



**ISAAC 2018**  
GOLD COAST AUSTRALIA  
21-26 JULY 2018  
AACcess All Areas

**isaac**

International Society  
for Augmentative and  
Alternative Communication



## PROGRAM

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# AACcess ALL AREAS

## 18<sup>TH</sup> BIENNIAL CONFERENCE OF ISAAC

JULY 21-22 AAC CAMP, PRE-CONFERENCE WORKSHOPS, EXECUTIVE AND COUNCIL MEETINGS

JULY 23-26 MAIN CONFERENCE, GOLD COAST CONVENTION AND EXHIBITION CENTRE, GOLD COAST, QUEENSLAND, AUSTRALIA

# BEAUTIFUL ONE DAY, PERFECT THE NEXT



Queensland

AUSTRALIA

## DISCOVER THE GOLD COAST

Welcome to the Gold Coast, a place of powerful contrasts and boundless energy. With 57 kilometres of spectacular coastline, world-famous beaches and iconic surf breaks, it could easily be just another beach destination. But scratch beneath the surface and you'll discover so much more.

Immerse yourself in the bohemian laneways and laidback café culture of the south before soaking up the lively ambience of the city after dark. Feel the exhilarating rush of a rollercoaster, then unwind at a hinterland vineyard or an absolute beachfront cafe. Wake up and explore World Heritage-listed rainforests and waterfalls, then watch the sun set from your stand up paddleboard. This is a place with heart, soul and the power to move you deep inside.

## REGION'S MUST DOS

- Brush up on your watersports skills. Learn to surf and take on the Gold Coast's famous pumping surf breaks or get a crash course in stand-up paddleboarding at Tallebudgera Creek.
- Feel the exhilarating rush of a rollercoaster, get a selfie with your favourite animated stars and superheroes or make a splash at world-class waterparks.
- Take a short drive west and discover the hinterland. Explore over 100,000 hectares of pristine, World Heritage-listed rainforest - home to spectacular waterfalls, jaw-dropping scenery and incredible native flora and fauna.
- Play your cards right at the newly refurbished Star Gold Coast, then venture into the trendy streets of Broadbeach to sample the top notch cuisine and nightlife.
- Unearth rare finds among the city's bohemian laneways, markets and shopping emporiums where designer stores and quirky boutiques nestle side-by-side.
- Get a taste of the Gold Coast's lively night market scene. Treat your tastebuds to the street food flavours of the Miami Marketta - an open air dining experience with a soundtrack courtesy of local jazz, blues and roots musicians. Head north and join in the weekend festivities at the NightQuarter, a bustling shipping container market filled with micro-restaurants, cocktail bars, local artisans and craftspeople.
- Take an Aquaduck cruise and see the Gold Coast from land and sea without even leaving your seat. The unique vehicle goes effortlessly from driving on land to floating on water to deliver a sightseeing experience like no other.

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# MESSAGE FROM THE MINISTER FOR TOURISM INDUSTRY DEVELOPMENT

**The Hon Kate Jones MP**



**W**elcome to the 18th Biennial Conference of the International Society for Augmentative and Alternative Communication, ISAAC 2018.

Running from 21-26 July, this conference will be hosted at the Gold Coast Convention and Exhibition Centre, in the heart of the beautiful Gold Coast.

ISAAC's goal is to create worldwide awareness on how augmentative and alternative communication (AAC) can help individuals without speech by sharing information and promoting innovative approaches to research, technology, and literacy through AAC.

This event will further this goal by bringing together speech therapists, occupational therapists, teachers, psychologists, physiotherapists, people who use AAC and their families, support staff, and other clinicians from around the globe involved in the field of AAC.

The Queensland Government is proud to support ISAAC 2018 through Tourism and Events Queensland, recognizing the positive impact business events have on the state's tourism economy.

The conference will showcase the Gold Coast as a premier business events destination. I encourage all visitors to explore this region from our famous beaches to world-class food and wine, and picturesque hinterland.

**The Hon Kate Jones MP**  
**Minister for Tourism Industry Development**

# MESSAGE FROM THE PRESIDENT

## Prof. Dr. Gregor Renner



Let me welcome you to the 18<sup>th</sup> Biennial ISAAC Conference on Augmentative and Alternative Communication (AAC) on the Gold Coast, Australia! Greetings to all who have come together for this event: persons who use AAC, family members, professionals, researchers, and everyone interested in AAC.

ISAAC's Vision is that AAC will be recognized, valued, and used throughout the world. ISAAC's Mission is to promote the best possible communication for people with complex communication needs. ISAAC conferences are important to fulfilling ISAAC's vision and mission. They provide an unique opportunity to learn about AAC, to discuss latest developments, to share experience, to connect with like-minded people, to get involved, to prepare or continue partnerships, and to make friends.

This year we look back on 35 years of ISAAC's history and 34 years of ISAAC conferences. I remember well the first ISAAC conference I attended: ISAAC 1998, in Dublin. I was preparing my doctorate and was so inspired that I haven't missed a single conference since then. Whether this is your first ISAAC conference or one of many, I hope you can feel the spirit here and find new energy for your work in your part of the world.

In recent years ISAAC has been working on five major strategic goals:

- Increasing awareness and knowledge of AAC worldwide
- Increasing opportunities for members worldwide to communicate, interact, and support one another
- Strengthening AAC leadership by people who use AAC
- Promoting research and development in AAC
- Strengthening the organizational capacity to support ISAAC goals and activities

The international orientation of ISAAC includes emerging and developed countries, regions with many experiences and well developed services, as well as regions with engaged individuals who are in the process of building up AAC structures. One focus of recent years has been the Asia-Pacific region. Many important AAC-related activities, like regional meetings and conferences, have taken place there over the last few years. ISAAC's decision to embrace Australia as our 2018 International Conference venue was part of this focus. I am happy to see many presentations on the program from this region. We anticipate continued positive developments in the Asia-Pacific, as well in all other regions of the world.

We are looking forward to a great conference program, with many interesting presentations and award-winning lectures during the Pre-Conference and the Main Conference days, and enjoyable social events showcasing Australian history and culture, and accompanied by exciting performances.

Many thanks to all who have made this possible, to all who engage on behalf of AAC and ISAAC worldwide, and to all who join us on this journey.

**Prof. Dr. Gregor Renner**  
**ISAAC President 2015-2018**



## MESSAGE FROM THE ISAAC 2018 CO-CHAIRS

**Meredith Allan, Kate Anderson, Sally Clendon,  
Jane Farrall, and Gayle Porter**

**W**e are so excited that you are all here – at the first-ever ISAAC Conference in Australia. Thank you for coming to #ISAAC2018 and welcome, welcome, welcome to the 18th Biennial Conference of ISAAC.

**WOW!**

The ISAAC Conference is very important to each of the Conference Co-Chairs as we each have learned, created professional learning links, made amazing memories, and formed friendships at ISAAC Conferences across the years. We look forward to seeing you doing the same – whether this is your 1<sup>st</sup> or 20<sup>th</sup> ISAAC Conference.

The theme for this conference is AACcess All Areas – and we hope you find that the lineup of workshops, platform presentations, posters, AAC Camp, meetings, and, of course, social events, will enable you to AACcess a huge wealth of knowledge and information from our worldwide AAC community.

We would also like to take this opportunity to thank all of our sponsors, exhibitors, volunteers, and committee members for everything you have done to make #ISAAC2018 happen. It wouldn't have happened without you! We'd also like to thank the ISAAC Executive Board and the amazing staff at the ISAAC International Office for your support, patience, guidance, and hours and hours of hard work – both for this conference and for ISAAC generally.

And finally, welcome again to #ISAAC2018 and to the amazing ISAAC community. #AACcessallareas #ISAAC2018 #dancetilyoudrop!

**Meredith Allan  
Kate Anderson  
Sally Clendon  
Jane Farrall  
Gayle Porter**

**ISAAC 2018 Co-Chairs**

## MESSAGE FROM THE ISAAC EXECUTIVE DIRECTOR

**FRANKLIN SMITH, MBA, CMC**



**O**n behalf of ISAAC, it is my honour and distinct pleasure to be a part of welcoming the world to the Gold Coast, Australia – ISAAC’s first-ever Asia-Pacific focused conference! And in welcoming the world to Australia, we are doing so with a host that is itself already a microcosm of our human planet, with representative indigenous cultures, as well as those from every other corner of the world.

An international conference of this magnitude does not happen overnight or by itself. First and foremost, it takes dedicated individuals such as people who use AAC, AAC family members, researchers, professionals in the field, and a myriad host of volunteers and others to want to come together like this in the first place. It then takes more dedicated individuals, such as our Conference Co-Chairs, to turn the dream into reality. I would like to thank Meredith Allan, Kate Anderson, Sally Clendon, Jane Farrall, and Gayle Porter for their enthusiastic efforts in championing the Gold Coast as the host region, and for their tireless efforts in bringing us all here together. I would also like to formally recognize the many sub-committee volunteers working with our Co-Chairs.

This conference maintains a departure from past practices for ISAAC, and a very important one. As an organization, we developed the in-house capacity to manage our own conferences beginning with ISAAC 2014, and have continued that practice with both ISAAC 2016 and now ISAAC 2018. I would like to take this opportunity of thanking and recognizing our Conference 2018 staff team of Heather Stonehouse, Teraiz El-Deir, Judy Shapiro, and Tony Needer for their efforts in achieving, and bettering, all of our conference registration and financial targets!

Finally, I would like to also express my sincere thanks to the ISAAC 2016-18 Executive Board (EB) for their support, ideas, patience, and understanding these past two years as we organized this conference. In particular, I would like to extend my personal appreciation to President Gregor Renner (2015-18), for his unflinching support and efforts these past three years in leading our organization!

I would like to thank each of you for bringing your unique perspective to this gathering. I look forward to meeting as many of you as possible in person during the conference.

**Franklin Smith, MBA, CMC**  
**Executive Director**

## ABOUT THE CO-CHAIRS



**Meredith Allan** is currently President-Elect of ISAAC and National Treasurer of ISAAC-Australia. Meredith worked for the Australian Public Service for almost 30 years and now has blissfully retired from the full-time workforce. She is currently studying for a Master's Degree, by research, with the Faculty of Health and Social Development at Deakin University in Melbourne, Australia. Meredith works on a casual basis as a Communication Assessor and Disability Educator with Scope in Victoria, which is part of the process to be awarded the Communication Access symbol.

Meredith is a person who uses Augmentative and Alternative Communication (AAC) to communicate and takes great joy in watching other people who use AAC become more confident and take leadership roles.

Aside from sleeping, Meredith enjoys reading, going to the football, church, and being with family and friends.



**Kate Anderson** is a lecturer and researcher at Deakin University, Melbourne. Kate grew up in a family of special educators, and initially trained and worked as a speech pathologist in the area of cerebral palsy. Her research interests focus around information access and capacity building: for instance, how people who use AAC and their families access information about assistive communication technology, and how they learn to use this technology in their home environments. As a lecturer she teaches health science students about disability, diversity, and accessible design.

Kate has worked with ISAAC since 2013, initially as the Australian representative to the International Council, and currently as the Australian Chapter president. Kate has been working alongside Sally as a Scientific Co-chair for the conference, and has also led our translation and regional networking portfolios. ISAAC 2018 will be Kate's sixth ISAAC conference.

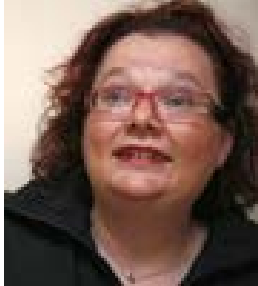


**Sally Clendon** is a speech-language therapist who is passionate about communication and literacy for individuals who use AAC. Sally completed her PhD in 2006 at the Centre for Literacy and Disability Studies at the University of North Carolina at Chapel Hill. Since that time she has held academic positions at the University of Sydney, Australia, and Massey University, New Zealand. Sally currently works partly for Massey University, where she teaches AAC and coordinates the postgraduate program, and partly as a consultant where she partners with schools and teachers across New Zealand to implement comprehensive literacy programs for their students.

Sally is on the Executive Board for ISAAC (Vice-President for Conferences). She is an Associate Editor for the AAC journal. She recently completed a six-year term as a trustee of the Assistive Technology Alliance of New Zealand (ATANZ) and has been very active in bringing professional development in AT and AAC to New Zealand. Sally is excited to collaborate with her Australian colleagues on the ISAAC conference on the Gold Coast, Australia.

Sally lives in Auckland, New Zealand with her husband James and their two children, Jack and Lily.





**Jane Farrall** is a speech pathologist and special educator passionate about literacy, AAC and assistive technology. With nearly 30 years of experience in the disability and assistive technology field, she has lots of practical experience working with people with a range of abilities. Jane has worked as a school and adult service based speech pathologist and literacy teacher. She has also worked as an assistive technology specialist and is currently working as an independent consultant in literacy, AAC and Assistive Technology.

Jane has extensive experience organizing camps, workshops, and conferences on AAC. She was the founder and coordinator of the Big Mouth Camp, a residential camp for children who use speech generating devices, their families, and carers. She also runs regular multi-day professional development workshops around Australia and internationally. Jane is a former chairperson of AGOSCI (an Australian organization for AAC). She has been involved in organizing many of the national conferences, including convening the 2007 AGOSCI conference in Melbourne.

Jane is a long-term member of ISAAC Australia, and is thrilled to see the 2018 conference come to our region for the first time. She will be overseeing our AAC Camp, Main Conference activities, and volunteers.



**Gayle Porter** is a speech pathologist with 35 years' experience working with people who have complex communication needs in a range of community and specialist environments. Gayle is one of the founders of the Cerebral Palsy Education Centre in Melbourne, Australia and continues to work there as a mentor and senior speech pathologist. She also has a private practice working with children and teenagers with complex communication needs in their local schools.

