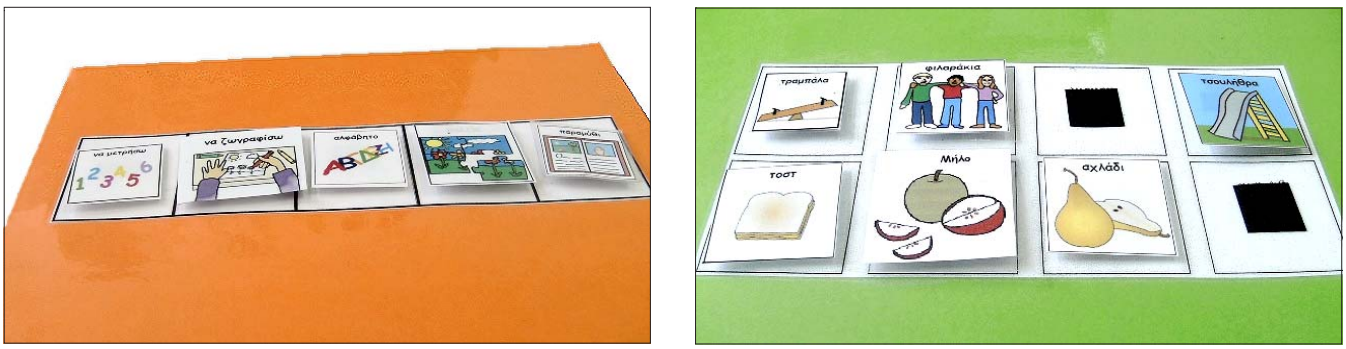

Figure 2 Representation of vocabulary in visual timetables

Professionals	All/Specific Students: student profile	Purposes of use	Way of Use
Special Education Teacher (special unit)*	*All students* *- Different syndromes*	*- Pupils know in advance the plan of the day (including break times)* *- Reduce negative behaviour*	*Vocabulary:* Activities for the day. *Access Point:* On the classroom's wall. *Method of Use:* Students check the visual timetable. Then choose the right book for each lesson and start their work.
*SLT***	*Specific students* *- Different syndromes*	*- Reduce negative behaviour*	*Vocabulary:* Activities for the session. *Access Point:* On the area of work. *Method of Use:* SLT verbally introduces the activities. When activity is completed, the student puts the symbol in a box.

Table 2 Information about the use of visual timetables for Mountain and Seaside schools (Mountainside school, ** Seaside school)*

characteristics of specific students. For example, for a child with learning difficulties, visual timetables can be used as an additional method to support his/her language development (information from the foundation teacher). The SLT assistant, for instance, uses visual timetables to increase the attention span of certain students. The purposes that the participants in the research mentioned are described in Tables 1 and 2 (column 3).

At first glance, visual timetables may seem simple tool. However, in practice, many different decisions must be made, including: vocabulary to be represented; access point; method of use; appropriate symbol set; additional materials (e.g. photographs, objects of references); size; and more. In the following paragraphs we will focus on the first three of these features. 'Vocabulary' includes the activities that are visually represented. Fig 2 shows some of the activities that the SLT in Cyprus chose to represent.

The Access Point refers to the actual location / position of the visual timetable. For the teachers this is usually somewhere visually accessible for all the students in the classroom (e.g. on whiteboard) whereas for SLTs (and SLT assistants) this is usually in the area where the SLT and the student(s) work (e.g. on table, carpet). The position of the visual timetable will influence its methods of use. For instance the classroom teacher will speak about the activities of the day. The foundation teacher deliberately use it as a 'choosing board' and locates it in an accessible position for children so they can choose their own activities (Fig 3).

The special education teacher uses the visual timetables in yet another way. As with the foundation teacher, the visual timetables are positioned so that pupils can easily access them. However, as independence is one of the goals of this teacher, she requires the student to put the symbol of each activity he/she completes into the 'finish envelope'. She comments:

"It is very effective, they know that that is done because it has got the finished sign on it and they don't have to go back, they have completed it." (Extract from Special Education Teacher, 2010).

Another interesting example of the different ways that visual timetables can be used is from the special education teacher in Cyprus. As above, her aim is the increase of independence of her students. She has created a vertical timetable to which every morning she adds the lessons of the day (Figure 4). Students refer to the visual timetable in order to choose the correct book and notebook for the lesson that the class will be working for the specific period.