Gayle has developed and published resources on the Pragmatic Organisation Dynamic Display (PODD) communication books and page sets for speech-generating devices. In addition, she has authored articles, publications, and chapters on Augmentative and Alternative Communication and cerebral palsy.

Gayle has attended every ISAAC conference since 1996 and was President of ISAAC-Australia from 2013-2016.

Gayle is extremely excited that Australia has this opportunity to host the conference in 2018. She has been overseeing the social program and accessibility, and also working with Sally on Pre-conference Workshops.



## ABOUT ISAAC

The International Society for Augmentative and Alternative Communication (ISAAC) is a membership organization that works to improve the lives of children and adults with complex communication needs. ISAAC's goal is to create worldwide awareness about how AAC can help individuals without speech. ISAAC accomplishes this by sharing information and promoting innovative approaches to research, technology, and literacy through AAC. Activities include hosting the ISAAC biennial conference, sponsoring projects, and offering awards and scholarships.

- ISAAC was formed in 1983.
- ISAAC members include people who use AAC, their families, speech-language pathologists, therapists, teachers, students, doctors, researchers, organizations, and companies that make communication aids.
- The ISAAC International office is located in Toronto, Canada.

### ISAAC INTERNATIONAL OFFICE

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### ISAAC's Vision

is that AAC will be recognized, valued and used throughout the world.

### ISAAC's Mission

is to promote the best possible communication for people with complex communication needs.

### ISAAC

is a Non-Governmental Organization (NGO) in consultative status with the United Nations Economic and Social Council (ECOSOC).

### EXECUTIVE BOARD 2016-2018

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*We would like to acknowledge the hard work and dedication of ID Events Australia and Experient in the handling of logistics for this conference.*

*A very special thank you to graphic designers Cynthia French (One Girl Design) and Eleanor Porter for developing the visual concepts and the digital and print products for ISAAC 2018.*

*We would also like to thank Cathy Basterfield, whose efforts and insights are very much appreciated in the creation of the Easy English version of the Conference Code of Conduct.*



# ACKNOWLEDGEMENTS

We would like to express our sincere gratitude to the following people for their tremendous contributions to the 18<sup>th</sup> Biennial Conference of ISAAC: Biennial Conference of ISAAC:

## ISAAC 2018 Co-Chairs

**Meredith Allan**  
ISAAC President-Elect  
Co-Chair, ISAAC 2018

**Kate Anderson**  
President, ISAAC-Australia  
Co-Chair, ISAAC 2018

**Sally Clendon**  
ISAAC Executive Board  
Co-Chair, ISAAC 2018

**Jane Farrall**  
Co-Chair, ISAAC 2018

**Gayle Porter**  
Co-Chair, ISAAC 2018

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Gregor Renner, ISAAC President

### AAC TOWN HALL

Dale Gonelli, Facilitator  
Fiona Given, Facilitator

### FAMILY ENGAGEMENT FORUM

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### LIGHTNING PITCH

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Alison Moorcroft

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Jo Watson  
Oliver Wendt  
Eri Yamamoto

## Partner Contributions

We are pleased to recognize Scope Australia, in partnership with the ISAAC 2018 Accessibility Sub-Committee, for providing training and information to local businesses and organizations to support communication access, and AGOSCI for their partnership with ISAAC International in supporting Australian registrations to Conference 2018.

As always, we would like to express our sincere appreciation to John Costello of Boston Children's Hospital for his continued guidance and support for the ISAAC Outstanding Consumer Lecture Award.

Thank you to Tourism & Events Queensland for their generous contribution and assistance in helping to make ISAAC 2018 a tremendous success!



# ISAAC 2018 Sub-Committees

## ACCESSIBILITY

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Georgia Burn  
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Eleanor Porter

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Karyn Muscat  
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Ann Smaill  
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TBA

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## ASHA CEU PROGRAM

Stephanie Meehan,  
Coordinator

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Denise West  
Erica Odenthal  
Helen Tainsh  
Lee-Anne Nelson-Grosvenor  
Kathleen Johnson  
Leanne Shane

## QUIET ROOM COMMITTEE

Fiona Beauchamp

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Leevke Wilkens  
Ivania Coluccio  
Chloe Wine

Tom Farrall  
Andrea Cupac  
Emily Whitburn  
Grace Reid  
Emma O'Mealley  
Lauren Yuile  
Anthea Phasey  
Nicola Brown  
Nikita Austin  
Kirsty-Lea Cook  
Kaitlan Carr  
Emily Kirke  
Ashley Doo  
Jacqui Morgan  
Emma Cadman  
Sarah Camden  
Judy Su  
Georga Sims  
Robyn Corgat  
Caitlin Williamson  
Tulika Guha  
Hayley Watson  
Ellen Burgess  
Madeline Lamb  
Chaerim Kim  
May Tham  
Sook Chan  
Anna Foran  
Ting Liao  
Jasmine Ting  
Kerry Zhu  
Trudy Stevens  
Bridie Sullivan  
Kirby Van Egmond  
Nina Solanki  
Hailie Lim  
Jessica Harrold  
Lauren Vincent  
Hayley Cox  
Natasha McDonnell  
Jemma Stubbs  
Heather Drover  
Stephanie Sievers  
Eleanor Porter



# GENERAL CONFERENCE INFORMATION

## Registration

### At Griffith University for Pre-Conference Workshop attendees:

Location: Foyer of Building G17  
Hours: Saturday 21, 8:00am – 4:00pm  
Sunday 22, 8:00am – 1:00pm

### Registration at Gold Coast Convention and Exhibition Centre (GCCEC) for all attendees:

Location: Ground floor, opposite main entrance in Foyer C  
Hours: Sunday 22 - Thursday 26, 8:00am – 5:00pm

## Exhibit

Location: First floor, Foyers E & F  
Hours: Monday 23, 10:30am – 5:00pm  
Tuesday 24 – Wednesday, 25 9:00am – 5:00pm  
Thursday 26, 9:00am – 4:00pm

## ISAAC Booth

Location: Ground floor, Foyers A & B  
Hours: Monday 23, 10:30am – 5:00pm  
Tuesday 24 – Wednesday 25, 9:00am – 5:00pm  
Thursday 26, 9:00am – 4:00pm

## Silent Auction

Location: Ground floor, Foyer B  
Hours: Monday 23, 10:30am – 5:00pm  
Tuesday 24, 8:30am – 5:00pm  
Wednesday 25, 8:00am – 12:30pm. Bidding closes between 12:30pm and 1:00pm  
Wednesday 25, 1:00pm to 5:00pm. Pick-up successful bids

## Speaker Preparation Room

Location: Ground floor, behind registration in Foyer C  
Hours: Monday 23 – Wednesday, 25 8:00am – 5:00pm  
Thursday 26, 8:00am – 4:00pm

# App Concierge Desk for Conference App Help

## **At Griffith University:**

Location: Foyer of Building G17

Hours: Saturday, 8:00am – 12:00pm

## **At Gold Coast Convention and Exhibition Centre:**

Location: Level 1, Foyers E & F

Hours: Monday, 8:00am – 12:00pm

Outside of these hours, please see staff at the registration desk for help with the conference app.

## WiFi Access

Network name (SSID): isaac2018

Password: isaac2018

## Meals

### **At Griffith University:**

Location: Foyer of G17

Hours: Morning Tea: 10:30am – 11:00am

Lunch: 12:30pm – 1:30pm

Afternoon Tea: 2:30 – 3:00pm

### **At Gold Coast Convention and Exhibition Centre:**

#### **MORNING TEA**

Location: First floor, Foyers E & F

Hours: 10:30am – 11:00am

Special Dietary or Texture meals: Foyers A & B

#### **LUNCH**

Pre-Purchased lunch

Location: First floor, Foyer G

Hours: 12:30pm – 1:00pm (please note, lunch break continues until 2pm)

Special Dietary or Texture meals: Foyers A & B

#### **Other lunch options:**

- There is a food van in the foyer on ground level
- A variety of take-away food and restaurant options, opposite the GCCEC on Gold Coast Highway
- Broadbeach Precinct has over 100 restaurants which are in close proximity to the GCCEC. See [www.broadbeachgc.com](http://www.broadbeachgc.com) for more information.

#### **AFTERNOON TEA**

Location: First floor, Foyers E & F

Hours: 3:30pm – 4:00pm

Special Dietary or Texture meals: Foyers A & B

## Blender Bar

Location: Ground floor, Foyers A & B next to ISAAC booth

For those who need a modified texture diet, the blender bar is available during meal times each day.

## ASHA CEUs

Delegates who wish to collect ASHA CEUs will need to collect a Continuing Education Activity Attendance Form from the ISAAC booth. Please follow the instructions for completing the form, and return the completed form to the ISAAC Booth before 4pm on Thursday 26.

## Quiet Room

**For delegates who might need a sensory break**

Location: Green Room 2

Hours: Monday, 23 10:30am – 5:00pm

Tuesday 24 – Wednesday, 25 9:00am – 5:00pm

Thursday 26, 9:00am – 4:00pm

## Closing Ceremony Prizes

To be eligible for the Closing Ceremony Prizes please visit the badge scanning station on the First Floor, Foyers E & F, each day of the conference and scan your badge.

## Sharing Your Photos and Videos

Please go to the ISAAC booth on the Ground Floor, Foyers A & B to share your conference photos. We'd love to see them and we'll work to include a number of them in the closing ceremony.

## ISAAC 2018 Conference Proceedings

The full conference proceedings for ISAAC 2018 are found in the conference app or on the conference USB stick in your delegate satchel.



## ACCESSIBILITY AT ISAAC 2018

We would like to express our sincere gratitude to the following people for their tremendous contribution to the 17<sup>th</sup> Biennial Conference of ISAAC:

### Main Conference Venue

The Gold Coast Convention and Exhibition Centre (GCCEC) conference venue is on two floors.

Two sets of lifts (elevators) are located in foyer C/G and foyer B/F. We will request people use the escalator or stairs unless they need to use the lift for mobility access. However, it is still likely that the lifts will be in high demand between sessions so plan for extra time if you need to change floors. There will be a volunteer in a green t-shirt available to assist at the elevators.

**ARENA ROOMS 1A AND 1B** are on two levels. The ground floor of the arena will have flat floor seating suitable for wheelchair access. The first floor has fixed tiered seating accessed via stairs. People using mobility aids are advised to enter the arena rooms on the ground floor.

**ACCESSIBLE RESTROOMS ARE AVAILABLE** throughout the venue on both floors. Signs to identify whether the toilet has a right or left handed grab rail will be displayed on the bathroom door.

**Restrooms with change table and hoist** are available on both floors. You will need to bring your own sling to use with the portable hoist.

- Ground floor in Green room 3 off Foyer A (behind the posters)
- First floor in the bathroom off the Gallery area (between rooms 2 and 3).

Signs will be located on the doors to indicate the availability of these facilities:

- Engaged (red - do not enter)
- Vacant (green – enter).

Please remember to change the sign when you enter or leave these bathrooms.

**QUIET ROOM** is located in Green room 2, with couches for people who need some relaxation time without distractions.

All **SPECIAL MEALS** (dietary and texture) for morning and afternoon tea (and lunch if paid for with your registration) will be located in Foyer A/B.

**BLENDER BAR** is on the ground floor in foyer B next to the ISAAC booth. It will be open during the morning, afternoon and lunch breaks for those who need their foods blended. Volunteers will be available at the Blender Bar to assist you.



## CAR PARK

Parking is available at the GCCEC <https://www.gccec.com.au/parking.html>.

There are 38 spaces marked as accessible carparks on the upper level of the underground carpark. Approximately half of these provide a wider space, the remainder are more of a standard size carpark. The underground parking has a height restriction of 2.1 metres. Please contact the accessibility committee [accessibility@isaac-online.org](mailto:accessibility@isaac-online.org) if you require parking for a van that exceeds this height.

## Social Events

**WELCOME RECEPTION** is at the Gold Coast Convention and Exhibition Centre.

**THE PRESIDENT'S RECEPTION** is at the poolside venue of The Star, Gold Coast. Volunteers in green T-shirts will direct you from the Gold Coast Convention and Exhibition Centre via the foot bridge, over the river, into the hotel, down the lift (elevator) and outside to the beautiful poolside venue. Accessible toilets, change table and portable hoist will be available in the spa area at the venue.

The ticketed social event at **DREAMWORLD CORROBOREE** is approximately 45 minutes drive from the convention centre. Accessible transport will be provided from outside the convention centre. Accessible toilets and a hoist to a change table will be available at the venue. Note it is not possible to hoist onto a toilet at this venue.

## Community Accessibility



### COMMUNICATION ACCESS

SCOPE Australia and the ISAAC 2018 accessibility sub-committee have offered training and information to local businesses and organisations to support communication access.

Look for this sign to identify communication friendly businesses in the Broadbeach and Surfers Paradise areas of the Gold Coast.

### PUBLIC TRANSPORT

The G:Link is a fully accessible tram service that connects many of the main tourist areas along the Gold Coast.

- Griffith University (for Pre-Conference workshops) is serviced by Gold Coast University Hospital station.
- Gold Coast Convention and Exhibition Centre (for the main conference) and The Star, Gold Coast (President's reception) are serviced by Broadbeach North station.
- The Crowne Plaza Surfers Paradise, the official conference hotel, is serviced by Florida Gardens station.

To book an accessible taxi while on the Gold Coast or when returning to the airport, call 131008 or 55881234 (from mobile cell phone).

### USEFUL LINKS

Accessible transport on the Gold Coast

<http://www.goldcoast.qld.gov.au/thegoldcoast/parking-transport-disability-seniors-945.html>

**Accessible things to do and places to go:**

<http://www.goldcoast.qld.gov.au/thegoldcoast/parking-transport-disability-seniors-945.html>

To book a beach wheelchair from the Kurrawa surf club (closest to the convention centre):

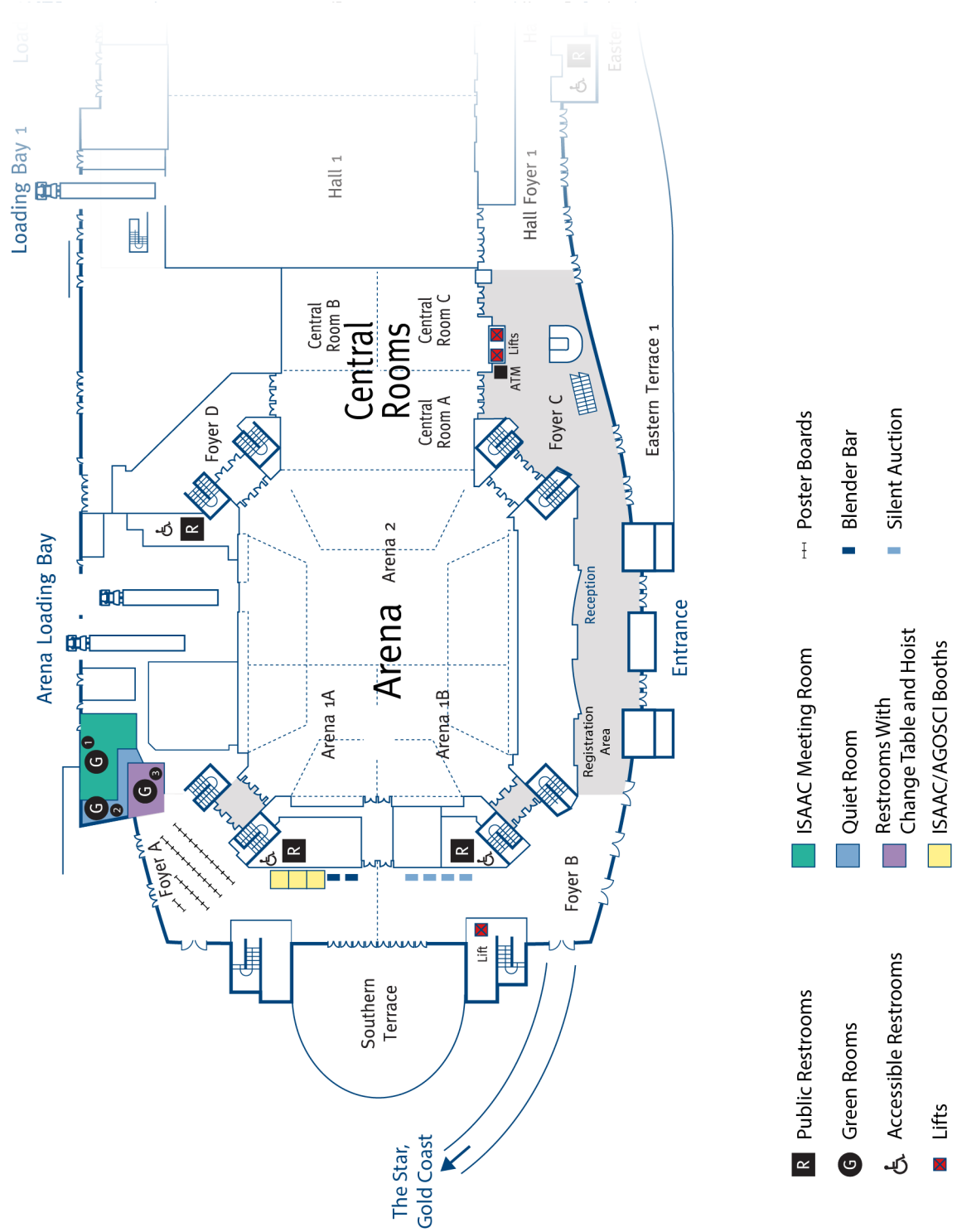
<https://www.kurrawasurf.com.au/copy-of-youth-development>

**Tips for accessible air travel:**

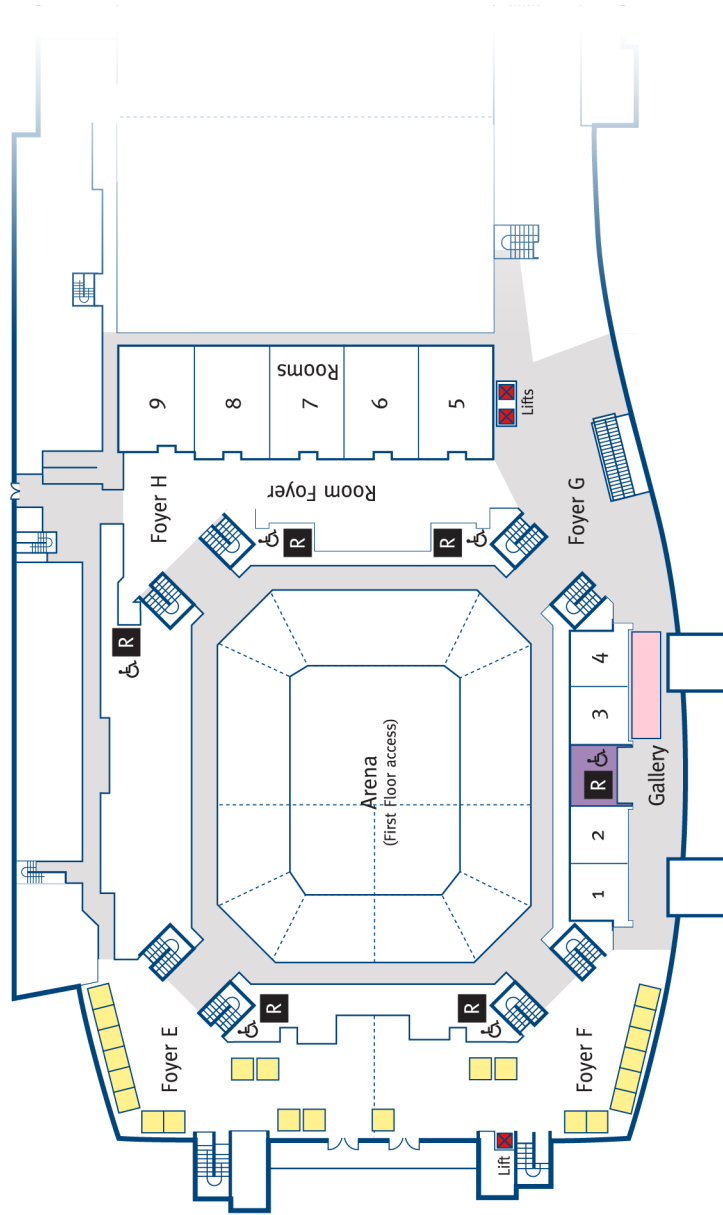
<https://havewheelchairwilltravel.net/tips-making-air-travel-comfortable-wheelchair-accessible-travel/>

Please contact the accessibility committee [accessibility@isaac-online.org](mailto:accessibility@isaac-online.org) if you require additional information.

# Ground Floor



# First Floor



- R** Public Restrooms
- R** Accessible Restrooms
- R** Restrooms With Change Table and Hoist
- R** Exhibit Booths
- R** Pre-Purchased Lunches
- Lift** Lifts



# ISAAC 2018 PROTOCOLS

## Mobile Phones, Photos and Video

As a courtesy to other attendees, please turn off your mobile (cell) phones and personal digital assistants or put them in silent mode during all presentations and workshops. Video and audio recording of presentations and workshops during the ISAAC Conference 2018 is strictly prohibited, unless prior authorization has been provided by ISAAC.

## Code of Conduct

ISAAC INTERNATIONAL is committed to providing a safe and enjoyable Conference experience for all event participants, and a welcoming environment for free discussion of ideas. We do not tolerate harassment of event participants in any form. Any conference attendee found to be contravening this Code of Conduct in any way is subject to any action at the sole discretion of ISAAC INTERNATIONAL up to, and including, expulsion from the Conference with no refund or right of appeal. Instances of alleged harassment may also be reported to the relevant authorities, again at the sole discretion of ISAAC INTERNATIONAL.

### ***What constitutes harassment?***

Harassment includes—but is not limited to—unwelcome conduct or offensive verbal comments related to gender, gender identity, gender expression, sexual orientation, age, disability, physical appearance, body size, race, national origin, or religion; deliberate intimidation, stalking, following, unwelcome or unauthorized photography or recording, sustained disruption of talks or other events, inappropriate physical contact, and unwelcome sexual attention. Similarly, encouraging others to engage in such behaviour is not permitted, nor are false accusations of harassment.

### ***Who is covered under this Code of Conduct?***

All attendees, speakers, sponsors, exhibitors, staff, and volunteers at our events are required to refrain from any form of harassment. ISAAC INTERNATIONAL staff will enforce this Code throughout the event, and expects cooperation from all participants. ISAAC INTERNATIONAL expects sponsors, exhibitors, booth staff, and volunteers to avoid engaging in harassing behaviour and/or the use of sexualized images, activities, or other material.

ISAAC INTERNATIONAL expects that all event participants refrain from engaging in harassment and/or using potentially offensive language in social media or other electronic posts, regardless of whether ISAAC International hashtags have been used.

### ***Guidelines for Speakers***

Speakers are responsible for the content of their presentations, but ISAAC

INTERNATIONAL requests that speakers be cognizant of potentially offensive actions, language, or imagery, and that they consider whether their use is necessary. If they do decide to include it, ISAAC INTERNATIONAL asks that they warn the audience, at the beginning of the talk, and provide them with the opportunity to leave the room to avoid seeing or hearing the material.

### ***How should I handle an uncomfortable situation at an event?***

- **Interpersonal Behaviour:** If it is safe to do so, we encourage you to request that the person stop the unwelcome or harassing behaviour. Participants who are asked to stop any such behavior are expected to comply immediately. If you are being harassed, notice that someone else is being harassed, or have any related concerns, please contact ISAAC INTERNATIONAL staff, event organizers, or facility security immediately. Event staff can be identified by their clearly marked “ISAAC INTERNATIONAL Staff” badge holders. You can also email ISAAC International staff members directly at [conference2018@isaac-online.org](mailto:conference2018@isaac-online.org).
- **Sponsor/Exhibitor Complaints:** Please contact ISAAC INTERNATIONAL staff as described above.
- **Sessions and Presentations Complaints:** ISAAC INTERNATIONAL staff and event organizers welcome all comments/feedback about presentations. Attendee comments are taken seriously when planning future events and will be kept in confidence if requested.

### ***What happens once a report is made?***

- **Interpersonal Behaviour:** If an incident of harassment is reported, ISAAC INTERNATIONAL staff will conduct an investigation. If they determine – to the best of their ability, and in their sole discretion – that a participant has violated this Code, they may take any action they deem appropriate, including warning the offender or expulsion from the event with no refund. Under certain circumstances and at their discretion, ISAAC INTERNATIONAL staff may contact hotel security and/or local police. To protect all parties involved, ISAAC INTERNATIONAL will generally not make any detailed public statements about Code of Conduct incidents.
- **Sponsor/Exhibitor Complaints:** ISAAC INTERNATIONAL staff will investigate the complaint. If they determine — to the best of their ability, and in their sole discretion — that action is warranted, they may resolve the matter as they deem appropriate, including removing the exhibit.
- **Sessions and Presentations:** Concerns will be relayed to current and future organizers, who will take the information into account when selecting speakers for future events.

ISAAC INTERNATIONAL requests that attendees understand, however, that determining whether material is “offensive” is a subjective call.

### ***This is a living document***

ISAAC INTERNATIONAL intends for this Code of Conduct to meet the needs of all our stakeholders and ensure that all have a positive event experience. To this end, we welcome comments and suggestions. Please contact ISAAC INTERNATIONAL staff on-site or by email/phone if you would like to provide feedback.

**PLEASE NOTE:** An [Easy English](#) version of this Code of Conduct is available on the ISAAC website.



## PRE-CONFERENCE WORKSHOPS

**Griffith University, Gold Coast Campus, Australia • 21 & 22 July 2018**

The ISAAC 2018 Pre-Conference Workshops provide a unique opportunity to explore a number of specialized topics in AAC. Five exciting workshops are delivered by eight outstanding speakers from the USA, Canada, UK, and Australia.

PRESENTER(S)	DETAILS	WORKSHOP TITLE
Linda Burkhart	Saturday full-day workshop 9 a.m. – 4 p.m.	Communication and Access for Children who have Severe Physical Challenges and Cortical Visual Impairment
Jennifer Seale, Beth Moulam and Melinda Smith	Saturday full-day workshop 9 a.m. – 4 p.m.	Daring to Dream: Turning Your Dreams into Future Realities
Sam Sennott	Saturday morning workshop 9 a.m. – 12:30 p.m.	Evidence-Based Practice in Aided Language Modelling/ Aided Language Stimulation
Penny Hatch & Lori Geist	Sunday full-day workshop 9 a.m. – 4 p.m.	Comprehensive Approaches to Literacy in AAC
Kathy Howery	Sunday full-day workshop 9 a.m. – 4 p.m.	The Lived Experience of Speaking through a Speech-Generating Device

ISAAC International would like to thank Griffith University for their support of the ISAAC 2018 Conference



## Location Information

Pre-Conference Workshops are held in building **G17** at Griffith University Gold Coast Campus, Parklands Dr., Southport Qld 4215 (see map).