Figure 3 Visual Timetables in Foundation class

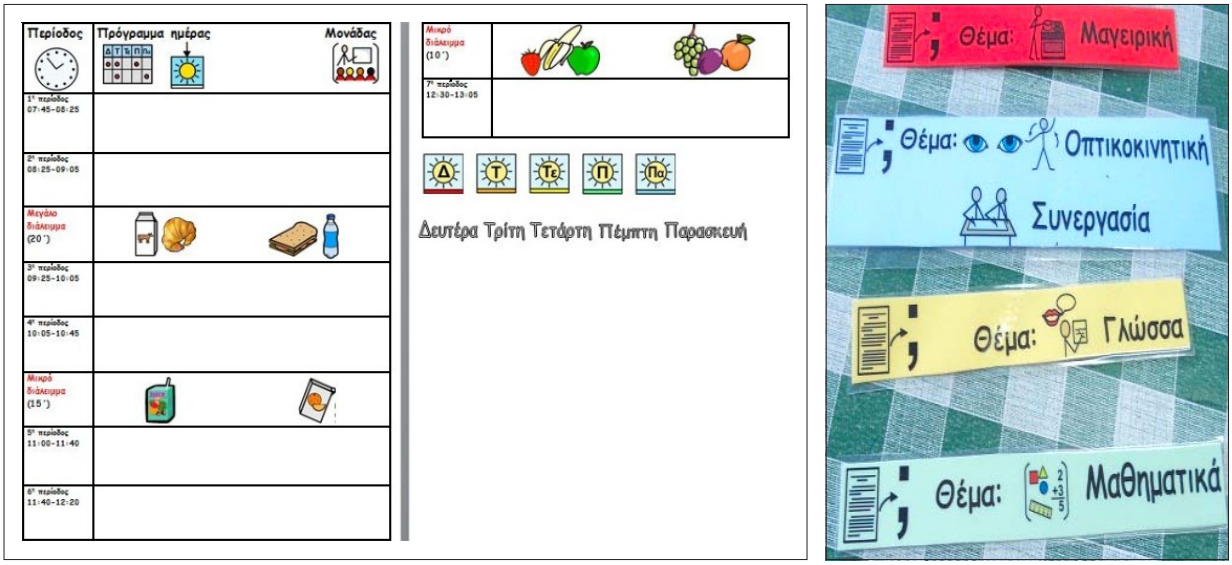

Figure 4 Visual Timetables in the special unit

CONCLUSION

Our aim in this article was to explore and discuss how the participants in this research use visual timetables, with the ultimate goal of providing readers with new ideas.

We conclude that visual timetables can be used in many different ways by a range of professionals, with/for a number of different types of student, and with different aims in mind.

If you would like to read more about this research, please visit the website: www.graphic-symbols.com ✱

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Input Rate of Text with a Single Switch

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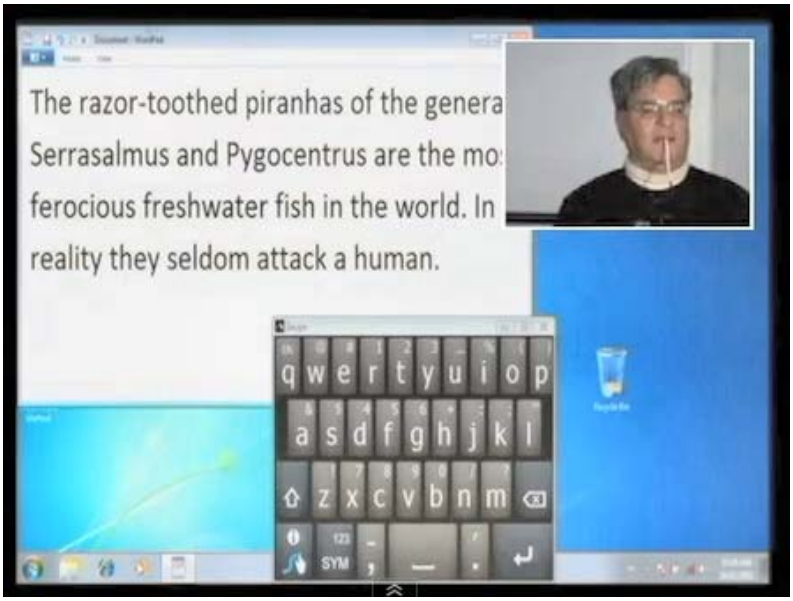

Figure 1 (Screenshot) Text was generated in 83s by a speaking test subject on his third try

Fig 1 is taken from *www.youtube.com/watch?v=O1tNXWpmA5I.* Two phrases were copied with an infrared camera called TrackerPro from Ablenet that looks at the stick in the subject's mouth. This stick was combined with a sip and puff switch. The performer, a speaking individual paralyzed from his shoulders downwards, entered in the Guinness Book of Records.