## Getting there

### PUBLIC TRANSPORT

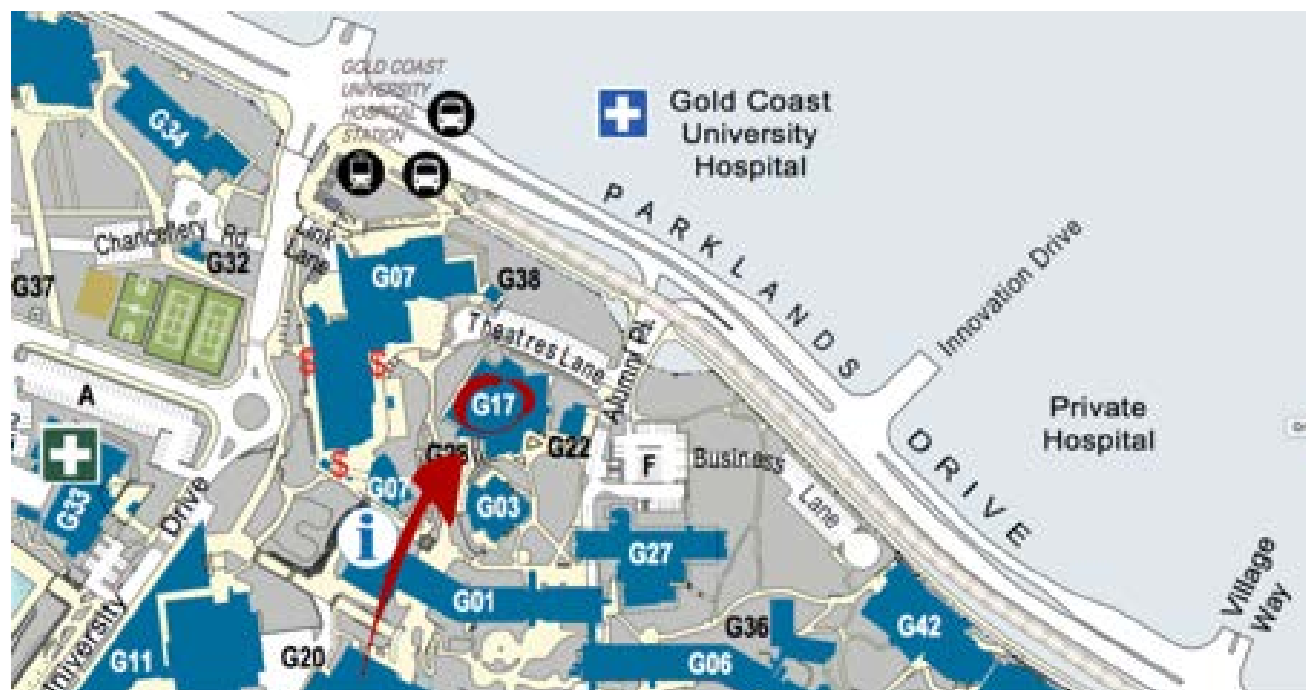
Catch the fully accessible G:link (light rail tram network) to **Gold Coast University Hospital station**. Take the elevator or lift up to the road level and look for an ISAAC 2018 volunteer in a bright green t-shirt. The ISAAC 2018 volunteers will guide you through the university campus to the G17 building.

If traveling from Brisbane via train, change to the G:link at Helensvale station.

More information on the G:link network can be found at <http://ridetheg.com.au>.

### BY CAR

Enter the University from Parklands Drive at the Alumni place entrance. There should be spaces available in the Theatres Lane car park.





# Gold Coast campus

General site map

current @ January 2

- Information /Security Office
- Medical Centre
- Bus Stop
- Light Rail Stop
- Food & Beverage
- ATM





# SATURDAY WORKSHOPS

## Full-Day Workshop



### COMMUNICATION AND ACCESS FOR CHILDREN WHO HAVE SEVERE PHYSICAL CHALLENGES AND CORTICAL VISUAL IMPAIRMENT



**LINDA BURKHART**, Private Consultant, USA

The combination of severe physical and visual impairments can significantly challenge the development of methods to access communication and education. Severe physical challenges limit the individual's ability to produce gestures, speech and movements to access AAC systems. Visual challenges limit the individual's ability to use standard visual symbols and educational materials. Many of these individuals need to learn to use Auditory or Auditory-plus

Visual scanning to expressively communicate. Given the severity of their physical challenges, communication will be a primary method for many of these individuals to actively participate socially and academically.

This presentation looks at characteristics of CVI for those children who also experience severe motor challenges. What are the implications for modification of educational materials and communication systems? How can children develop automaticity of motor skills, while learning academic content and literacy? Learn practical strategies to engage these children in active learning and interactive autonomous communication.

#### Learning Outcomes

Workshop participants will be able to:

1. List characteristics of children who have cortical visual impairment and describe strategies for enhancing learning and communication.
2. Demonstrate how to use partner-assisted auditory and partner-assisted auditory plus visual scanning.
3. Discuss the concept of parallel learning to balance cognitive and motor components of activities while making sure the individual progresses in all areas.
4. Briefly describe the Stepping Stones to Switch Access process for teaching the motor cognitive skills to develop automaticity with switch access.
5. Discuss appropriate modifications to literacy instruction for children who have CVI and use switches for access to communication and learning.

#### Interactive Components

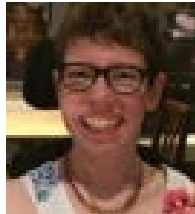
Participants have the opportunity to practice partner-assisted auditory and auditory plus visual scanning.

#### Speaker Bio

*Linda Burkhart* is an internationally known teacher and leader in the field of assistive technology, adaptive play, and augmentative communication for children who face severe challenges with more than 40 years' experience in this field. She has developed numerous adapted materials and innovative strategies for teaching children to be active learners and to develop their abilities to participate in life. She is the author of a number of books and software titles on topics of assistive technology and augmentative communication. Linda was a classroom teacher for fifteen years. Then for eight years, she worked as an Augmentative Communication and Assistive Technology Specialist for the Center for Technology in Education, a joint project between Johns Hopkins University and the Maryland State Department of Education. Currently, Linda works as a private consultant and technology integration specialist. She presents trainings and workshops nationally and internationally.

# Full-Day Workshop

## DARING TO DREAM: TURNING YOUR DREAMS INTO FUTURE REALITIES



**JENNIFER SEALE Ph.D.**, University of Maine, USA

**BETH MOULAM**, UK

**MELINDA SMITH**, Australia

*Daring to Dream* is an intense and supportive interactive workshop for people with disabilities and their supporters followed up with a one-year support plan for turning their dreams into future realities. It starts with a dream, which is developed via a guided process, drawn in detail by a support purpose, and shared with the group. Dreams are nonnegotiable. The Daring to Dream process does not end with being bold enough to dream and share the dream with others.

Each participant then develops one or two objectives that can lead to the dream. Objectives must be positive (leading to or a piece of the larger dream) and possible (can be accomplished in one year). Through group interaction, each participant's objective is finalized based on being both positive and possible, including (1) resources needed, (2) important places to go to, and (3) people needed to help them accomplish the objective.

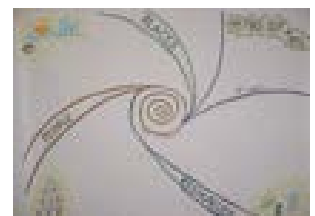
### Learning Outcomes

Workshop participants and their supporters will be able to:

1. Demonstrate knowledge of why dreams are important and will develop a clear dream that can be illustrated and shared with others.
2. Demonstrate that dreams cannot be merely shared but must be turned into a plan that includes positive and possible objectives such as needed resources, places to visit, and people to provide needed supports.
3. Identify first steps to be taken to begin to turn dreams into future realities.
4. Recognize the importance of identifying a plan for taking the first steps, including enlisting a coach.

### Interactive Components

*Daring to Dream* is a fully interactive workshop that unfolds in multiple steps. Step 1 is identifying, describing in detail your dream in enough detail that a support partner can draw it, and sharing your dream with workshop participants. Step 2 is identifying a piece of your dream that is both positive and possible to be accomplished in one year and sharing it with other workshop participants. The final step is identifying the first step to be taken and identifying a dream coach. Each of these steps is guided with input and support from all three co-presenters.



### Speaker Bios

*Dr. Jennifer Seale* is currently an assistant professor at the University of Maine in Orono, Maine, USA. She received her PhD in Communication Sciences and Disorders from the University at Buffalo in Buffalo, New York. Dr. Seale serves an active member of the United States Society for Augmentative and Alternative Communication (USSAAC) advocacy committee, and also contributes initiatives of the Maine Autism Institute for Education Research.

Prior to her pursuit of an advanced degree, Jennifer worked as the AAC services coordinator for the Institute on Disabilities at Temple University's Center for Excellence on Developmental Disabilities in Philadelphia, Pennsylvania. While there, she coordinated the 2008 Augmentative Communication Empowerment Supports (ACES) program and later returned as a staff speech-language pathologist for ACES 2013; both were centered upon "Daring to Dream" principles, which continue to impact Dr. Seale's approach to practice, research and teaching.

*Melinda Smith*, OAM, is a visual and dance artist, living with cerebral palsy. She works in and out of her wheelchair and has performed as an improvised dancer since 2010. She has performed in India, Sweden and Australia. She is an author and public speaker and advocate for disability rights. Melinda works at the cerebral palsy education centre in Melbourne, and her mentor and public speaking engagements continue to be recognized nationally and internationally.

*Beth Moulam* is making her dreams a reality. She is a student at the University of York in England studying Social Policy. She lives independently in her own home and has represented her country at Boccia. More recently she had competed internationally as a runner (using a RaceRunner). Sport plays a major part in her life. Beth is an experienced presenter focusing on communication and advocating for others who use AAC.

## Morning Workshop

### EVIDENCE-BASED PRACTICE IN AIDED LANGUAGE MODELLING/ AIDED LANGUAGE STIMULATION



**SAMUEL SENNOTT, Ph.D.**, Assistant Professor, Portland State University, USA

Language input and interaction is a fundamental and important aspect of language development and AAC modeling/ aided language stimulation is a practice that creates rich input and interaction for people with complex communication needs. However, many still do not know about the practical, theoretical, and research underpinnings of the practice.

Therefore, the purpose of this workshop is for you to learn about the current evidence base of AAC interventions that incorporate AAC modeling as a primary component, from both the researcher and non-researcher perspectives (individual, parent, teacher/ therapist). In this workshop, we will dive into the actual research studies and systematic research reviews, both analyzing and synthesizing the findings. We will also discuss the neuroscience of AAC modeling. The primary aim of this workshop is that each participant creates an operationalized plan for employing AAC modeling either as a researcher or from an individual/ family/ teacher/ therapist perspective.

#### Learning Outcomes

Workshop participants will be able to:

1. Describe the evidence base for AAC interventions that incorporate AAC modeling/ aided language stimulation as a primary component, from both researcher and non-researcher perspectives.
2. Describe neuroscience aspects of AAC modeling/ aided language stimulation.
3. Create an operationalized plan for employing AAC modeling/ aided language stimulation either as a researcher or from an individual/ family/ teacher/ therapist perspective.

#### Interactive Components

Participants create an operationalized plan for employing AAC modeling/ aided language stimulation either as a researcher or from an individual/ family/ teacher/ therapist perspective.

#### Speaker Bio

*Samuel Sennott*, Ph.D. is an Assistant Professor of Special Education at Portland State University (PSU). He is the founder of the new Universal Design Lab at PSU, which is focused on innovative research and development, teaching, and community service in the areas of augmentative and alternative communication (AAC), assistive technology, and universal design for learning through the power of mobile health technologies. He co-created the popular AAC app, the original Proloquo2Go for the iPhone, iPod Touch, and iPad, which helps people with complex communication needs through speech synthesis. Dr. Sennott's primary line of research focuses on innovative AAC modeling/ aided language stimulation interventions.

# SUNDAY WORKSHOPS

## Full-Day Workshop

### COMPREHENSIVE APPROACHES TO LITERACY IN AAC



**PENNY HATCH, Ph.D.**, Assistant Professor  
Center for Literacy and Disability Studies  
University of North Carolina at Chapel Hill, USA

**LORI GEIST, Ph.D.**, Assistant Professor  
Center for Literacy and Disability Studies  
University of North Carolina at Chapel Hill, USA

This presentation offers an instructional framework and practical approaches to teach emergent and conventional literacy to students with complex communication needs. The first half addresses literacy and AAC for beginning communicators, readers, and writers through five emergent literacy instructional routines with a focus on students with the most complex needs who are not yet using symbols, signs, or speech to communicate for a range of purposes across partners and contexts. The second half addresses conventional literacy for students who use AAC to engage and interact with others, have alphabet knowledge, and understand that print carries meaning. Participants learn a framework for comprehensive conventional instruction.

#### Learning Outcomes

Workshop participants will be able to identify:

1. Five evidence-based instructional routines that promote emergent literacy.
2. The elements of comprehensive conventional literacy instruction.
3. Student behaviors that suggest the student has developed strong emergent literacy understandings and is likely to benefit from conventional literacy instruction.
4. Two key strategies to support early symbolic communication development during emergent literacy instruction.
5. Two key strategies to support conventional literacy development for students who use AAC.

#### Interactive Components

Videos, Work Sample Analysis, Mock lessons

#### Speaker Bios

*Penny Hatch, Ph.D.*, CCC-SLP is a research assistant professor at the Center for Literacy and Disability Studies in the Department of Allied Health Sciences in the School of Medicine at the University of North Carolina at Chapel Hill. Dr. Hatch is a former school-based speech-language pathologist who served students with complex communication needs. Her research addresses literacy and communication instruction for students with significant cognitive disabilities. She is currently a member of the research teams for Project Core and Tar Heel Shared Reader, two implementation science studies focused on providing professional development, resources, and tools to support teachers of students with significant cognitive disabilities and complex communication needs.

*Lori Geist, PhD*, is a speech-language pathologist and assistant professor at the Center for Literacy and Disability Studies in the Department of Allied Health Sciences at the University of North Carolina (UNC) at Chapel Hill. Prior to joining the research faculty at UNC, Lori worked in direct service, consultation, and product development, with her efforts concentrated on intervention approaches that target communication, language and literacy outcomes for individuals with complex communication needs. Her research interests center on leveraging technology in the delivery of effective intervention. She is currently the project director for Project Core.



# Full-Day Workshop

## THE LIVED EXPERIENCE OF SPEAKING THROUGH A SPEECH-GENERATING DEVICE



**KATHY HOWERY, PhD, University of Alberta, Canada**

The field of AAC is emerging in the understanding of both practice and praxis. Speech-generating devices (SGDs) are becoming smaller, more powerful and more accessible to people. While there is a growing body of evidence-based practices that can be drawn upon to support people who use these devices to communicate, there is still little understood about the phenomenon itself. What is it really like to speak with/through an SGD?

This workshop will explore insights into what it might be like to speak through a device derived from a multi-year project researching the meaning of this phenomenon in the lives of those who use SGDs, and implications for pedagogical practice. The phenomenon will be explored and discussed based on the themes of lived relation (relationality), lived body (corporeality), lived space (spatiality), lived time (temporality), and lived things and technology (materiality). Participation and reflection will be infused throughout the day.

### Learning Outcomes

Workshop participants will be able to:

1. Learn about phenomenology as a method of qualitative research and why this type of research is important in providing answers to pedagogical questions.
2. Gain understanding of the meaning of an SGD in the lifeworld of people with severe speech impairments.
3. Obtain practical ideas for the adoption and development of value-sensitive design practices for the AAC.
4. Gain understanding of an SGD beyond the instrumental or “tool-like” conception that is common in the field of assistive technology.

### Interactive Components

Group discussion and reflection sessions will be infused throughout the day focusing on the research themes. Groups will be encouraged to develop and share ideas for practices that will be respectful of what it is really like to speak through/with an SGD.

### Speaker Bio

*Kathy Howery* is an educational consultant and a sessional lecturer at several universities in Alberta. Kathy has published in the area of Universal Design for Learning and students with significant intellectual disabilities, and the lived experience of students who use Speech-Generating Devices to communicate. In addition she has co-authored several book chapters focusing best practices in providing supports and services to students with complex needs.

Kathy provides ongoing consultation to several Alberta school jurisdictions. Most recently she is been working with Alberta’s Provincial Low Incidence Collaborative Supports team.



# LET'S GET REAL! ISAAC 2018 AAC CAMP

## A Reality TV Journey

The ISAAC 2018 AAC Camp is all about reality – Reality TV! *Let's Get Real! AAC Camp* will run on July 21<sup>st</sup> and 22<sup>nd</sup> at the fully accessible Currumbin Community Special School on the Gold Coast.

Different Reality TV themed activities happen each day of the camp program, including:

- The Amazing AAC Race
- AAC Fear Factor
- Great Australian Bake-Off AAC style
- Face Off: Pirate Edition
- Nature Reality (with **Awesome Australian Creatures**)
- Goggle Box
- Making Wombat Stew!

### THE REAL DETAILS

AAC Camp begins at 9:30 a.m. and finishes at 5:00 p.m. on Saturday. On Sunday, camp begins at 9:00 a.m. and finishes at 4 p.m. Each day there will be a break for morning and afternoon tea and also a 90-minute lunch break. Participants bring their own food as this is not provided at camp.

### THE REAL VENUE

Currumbin Community Special School is completely accessible. Kitchen / eating space is available for food preparation.

**Address:** Currumbin Community Special School, 5 Hammersford Drive, Currumbin Waters 7





## ISAAC SHORT FILM FESTIVAL

The ISAAC 2018 Short Film Festival showcases the conference theme, *AACcess All Areas*. Anyone interested in creating a short film (maximum 5 minutes long) was welcome to enter the competition. Eligible films would *raise awareness* of AAC in all aspects of life and in all communities, *inform* about ways people who use AAC can access all areas, or *inspire* by telling the story of someone who uses AAC. Sub-themes could be related to employment, diversity, justice, culture, relationships, social media, developing nations in AAC, and the Asia-Pacific region.

The ISAAC Short Film Festival takes place during the Welcome Reception on Monday, July 23<sup>rd</sup>, in Arena 1b. The Top10 films will be screened. The winning entry is awarded a one-year ISAAC membership for 2019, sponsored by ISAAC-Australia (terms and conditions apply).



# ISAAC 2018 MEETINGS

DAY	MEETING NAME	MEETING ATTENDEES	MEETING PURPOSE
<b>Friday 20<sup>th</sup> July</b>	ISAAC Executive Board Meeting	2016-2018 ISAAC Executive Board members	ISAAC Governance
<b>Saturday 21<sup>st</sup> July</b>	ISAAC Executive Board Meeting	2016-2018 ISAAC Executive Board members	ISAAC Governance
<b>Sunday 22<sup>nd</sup> July</b>	ISAAC Council Meeting	2016-2018 ISAAC Council members	ISAAC Governance
<b>Monday 23<sup>rd</sup> July</b>	Chapter Presidents Meeting	Presidents of the ISAAC Chapters (Note: ISAAC Chapters are groups of members from the same country or region)	ISAAC Governance
	Research Committee Meeting	ISAAC Research Committee members	Face-to-face meeting to discuss AAC research taking place within and outside of the ISAAC organization and strategies for encouraging state-of-the-art developments in the field.
	LEAD Meeting	ISAAC Lead Committee members. LEAD is the Leadership Committee for People who use AAC.	Face-to-face meeting to discuss issues and projects involving people who use AAC.
	Asia Pacific Networking Meeting	Delegates from the Asia Pacific Region	To reflect on the special focus of this ISAAC Conference: the Asia-Pacific Region
	Yarning Circle – Town Hall Meeting	Delegates who use AAC	People who use AAC from all over the world attending the ISAAC conference gather together for a “yarn”
	Publications Committee Meeting	ISAAC Publications Committee members	Face-to-face meeting to discuss AAC journal matters
<b>Tuesday 24<sup>th</sup> July</b>	Chapter Meetings	Members of the ISAAC Chapters (Note: ISAAC Chapters are groups of members from the same country or region)	Meetings for people from the same ISAAC Chapter who are attending the conference
	ISAAC Outstanding Consumer Lecture	Plenary – Everyone attends	To provide a platform for an outstanding individual who uses AAC to deliver a feature presentation on a topic in which they have special expertise.





DAY	MEETING NAME	MEETING ATTENDEES	MEETING PURPOSE
<b>Wednesday 25<sup>th</sup> July</b>	Associate Editors Meeting	Editors and Associate Editors of the Augmentative and Alternative Communication (AAC) journal	Face-to-face meeting to clarify and enhance decisions in regard to the AAC journal, maintaining it as a high quality publication
	2020 Conference Co-Chairs' Planning Meeting	Co-Chairs of ISAAC 2018 and 2020	To pass on accumulated information regarding conference preparations to 2020 Co-Chairs
	Chapter Meetings	Members of the ISAAC Chapters (Note: ISAAC chapters are groups of members from the same country or region)	Meetings for people from the same ISAAC Chapter who are attending the conference
	ISAAC Membership and Awards Meeting	ISAAC Members	Biennial business meeting; presentation of awards
	Friends of ISAAC Meeting	Longstanding ISAAC Members	Sharing time
<b>Thursday 26<sup>th</sup> July</b>	Dare to LEAD Workshop	Participants pre-selected through application process	To develop leadership plans; Initiating the journey to become leaders locally, nationally, or internationally at ISAAC.
	2018-2020 Executive Board Meeting	2016-2018 and 2018-2020 ISAAC Executive Board (EB) members	Face-to-face meeting of old and new EB members
	Family Engagement Forum	All people who use AAC and their families	The topic for this forum is "Striving for Thriving".
	BUILD Meeting	Open to everyone interested in forming collaborative partnerships to encourage ISAAC membership from emerging AAC countries	To bring people together to network, support and learn from each other.



## ISAAC AWARDS

ISAAC Awards are presented every two years in conjunction with the Biennial Conference.

### ISAAC Outstanding Consumer Lecture Award

**Arena 1b • Tuesday, July 24<sup>th</sup> • 14:00 – 15:30**

Every two years the ISAAC Outstanding Consumer Lecture Award is presented to a person who uses AAC. The recipient is a featured presenter at the ISAAC Biennial Conference.

#### PRESENTATION OF AWARDS

**ISAAC Membership and Awards Meeting, Arena 1b • Wednesday, July 25<sup>th</sup> • 14:00 – 15:30**

### ISAAC Distinguished Service Award

Presented to an ISAAC member to recognize an outstanding contribution to the field of AAC

### ISAAC President's Award

Presented in recognition of extraordinary support for ISAAC by an individual or individuals

### The Bridge School / ISAAC Teacher-in-Residence Award

Offers an opportunity to learn and teach AAC methods through a teacher-in-training program in an educational center at The Bridge School of excellence in the United States

### AAC Editors' Awards

Awarded by the Editorial Board of *Augmentative and Alternative Communication* (AAC) journal, in two categories: Most Significant Research Article and Most Significant Student Article

*For more details about ISAAC awards and how to apply, visit the ISAAC website or contact the International Office, at [info@isaac-online.org](mailto:info@isaac-online.org).*



## OTHER ISAAC ACTIVITIES

### ISAAC Booth

The ISAAC booth is located on the Ground Floor. Please drop by have your badge scanned daily in order to be eligible for draw prizes at the closing ceremony, and to drop off donated items for BUILD and for the Silent Auction, pick up a brochure or two, or just to say hello! We are pleased to share the space at the ISAAC booth with AGOSCI, with thanks for their support and contribution to ISAAC 2018.

### BUILD Resource Donations Program

As with previous conferences, resources will be distributed to ISAAC members from emerging AAC countries. Our preference for this conference is to receive donations of digital resources for distribution to people attending the BUILD meeting. Anything digital that can be uploaded to cloud storage in PDF form can be donated.

Digital resources (in Adobe PDF format) can be uploaded to Conference 2018 BUILD Donations. They can then be downloaded from that folder as needed.

We are also happy to accept hard copy materials, but we would ask that these be limited to up to five items maximum per donation. Donations can be dropped off at the ISAAC booth for distribution at the BUILD meeting on Thursday, July 26<sup>th</sup>, 12:45 to 2:00 in Room 7.

If you are from an emerging AAC country, or know someone who is not at the conference who could use any of the donated resources, please feel free to pick them up from the ISAAC booth, or attend the BUILD meeting to choose from the resources available there.

### Silent Auction

Organized and led by the many friends of ISAAC from around the world, a Silent Auction is held at each ISAAC Biennial Conference to raise funds to support people who use AAC who wish to attend the next international conference.

Items can be brought to the ISAAC booth where you will register the item(s) with a brief description and the value (in Canadian dollars). A label must be attached to each item at that time, and the number on the bid sheet will correspond to the number on the label. Volunteers will be there to assist.

Please bid on as many items as you like. You will find some interesting souvenirs from different countries and useful items to take home with you when you leave ISAAC 2018. The Silent Auction closes midday on Wednesday, July 25<sup>th</sup>, at which time items can be picked up and paid for.

When you drop by the ISAAC booth, look for Pat Politano, Karen Bloomberg and the other volunteers who will be helping out with the Silent Auction from Monday through Wednesday.

### ISAAC Travel Awards

ISAAC continues to support People who use AAC, Emerging Researchers, and People from Emerging AAC Countries (through the BUILD program) by subsidizing the costs to attend our biennial conferences. Special thanks to our sponsor AssistiveWare® for their continued support of Travel Assistance Grants for New AAC professionals.

Special thanks to Taylor & Francis Group for generously sponsoring international Travel Assistance Grants in support of AAC Associate Editors.

Special thanks to Speech Pathology Australia for their generous contribution in support of Travel Assistance Grants for *People Who Use AAC*; and *People from Emerging Countries*.

Our sincere appreciation to AGOSCI for their partnership with ISAAC International in supporting Australian registrations to Conference 2018.



## SOCIAL EVENTS

### Monday 23<sup>rd</sup> July

#### WELCOME RECEPTION 6-8PM

This event is included with your conference registration.

Welcome drinks, canapés and fun in foyers A & B at the Gold Coast Convention and Exhibition Centre. The top 10 finalists in the **ISAAC 2018 film festival** will be playing from 6:30pm in Arena 1b during the Welcome Reception.

### Tuesday 24<sup>th</sup> July

#### PRESIDENT'S RECEPTION 7-10PM

This event is included with registrations for the full conference.

Join an evening of fun with a poolside Aussie barbeque, music and dancing at The Star, Gold Coast <https://www.star.com.au/goldcoast/>

A cash bar will be available at the venue. Remember to bring a jacket to this outside event.

#### Getting there:

Meet the volunteers in green T-shirts on the southern terrace of the Gold Coast Convention and Exhibition Centre. They will guide you over the footbridge into the hotel and down the lift (elevator) to the beautiful poolside venue.

### Wednesday 25<sup>th</sup> July

#### DREAMWORLD CORROBOREE 7-10PM

Delegates who selected a full conference “inclusive” registration or the social event will receive tickets to this event with their registration.