At first, the text was entered mainly using letter by letter spelling. Word prediction was used a few times but produced only a small part of the text, which consisted of 160 characters in total, and no abbreviations were used. This was a rate of 115 characters per minute – faster than writing but slower than professional telegraphers of the past who achieved about forty words per minute for short stretches of time (King, 1998).

Test	Average rate	Backspaces used	Total time
1st	27.1cpm	34	437s
2nd	54.8cpm	10	204s
3rd	53.8cpm	12	189s

Table 1 Average input rates in characters per minute of different sessions, in each copying the text in Fig 1. Some long words were entered twice in 2nd test.

COMPARISON

Curious how fast switch access would be with this same copy task, I entered the same phrase repeatedly with Figure 2 and a single switch using the Alternative Code method where the characters are selected with combinations of short ('.') and long ('_') activations.

The word predictor displays recently used words higher in the list: in the example shown, 'pie' was used more recently than 'piece'. In a repeated copy task, 'piranhas' will be displayed at the top of the list when the letters 'pi' are entered. Therefore repeated copy tasks might be faster due to higher efficiency of the word predictor.

Errors had to be corrected, but small ones (such as an extra space before the period or repeating a word) were accepted. Table 1 displays the results with a single switch and pause time of 180ms.

INTERPRETATION

With switches, a lower input rate should be expected than with eye-tracking or pointing, and Table 1 agrees with that. However, Table 1 illustrates the effect of word prediction based on recent usage.

Repeated use of a word is a common feature of conversation and so this kind of word prediction might be more useful during conversation than has previously been thought (see Koester and Levine, 1996, 1997).

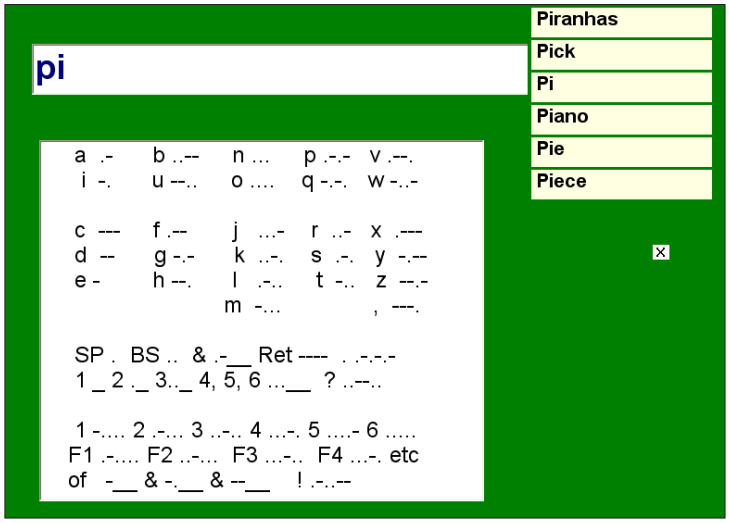

Figure 2 Alternative Code with word prediction after 'pi' is entered

CLINICAL RELEVANCE

Interesting switch-based input techniques are classical Morse Code, ordinary Row-Column Scanning, Minspeak (see www.prc.com), Nomon (Broderick and MacKay, 2009), Single Key Disambiguation (MacKenzie, 2009), Dasher (MacKay, 2004), Two-bit Quartering (Verrips, 2003), and Oriented Scanning (Verrips, 2012). One would like to also document input rates with the same text and eye-gaze (Majaranta, 2009) or stylus. ✱

Joris Verrips

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The software of Figure 2 is called WriteEasy, see www.depratendecomputer.nl

Right to Speaking

by Barry Smith

Reading we find hard but we got the right to try and to find a way to speak.
I may be hard to make out but give me time and you can pick me up.
Green you can see next to the blue sea which looked so nice to see.
Home I like to be what is a good thing.
Tea makes me happy to drink which is nice to have over a chat.

Together we can help people to understand.
Over my life people haven't take the time to hear what I wanted to say.

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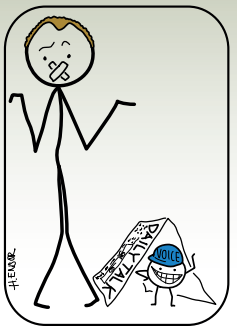

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