Interactive experiences with corroboree demonstrations and Australian animals in the Corroboree venue will be followed by dinner, local music and dancing.

Alcoholic beverages will be available for purchase with dinner.

<https://www.dreamworld.com.au/events/venues/dreamworld-corroboree>

#### Getting there:

ADDRESS: Dreamworld Pkwy, Coomera QLD 4209.

Dreamworld is approximately 30-45 minutes drive from the Gold Coast Convention and Exhibition Centre.

Free bus transport will be provided for this event. Meet the buses in front of Gold Coast Convention and Exhibition Centre at 5:45pm.

If choosing to use your own transport to the venue, aim to arrive at the Dreamworld entrance from 6:30pm to allow time to walk or catch the Dreamworld Express train to the Corroboree venue.

# CONFERENCE 2018 SPONSORS

The International Society for Augmentative and Alternative Communication gratefully acknowledges the generous support of our Conference 2018 sponsors:

## ADVOCATE SPONSOR



*In support of ISAAC Conference 2018*

## COMMUNICATOR SPONSORS



*In support of the ISAAC 2018 President's Reception*



Taylor & Francis Group  
an informa business

*In support of Associate Editors Travel Assistance Grants*



*In support of The Learning Lounge*

## VISIONARY SPONSORS



*In support of Communication Access Training*



*In support of the ISAAC Conference 2018 Lanyards*



*In support of Travel Assistance Grants for People Who Use AAC and People from Emerging Countries*

## INVESTOR SPONSORS



*In support of New Professionals Travel Assistance Grants*



*In support of International AAC Awareness Month 2018*



## PARTNERSHIPS



*In support of Australian registrations for Conference 2018*

## CONTRIBUTORS



*In support of the ISAAC 2018 Welcome Reception*



Access  
Easy English



*In support of the ISAAC 2018 AAC Camp*

WE ARE DESTINATION  
**GOLDCOAST.**



*In support of the ISAAC 2018 Pre-Conference Workshops*



*Donations in support of the Silent Auction and Closing Ceremonies, generously provided by:*

- Scope Australia
- Scope Australia / Key Word Sign Australia



*Donation of a Personalized Digital Voice*

# CONFERENCE 2018 EXHIBITORS

The International Society for Augmentative and Alternative Communication gratefully acknowledges the generous support of our Conference 2018 exhibitors:



# THE TOBII DYNAVOX LEARNING LOUNGE

For the first time at ISAAC, we'll be hosting the Tobii Dynavox Learning Lounge. For those of you who aren't familiar with the Learning Lounge, it is a place where you can spend more hands-on time with our products and attend mini-sessions.

Learning Lounge mini-sessions are presented by our professionals and special guests. This year's topics range from eye tracking, to Core First and PODD!

## TUESDAY, JULY 24<sup>TH</sup>

- 10:30 Eye Tracking 101: The Basics
- 11:30 Jumpstart Communication and Language Learning with Pathways
- 12:30 Project Core Implementation Model: Putting into Practice with Communication Apps and Devices - Featuring Dr. Lori Geist \*Learning Lunch
- 13:30 A Parent's Perspective of Using Eye Tracking for Communication \*Learning Lunch
- 14:30 Literacy, Engagement and Growth with Snap + Core First
- 15:30 Communication in the Classroom - Featuring Mary-Louise Bertram

## WEDNESDAY, JULY 25<sup>TH</sup>

- 10:30 Literacy, Engagement, and Growth with Snap + Core First
- 11:30 PODD: Vocabulary for Different Purposes at School - Featuring Gayle Porter and Melissa Riepsamen
- 12:30 Eye Tracking 101: The Basics \*Learning Lunch
- 13:30 Boardmaker Online/ Studio v1.5 \*Learning Lunch
- 14:30 Supporting Communication Device Funding Applications in Australia
- 15:30 Jumpstart Communication and Language Learning with Pathways

## ISAAC Highlights

Make sure to check out these official ISAAC sessions, featuring Bethany Diener, one of our Tobii Dynavox experts.

### TUESDAY, JULY 24<sup>TH</sup>

- 8:30 Developing Early Communication Skills: An Evidence-Based Approach

### THURSDAY, JULY 26<sup>TH</sup>

- 9:30 Using Client Interests in AAC Intervention: More than Just a Good Idea



tobii dynavox

# PRESENTATION FORMATS AT ISAAC 2018

Presentations during the main conference are offered in four formats: platform presentations, interactive workshops, posters, and an integrated research seminar. Each forum provides a different type of audience experience to cater to a range of learning styles.

**Platform presentations** are short talks, grouped into topic streams. There will be some time for audience questions between speakers or at the end of the session.

The 2018 **research seminar** will provide in-depth theoretical discussion on the topic of eye-gaze. It will consist of three linked sessions during Tuesday's main program.



**Posters** on a range of topics will be on display in the Foyer area. Browse the display at your leisure, or come and talk to the authors during the dedicated poster sessions.

**Interactive workshops** run for 60-120 minutes and provide in-depth coverage of a topic. They encourage opportunities for discussion and interactive learning.

Authors will be presenting from a range of backgrounds. This is indicated by the nominated evidence area for each presentation and includes:

## RESEARCH EVIDENCE

Presenters will discuss evidence gathered using empirical research methods.

## PROFESSIONAL PRACTICE

Presenters will share observations and experiences from their professional practice, or guide others in a practice area.

## PERSONAL EXPERIENCES AND PREFERENCES

Presenters will share their stories about living or working with AAC, or will showcase stories gathered from others.

## RESEARCH METHODS AND THEORIES

Presenters will discuss AAC research methods and/or AAC theory.



The authors have also selected one or more content focus areas to help you choose presentations that are of interest to you. The 12 content focus areas include:

CONTENT FOCUS AREA	PRESENTATIONS MAY FOCUS ON...
<b>AACcess emerging technologies</b>	Innovative tools, resources and techniques that advance the field of AAC.
<b>AACcess language and literacy</b>	Optimising language and literacy development for people who use AAC.
<b>AACcess education</b>	Access to early education, school, tertiary and work-related education, and life-long learning.
<b>AACcess the community</b>	Access to travel, health, and services. Creating communication accessible communities.
<b>AACcess employment</b>	Careers, jobs, volunteering and retirement.
<b>AACcess diversity</b>	Diverse identities: ability, sexuality, gender, spirituality and more. Culturally and linguistically appropriate services.
<b>AACcess justice</b>	Accessing advocacy, legal aid and representation. Addressing violence, abuse, and safety in the community.
<b>AACcess culture</b>	Accessing sport, recreation, literature and the arts. Supporting self-expression.
<b>AACcess relationships</b>	AAC and its relationship to friendships, families, sexuality and parenting.
<b>AACcess social media</b>	Applications of social media for a range of purposes.
<b>AACcess the world: Developing nations in AAC</b>	Communication awareness, knowledge, and capacity in AAC emerging countries around the world.
<b>AACcess the Asia Pacific Region</b>	AAC capacity building and networking issues specific to Australia and the Asia-Pacific Region.

## ISAAC 2018 INVITED SPEAKERS



### Kim Ju-hyeon

Kim Ju-Hyeon is a leader at Gwangjin Center for Independent Living for People with a Disability (GJCIL) in Seoul, attached to the Korean Solidarity for Human Rights of People with Brain Lesion (KSHB).

Kim's undergraduate major was in astronomical space science, but he was more interested in human rights and the social movement for people with a disability than in his major study.

So, Kim was determined to be a social activist for people with disabilities. And he has now been working in outreach to locals and on policy suggestions with organizations for people with disabilities for over 20 years.

Now KHSB and Kim are interested in developing a communication policy for people with complex communication needs who have cerebral palsy. They started working to improve the policy administrations of Seoul with various people concerned. Their purpose is to make Korea a society where people can communicate with each other freely.



### Darryl Sellwood

An incisive and provocative thinker and an engaging speaker, Darryl has presented numerous conference papers and keynote addresses at both Australian and international conferences. Darryl is currently a PhD candidate at Flinders University of South Australia, and aims to finish his degree by the end of December 2018. His PhD research project investigates the experiences of people with complex communication needs (CCN) in getting into and keeping romantic or sexual relationships. With two of his supervisors, he recently co-authored a systematic review on sexuality and intimacy for people with congenital physical and communication disabilities, published in the *Journal of Sexuality and Disability* (January 2017).

Darryl has CCN and uses a communication device. He is a computer science graduate with a first-class honours Bachelor of Arts degree in telecommunications access for people who rely on AAC.



### Tiffany 的简介

你们好，我是Tiffany。我是个活泼开朗，热情随和的双鱼座女生。我最爱的颜色是紫色，最喜欢的花是薰衣草，我是个不折不扣小吃货，特别热爱美食，我认为在这个世界上，没有什么事情是比美食更让人开心的啦。同时十分热爱音乐，我还十分喜欢旅行，只是因为身体的原因，去过地方寥寥无几。所以我非常期待这次的会议。

Hi, my name is Tiffany. I'm a delightful and cheerful Pisces girl. My favorite color is purple and favorite flower is lavender. I'm a real foodie. I believe nothing is more enjoyable in the world than good food. I also love music and travel, but due to my situation, I have only been to very few places. And that's why I'm so looking forward to this conference and meeting all of you.



# Schedule

## Monday July 23, 2018

Time	Arena 1a	Arena 1b	Central C	Room 4	Room 5	Room 9	Room 6	Room 7	Room 8	Posters Foyer A	
8:00 AM											
8:15 AM				Meeting: Chapter Presidents							
8:30 AM											
8:45 AM											
9:00 AM		Opening Ceremony†									
9:15 AM											
9:30 AM											
9:45 AM											
10:00 AM											
10:15 AM											
10:30 AM	Morning Tea										
10:45 AM	Morning Tea										
11:00 AM		Multilingual AAC†	Communication Self-Advocacy	Communication AACcess	Social Media	Sibling Relationships	AAC & Rett Syndrome	AAC and Intellectual Disability	Get Moving Workshop	Poster Set-Up (A & B)	
11:15 AM	Communication Accessible Schools										
11:30 AM		Communication Partner Training†					AAC and Autism Spectrum	System Design			
11:45 AM											
12:00 AM											
12:15 AM											
12:30 AM	LUNCH										
12:45 AM	LUNCH										
1:00 PM	LUNCH			Meeting: Research Committee	LUNCH		Meeting: Asia Pacific Networking†	Meeting: LEAD	LUNCH		
1:15 PM	LUNCH										
1:30 PM	LUNCH										
1:45 PM	LUNCH										
2:00 PM		Emergency Preparation and Response	AACcess to AAC - Movement	AAC for Healthcare Settings	An Occupational Perspective	BUILDing Emerging AAC Capacity†		Factors in Assistive Technology Success	Understanding Belonging and Inclusion	Poster Session A	
2:15 PM	Communication Accessible Schools										
2:30 PM											
2:45 PM											
3:00 PM											
3:15 PM							Yarning Circle - Town Hall Meeting				
3:30 PM	Afternoon Tea								Afternoon Tea		
3:45 PM	Afternoon Tea										
4:00 PM											
4:15 PM			Communication AACcess		BUILDing Emerging AAC Capacity	Preventing and Responding to Abuse†					
4:30 PM		AAC and Rett Syndrome		Meeting: Publications Committee				Language and Literacy	Mental Health and Wellbeing		
4:45 PM											
5:00 PM			Emerging AAC Technologies		Professional Development in AAC	AAC and Angelman Syndrome†					
5:15 PM											
5:30 PM											
5:45 PM											
6:00 PM	Welcome Reception	Film Festival	Welcome Reception, Foyers A & B								
7:00 PM			Welcome Reception, Foyers A & B								
8:00 PM			Welcome Reception, Foyers A & B								

### Key

- Concurrent Sessions
  - Meetings
  - Plenary Sessions or Special Sessions
  - Social Events
  - Film Festival
  - Poster Set-Up or Pack-Down
  - Poster Session
  - Empty Sessions
  - Research Seminar
  - Tobii Dynavox Learning Lounge
- † Translated Sessions English -> Mandarin



# Schedule

Tuesday July 24, 2018

Time	Arena 1a	Arena 1b	Central A	Central C	Room 4	Room 5	Room 6	Room 7	Room 8	Room 9	Posters Foyer A	
8:00 AM												
8:15 AM												
8:30 AM												
8:45 AM												
9:00 AM	Communication Accessible Schools	AAC and Autism Spectrum	AAC and Autism Spectrum <sup>†</sup>	Voice Input and Speech Recognition	Technology Across the Lifecourse	AAC Assessment Processes	A Voice in the Justice System	Research Seminar (Session 1) Eye-gaze for Communication	Supporting Communicative Competence	Tobii Dynavox Learning Lounge		
9:15 AM												
9:30 AM												
9:45 AM												
10:00 AM												
10:15 AM	Morning Tea											
10:30 AM												
10:45 AM												
11:00 AM	Communities of Practice in AAC	Supporting Language Development <sup>†</sup>	System Design	AAC in Education	Functional Communication Training	Sexuality, Romance and Dating	Innovative Service Delivery	Research Seminar (Session 2) Eye-gaze for Communication	Collaborative and Inclusive Research	Tobii Dynavox Learning Lounge	Poster Session B	
11:15 AM												
11:30 AM												
11:45 AM												
12:00 AM												
12:15 AM	LUNCH											
12:30 AM												
12:45 AM	Chapter Meeting: ISAAC Australia	LUNCH	Chapter Meeting: ISAAC Canada	Chapter Meeting: ISAAC French-Speaking Countries	Chapter Meeting: ISAAC Brazil	Chapter Meeting: ISAAC Norway	Chapter Meeting: USSAAC	Chapter Meeting: ISAAC Denmark	Chapter Meeting: ISAAC India	LUNCH		
1:00 PM												
1:15 PM												
1:30 PM												
1:45 PM												
2:00 PM		ISAAC Outstanding Consumer Lecture <sup>†</sup>										
2:15 PM												
2:30 PM												
2:45 PM												
3:00 PM												
3:15 PM												
3:30 PM	Afternoon Tea											
3:45 PM												
4:00 PM	Supporting Language Development	AACcess to AAC - Vision	Supporting Language Development	BUILDing Emerging AAC Capacity <sup>†</sup>	Collaborative and Inclusive Research	AACcess to AAC - Brain Computer Interface	Informed Decision Making	Research Seminar (Session 3) Eye-gaze for Communication	Telepractice and Mobile Health	Tobii Dynavox Learning Lounge	Poster Pack-Down (A&B)	
4:15 PM												
4:30 PM												
4:45 PM												
5:00 PM												
5:15 PM			Supporting Participation									
5:30 PM				Appreciation Afternoon Tea for Volunteers								
5:45 PM												
6:00 PM												
7:00 PM	President's Reception at The Star, Gold Coast											
8:00 PM												
9:00 PM												
10:00 PM												

## Key

- Concurrent Sessions
- Meetings
- Plenary Sessions or Special Sessions
- Social Events
- Film Festival
- Poster Set-Up or Pack-Down

- Poster Session
  - Empty Sessions
  - Research Seminar
  - Tobii Dynavox Learning Lounge
- <sup>†</sup> Translated Sessions English -> Mandarin



# Schedule

## Wednesday July 25, 2018

Time	Arena 1a	Arena 1b	Room 1	Room 3	Room 4	Room 5	Room 6	Room 7	Room 8	Room 9	Posters Foyer A
8:00 AM											
8:15 AM											
8:30 AM											
8:45 AM				The Road to AAC			AAC Camp				Poster (C, D & E) Set-Up
9:00 AM	Communication Accessible Schools	Language and Literacy <sup>T</sup>	Meeting: Associate Editors		Integrated AAC Systems	Communication Self-Advocacy	Supporting Language Development	AAC and Angelman Syndrome	AACcess to AAC - Switch Access, Eye-gaze and Scanning	Tobii Dynavox Learning Lounge	
9:15 AM				Adapted Homes							
9:30 AM											
9:45 AM											
10:00 AM											
10:15 AM											
10:30 AM	Morning Tea										
10:45 AM	Morning Tea										
11:00 AM											
11:15 AM	Family Impact of Assistive Technology Scale	AACcess to AAC - Switch Access, Eye Gaze and Scanning <sup>T</sup>	Multilingual AAC	Supporting Vocabulary	System Design	Preventing and Responding to Abuse	AACcess to Recreation	Elephant in the Room - AAC Challenges	AACcess to Employment	Tobii Dynavox Learning Lounge	Poster Session C & D
11:30 AM											
11:45 AM							Tone of Voice				
12:00 AM											
12:15 AM											
12:30 AM	LUNCH										
12:45 AM	LUNCH										
1:00 PM	LUNCH		Chapter Meeting: ISAAC Poland	Chapter Meeting: ISAAC Sweden	Chapter Meeting: ISAAC Netherlands and Flanders	Chapter Meeting: Communication Matters (ISAAC UK)	Chapter Meeting: ISAAC Israel	Chapter Meeting: ISAAC Italy	Chapter Meeting: ISAAC Taiwan	LUNCH	
1:15 PM	LUNCH									LUNCH	
1:30 PM	LUNCH									LUNCH	
1:45 PM	LUNCH									LUNCH	
2:00 PM											
2:15 PM											
2:30 PM											
2:45 PM											
3:00 PM		Meeting: ISAAC Membership & Awards <sup>T</sup>									
3:15 PM											
3:30 PM	Afternoon Tea										
3:45 PM	Afternoon Tea										
4:00 PM											
4:15 PM											
4:30 PM	Lightning Pitch (3 min. sessions)	Cultural Considerations in AAC <sup>T</sup>	Meeting: Friends of ISAAC	Publishing in the AAC Journal: Strategies for Success and Impact	Supporting Communicative Competence	Service Provision in the NDIS	Supporting Language Development	Cultural Considerations in AAC	Families	Tobii Dynavox Learning Lounge	
4:45 PM											
5:00 PM											
5:15 PM											
5:30 PM											
5:45 PM	Buses picking up social event attendees at GCCEC										
6:00 PM	Travel time										
6:15 PM	Travel time										
6:30 PM	Travel time										
6:45 PM	Arrive at Dreamworld for 7:00pm start (we need to get to the far side of Dreamworld)										
7:00 PM	Social Event at Dreamworld Corroboree										
8:00 PM	Social Event at Dreamworld Corroboree										
9:00 PM	Social Event at Dreamworld Corroboree										
10:00 PM	Buses leave Dreamworld for GCCEC										

### Key

- Concurrent Sessions
  - Poster Session
  - Meetings
  - Empty Sessions
  - Plenary Sessions or Special Sessions
  - Research Seminar
  - Social Events
  - Tobii Dynavox Learning Lounge
  - Film Festival
  - Travel Arrangements to and from Dreamworld
  - Poster Set-Up or Pack-Down
- <sup>T</sup> Translated Sessions English -> Mandarin



# Schedule

Thursday July 26, 2018

Time	Arena 1a	Arena 1b	Room 1	Room 3	Room 4	Room 5	Room 6	Room 7	Room 8	Room 9	Posters Foyer A	
8:00 AM	Featured Session: Jordan Nguyen											
8:15 AM												
8:30 AM												
8:45 AM												
9:00 AM		AACcess to AAC - Switch Access, Eye-gaze and Scanning <sup>T</sup>	AACcessing the Arts	Parents as Communication Partners	Teaching Approaches for Speech Generating Devices	AACcess to AAC - Vision	Co-construction Patterns in Children who Use AAC	Using AAC to Support Comprehension	Supporting Community and Peer Interactions			
9:15 AM	Lived Experience											
9:30 AM												
9:45 AM												
10:00 AM											Supporting Communicative Competence	
10:15 AM												
10:30 AM	Morning Tea											
10:45 AM												
11:00 AM	Supporting Language	AAC Assessment Processes <sup>T</sup>	AACcessible Police	AAC and Cerebral Palsy	System Design	Lived Experience	AAC in Education	Social Media	Communication Books		Poster Session E	
11:15 AM												
11:30 AM												
11:45 AM												
12:00 AM		AAC Early Intervention <sup>T</sup>							AAC and Autism Spectrum			
12:15 AM												
12:30 AM	LUNCH											
12:45 AM						Forum: Family Engagement	LUNCH	Meeting: BUILD	Meeting: Early Career Researchers		LUNCH	
1:00 PM												
1:15 PM												
1:30 PM												
1:45 PM												
2:00 PM	Training Inclusive Teachers	Emergent Writing	Communication AACcess	Supporting Language Development	AAC in Low-Resourced Nations <sup>T</sup>	Families	Mental Health and Wellbeing	AAC Frameworks	AAC and ALS (MND)	Dare to LEAD Workshop		
2:15 PM												
2:30 PM												
2:45 PM			Classroom-Based Instruction		Private Speech							
3:00 PM						Lived Experience	Friendship					
3:15 PM												
3:30 PM	Afternoon Tea											
3:45 PM												
4:00 PM												
4:15 PM		Closing Ceremony <sup>T</sup>										
4:30 PM												
4:45 PM												

## Key

- Concurrent Sessions
- Meetings
- Plenary Sessions or Special Sessions
- Social Events
- Film Festival
- Poster Set-Up or Pack-Down

- Poster Session
- Empty Sessions
- Research Seminar
- Tobii Dynavox Learning Lounge

<sup>T</sup> Translated Sessions English -> Mandarin



# PROGRAM AT A GLANCE

## Key

<sup>EW</sup>Denotes extended platform (45 mins)

<sup>IW</sup>Denotes interactive workshop

<sup>T</sup>Denotes translated session (Mandarin <--> English)

\*Invited Speaker

## Monday, 23<sup>rd</sup> July

**Chapter Presidents Meeting (08:00-09:00) - Room 4**

**Opening Ceremonies (09:00-10:30) - Arena 1**

**Morning Tea (10:30-11:00)**

**Morning Session (11:00-12:30)**

<b>Arena 1a</b>	11:00-12:30	<b>Stream: Communication Accessible Schools</b>
		1376 Systemic Change for AAC <i>Rosie Clark</i>
		1048 Louis's literacy and communication journey evidenced in a whole school approach <i>Liesl Harper &amp; Phillipa Tonkin</i>
		1223 Empowering educators in AAC – Identifying, planning and implementing communication change within special education settings. <i>Janelle Sampson &amp; Sarah McKenzie</i>
<b>Arena 1b<sup>T</sup></b>	11:00-11:45	<b>Stream: Multilingual AAC</b>
		1112 <sup>EW</sup> Using AAC to help multicultural children learn their second language in a daycare setting <i>Iina Heikurainen, Pauliina Viljanen, &amp; Filippa Andersson</i>
	11:45-12:30	<b>Stream: Communication Partner Training</b>
		1114 <sup>EW</sup> A new tool for coaching communication partners: An interactive online program <i>Iina Heikurainen, Pauliina Viljanen, Pauliina Olasmaa, Mirja Uosukainen, &amp; Paulina Lönnroth</i>
<b>Central C</b>	11:00-12:00	<b>Stream: Communication Self-Advocacy</b>
		1229 Retail inclusion – the problem of complaining <i>Susan Balandin, Erin Wilson, Kevin Murfitt, &amp; Sue Taylor</i>
		1246 There is such a thing as a stupid question <i>Siobhan Daley</i>
<b>Room 4</b>	11:00-12:30	<b>Stream: Communication AACcess</b>
		1049 CapAACCity building across Victorian communities: the Communication Access Network <i>Denise West, Hilary Johnson, Meg Irwin, &amp; Katie Lyon</i>
		1271 Communication Is Always An Issue Of Access <i>Georgia Cranko &amp; Andy Smidt</i>
		1031 Use Easy English. AACcess All Areas What is the research saying? <i>Cathy Basterfield</i>

<b>Room 5</b>	11:00-12:30	<b>Stream: Social Media</b>
		1212 The Implementation of a Cross-Age Peer E-Mentoring Programme for Youth Who Use AAC <i>Emma Grace, Parimala Raghavendra, Jessica Shipman Gunson, &amp; Julie McMillan</i>
		1167 Usability of a Social Media Interface Designed for Individuals with Intellectual Developmental Disability <i>Shira Havousha, Tal Lebel, &amp; Patrice L. (Tamar) Weiss</i>
<b>Room 6</b>	11:00-11:30	<b>Stream: AAC and Rett Syndrome</b> 1399 Parent Communication during shared reading with girls with Rett Syndrome: The impact of print referencing <i>Allison Dennis</i>
	11:30-12:30	<b>Stream: AAC and Autism Spectrum</b> 1065 <sup>W</sup> Autism and Sensory Processing Challenges: recognise and regulate for communication and learning. <i>Fiona Beauchamp &amp; Haylee Parfett</i>
<b>Room 7</b>	11:00-11:45	<b>Stream: AAC and Intellectual Disability</b> 1318 <sup>EP</sup> We Need a Voice too: AAC for the Adult with intellectual Disabilities <i>Elisabeth Fletcher &amp; Traci Peplinski</i>
	11:45-12:30	<b>Stream: System Design</b> 1391 <sup>EP</sup> Free and Low-Cost Software Tools to Help Develop Vocabulary for AAC Systems <i>Russell Cross</i>
<b>Room 8</b>	11:00-12:30	<b>Stream: AACcess to Recreation</b> 1087 <sup>W</sup> Get Moving: The Positive Impact of Physical Movement and Creative Expression On Health and Wellbeing <i>Melinda Smith, Beth Moulam, Emma Green, Dale Gonelli, Laurence Byrne, &amp; Catrin Anderson</i>
<b>Room 9</b>	11:00-12:30	<b>Stream: Sibling Relationships</b>
		1225 Connected through Communication <i>Nicole Tsourlenes &amp; Jennifer Tsourlenes</i>
		1220 Sisterly Love <i>Rhiannon Hopton &amp; Kim Hopton</i>
		1337 KiwiChat Sibling Camp: A Camp Experience for the Siblings of Children with Complex Communication Needs <i>Jessamy Bell, Mike Ninces, Jenna Land, &amp; Sally Clendon</i>

### Lunch (12:30-14:00)

#### Meetings

<b>Room 4</b>	12:45-14:00	Meeting: Research Committee
<b>Room 6</b>	12:45-14:00	Meeting: LEAD
<b>Room 9<sup>T</sup></b>	12:45-14:00	Meeting: Asia Pacific Networking



**Poster Session - Group A (14:00-15:30)**

**Afternoon Session 1 (14.00-15.30)**

<b>Arena 1a</b>	14:00-15:30	<b>Stream: Communication Accessible Schools</b> 1226 A whole school approach to AAC: A school's perspective <i>Cale Begley</i> 1019 Eight Months with Universal Core: How a Teacher-Led Approach Changed One Self-Contained Classroom <i>Lisa Erwin-Davidson</i> 1102 Wear Your Words: Creating Communication AACcess in Schools <i>Deanna Morrow, Jennifer Erickson, &amp; Danielle Deschaine</i>
<b>Arena 1b</b>	14:00-15:00	<b>Stream: Emergency Preparation and Response</b> 1239 <sup>W</sup> Are you ready? Emergencies, Disasters, and People who use AAC and Their Families <i>Amy Goldman, Gabriela Berlanga Ramírez, Dean Sutherland, &amp; Carolyn Phillips</i>
	15:00-15:30	1039 AAC 101: Developing a Basic Course for First Responders in Communicating with Individuals Using AAC <i>Sharon Mankey &amp; Mariesa Rang</i>
<b>Central C</b>	14:00-15:30	<b>Stream: AACcess to AAC - Movement</b> 1347 <sup>W</sup> Teaching movements for communication <i>Claire Cotter &amp; Melissa Riepsamen</i>
<b>Room 4</b>	14:00-15:30	<b>Stream: AAC for Healthcare Settings</b> 1139 Dynamic Trends in AAC Service Delivery in Pediatric Acute Care: A Retrospective Review <i>Rachel Santiago, Michelle Howard, &amp; John Costello</i> 1333 Exploring graphical representation of pain-related vocabulary as preferred by children without disabilities <i>Nina Gerber &amp; Ensa Johnson</i> 1252 Preferences of South African patients and nurses on the content requirements of ICU communication boards <i>Ariné Kuyler &amp; Ensa Johnson</i>
<b>Room 5</b>	14:00-15:30	<b>Stream: An Occupational Perspective</b> 1123 Accessing AAC: The Power of an Occupational Perspective <i>Anne Addison, Leila Nicol, Kim Bates, &amp; Katrina Macleod</i> 1117 To Mount or not to Mount: The Impact of Mounting AAC Devices on Children's Communication <i>Anne Addison, Leila Nicol, &amp; Tom Griffiths</i> 1100 AACcessing Resources to Promote AAC Competencies for the Generalist Practitioner through Interdisciplinary Collaboration and Mentorship. <i>Annabeth Martino &amp; Mara Jonet</i>

<b>Room 7</b>	14:00-15:30	<b>Stream: Factors in Assistive Technology Success</b>
		1046 Speech pathologist perspectives on parent rejection and abandonment of AAC systems: A qualitative study <i>Alison Moorcroft, Nerina Scarinci, &amp; Carly Meyer</i>
		1324 Clinician's Knowledge and Use of Factors that Predict, Moderate, and Mediate AAC Communication Outcomes <i>Stephanie Sievers, David Trembath, &amp; Marleen Westerveld</i>
		1219 Evaluation of Project Core Professional Development Modules: Usage Data and Participant Reported Value <i>Lori Geist, Penelope Hatch, &amp; Karen Erickson</i>
<b>Room 8</b>	14:00-15:30	<b>Stream: Understanding Belonging and Inclusion</b>
		1359 Immured, Suspended, Provisioned: The Meaning of Home for People with Complex Communication (Access) Needs <i>Betty-Jean Dee-Price</i>
		1028 Using Community to Develop Self Worth and Social Identity of Complex Communicators <i>Paula Herrington &amp; Dianna Finlay</i>
<b>Room 9<sup>T</sup></b>	14:00-15:00	<b>Stream: BUILDing Emerging AAC Capacity</b>
		1192 The Preliminary Study of AAC Professional Training in China <i>Tao Wei Wang, Chih-Kang Yang, Yi Chu, &amp; Jing Shan Xu</i>
		1421 Training Paraprofessionals to Facilitate Social Communication for Students with Autism Spectrum Disorder who use AAC <i>Ya Wen Cheng, Ya Ping Wu, &amp; Ming Chung Chen</i>

**Yarning Circle - Town Hall Meeting (14:30-16:30) - Room 6**

**Afternoon Tea (15.30-16:00)**

**Afternoon Session 2 (16:00-17:30)**

<b>Arena 1b</b>	16:00-17:00	<b>Stream: AAC and Rett Syndrome</b>
		1272 <sup>W</sup> Rett Syndrome: time to move and time to communicate <i>Linda Burkhart &amp; Fiona Beauchamp</i>
	17:00-17:30	1343 International Guidelines for Management of Communication in Rett Syndrome <i>Gillian Townend, Theresa Bartolotta, Anna Urbanowicz, Helena Wandin, &amp; Leopold Curfs</i>
<b>Central C</b>	16:00-17:00	<b>Stream: Communication AACcess</b>
		1434 <sup>W</sup> AACcessible written information <i>Hilary Johnson, Katie Lyon, &amp; Rebecca Gallo</i>
		1207 Speech impairment: Deep Neural Network (DNN) to enhance voice banking process for everyone <i>Nicolas Mazars</i>

<b>Room 5</b>	16:00-17:00	<b>Stream: BUILDing Emerging AAC Capacity</b>
		1215 AAC in Croatia – current practice and challenge <i>Ružica Magušić, Jasmina Ivšac Pavliša, Katarina Škorvaga, Klara Popčević, et al.</i>
		1214 Engaging with AAC in Fiji <i>Gwendalyn Webb, Terri Walker, &amp; Cecilia Yee</i>
	17:00-17:30	<b>Stream: Professional Development in AAC</b>
		1308 Hands On Activities for Teaching AAC: Why and How <i>Vicki Haddix</i>
<b>Room 7</b>	16:00-17:30	<b>Stream: Language and Literacy</b>
		1287 Literacy for all. Beginning our journey, building language, creating shared vision, whole school AAC approach. <i>Joanna Pickering</i>
		1211 Writing for the future <i>Kim Hopton</i>
		1041 Visual Literacy Supports for Students who use AAC <i>Pati King-DeBaun</i>
<b>Room 8</b>	16:00-17:30	<b>Stream: Mental Health and Wellbeing</b>
		1302 Augmented Speakers and Mental Health: Let's Talk About It! <i>Kathy Howery &amp; Monica Braat</i>
		1181 Mental Health Matters: perceptions of people with complex communication needs regarding mental health and wellbeing <i>Eleanor Watson, Pammi Raghavendra, &amp; Ruth Crocker</i>
		1396 Early Development of Emotional Competence Tool for Children using AAC: Its Application in Different Communities <i>Ji Young Na, Gabriela Alejandra Rodríguez Rangel, &amp; Birgitte Brandt</i>
<b>Room 9<sup>T</sup></b>	16:00-17:00	<b>Stream: Preventing and Responding to Abuse</b>
		1266 Primary and secondary violence prevention programmes for persons with communication disabilities <i>Robyn White, Amanda Nyberg, Juan Bornman, Ulrika Ferm, &amp; Ensa Johnson</i>
		1198 How to fight sexual abuse? Support for victims to file a complaint by using AAC <i>Ingeborg Thümmel, Andrea Erdélyi, &amp; Tina Meinen</i>
	17:00-17:30	<b>Stream: AAC and Angelman Syndrome</b>
		1141 Integrating AAC and Antecedent Intervention Strategies to Improve Problem Behaviors for Children with Angelman Syndrome <i>Ming Chung Chen, Yu Cheng Lin, Ya Ping Wu, &amp; Chien Chuan Ko</i>

**Publications Committee Meeting (16:30-17:30) - Room 4**

**Welcome Reception (18:00-20:00) - Gold Coast Convention and Exhibition Centre**

# Tuesday, 24<sup>th</sup> July

Tobii Dynavox Learning Lounge (all day) - Room 9

## Morning Session 1 (08:30-10:30)

- Arena 1a** 09:00-10:30 **Stream: Communication Accessible Schools**
- 1230 Learning head-tapping, eye-gaze and PODD: A Catholic high school's response to communication access  
*Max Price & Frankie Roberts*
  - 1387 'But I'm just a teacher' - leading change in schools from the bottom up.  
*Olivia Hepburn*
  - 1082 Communication Accessible Schools: A Pipe Dream or a Reality?  
*Haylee Parfett*
- Arena 1b** 08:30-10:30 **Stream: AAC and Autism Spectrum**
- 1244 <sup>W</sup>Practical Strategies for Providing Basic AAC Intervention for Very Early Communicators with Autism  
*Cynthia Cress*
- Central A<sup>T</sup>** 08:30-10:30 **Stream: AAC and Autism Spectrum**
- 1013 AAC and Autism: A Framework for Building Communicative Competence  
*Betsy Caporale*
  - 1113 Improving Communication in Children with Autism Spectrum Disorder Using AAC: Three Case Studies  
*Xueyun Su, Aihe Li, & Stephen von Tetzchner*
  - 1115 Moving beyond object requesting with AAC: A communication intervention for children with autism spectrum disorder  
*Kristy Logan, Teresa Iacono, & David Trembath*
  - 1242 Video-based modelling interventions for individuals with autism who use AAC: From research to practice  
*Abirami Thirumanickam, Parimala Raghavendra, Julie McMillan, & Willem van Steenbrugg*
- Central C** 08:30-10:30 **Stream: Voice Input and Speech Recognition**
- 1346 Home AACtivation: Possibility and potential for environmental control systems  
*Trina Phuah*
  - 1018 Use of Mainstream Intelligent Digital Assistants by People Who Use Speech Generating Devices  
*Diane Nelson Bryen & Yoo Sun Chung*
  - 1322 The Speech Intelligibility and Consistency of Six Adults with Down Syndrome  
*Christine Holyfield & Kathryn Drager*
  - 1186 VocaTempo: voice input communication aid app for children and teens with dysarthria  
*Rebecca Bright, Mark Hawley, Simon Judge, Daniel Cooper, Francesco Costarelli et al.*

<b>Room 4</b>	08:30-10:30	<b>Stream: Technology Across the Lifecourse</b> 1074 Developing Early Communication Skills: An Evidence-based Approach <i>Bethany Diener</i> 1155 Mastered PECS -- What's Next: Transitioning from PECS to SGDs <i>Sophie Kerr, Lori Frost, &amp; Andy Bondy</i> 1350 Exploring high-tech AAC for Adults with Literacy <i>Mark Street</i> 1300 An AAC system for now and later <i>David Niemeijer &amp; Amanda Hartmann</i>
<b>Room 5</b>	09:30-10:30	<b>Stream: AAC Assessment Processes</b> 1355 <sup>W</sup> Finding and administering appropriate cognitive assessments for people with little or no functional speech <i>Rosemary Crossley &amp; Leslie Zimmerman</i>
<b>Room 6</b>	08:30-10:30	<b>Stream: A Voice in the Justice System</b> 1425 Disability Justice Plan - the South Australia Journey <i>Margie Charlesworth</i> 1015 AAC on Both Sides of the Fence <i>Fiona Given</i> 1267 From Silence to Justice: Facilitators for victims of crime with communication disabilities <i>Robyn White, Juan Bornman, &amp; Ensa Johnson</i> 1010 The role of Article 12 (UNCRC) within guardianship practice relating to people who communicate informally <i>Joanne Watson &amp; Julie Anderson</i>
<b>Room 7</b>	08:30-10:30	<b>Research Seminar Session 1: Eye-gaze for communication</b> 1366 <i>Michael Clarke, Jenefer Sargent, Tom Griffiths, Katie Price, Bronwyn Hemsley, Rosie Cooper et al.</i>
<b>Room 8</b>	08:30-10:30	<b>Stream: Supporting Communicative Competence</b> 1108 Aided communicators' practices to take responsibility for progress in conversations with speech generating device <i>Irina Savolainen &amp; Kaisa Launonen</i> 1255 Confidence and a Willingness to Communicate: Lessons from a Systematic Review of Second Language Acquisition <i>Alyson Spitzley &amp; John McCarthy</i> 1166 Communication breakdowns and repair strategies among adolescents who use AAC: Environmental and personal considerations <i>Orit Hetzroni &amp; Sigal Blum</i> 1137 An Overview of Just-In-Time Supports to Enhance Communication: Clinical Implications and Demonstrations <i>Amanda O'Brien, Meghan O'Brien, &amp; Ralf Schlosser</i>

**Morning Tea (10:30-11:00)**

**Poster Session - Group B (11:00-12:30)**

**Morning Session 2 (11:00-12.30)**

<b>Arena 1b<sup>T</sup></b>	11:00-12:30	<b>Stream: Supporting Language Development</b> 1433 <sup>W</sup> Language Intervention for Children who use AAC <i>Gloria Soto</i>
<b>Central A</b>	11:00-12:30	<b>Stream: System Design</b> 1093 User Centred Design with Disabled Participants: A New SGD Interface Supporting Narrative Prediction <i>Rolf Black, Zulqarnain Rashid, &amp; Annalu Waller</i> 1011 Gathering egocentric video and other sensor data with AAC users to inform narrative prediction <i>Rolf Black, Zulqarnain Rashid, &amp; Annalu Waller</i> 1055 Visual aspects of AAC: AAC professionals' attitudes concerning visual design of AAC <i>Friederike Hoglebe</i>
<b>Central C</b>	11:00-12:00	<b>Stream: AAC in Education</b> 1161 <sup>W</sup> Access-to-Recess: Students with Physical Disabilities use Support Walkers at Recess and Gain Meaningful Peer Interactions <i>Christine Wright Ott, Fei Luo, &amp; Dana Ryals</i>
	12:00-12:30	<b>Stream: Functional Communication Training</b> 1120 Functional Communication Training Involving Augmentative and Alternative Communication in School Settings: A Meta-Analytic Review <i>Virginia Walker, Kristin Lyon, Sheldon Loman, &amp; Samuel Sennott</i>
<b>Room 4</b>	11:00-12:30	<b>Stream: Innovative Service Delivery</b> 1022 Outcomes of delivering a customised non-electronic communication aid service for children <i>Hilary Johnson, Georgia Burn, &amp; Katie Lyon</i> 1299 Setting up new loan service for eye gaze devices in hospital in Singapore <i>Xuet Ying Tan, Kuan Chen T'ng Zenne, Jia Wen Lee, &amp; Xing Tong Yong</i> 1358 Empowering teenagers who use AAC through peer support and mentorship <i>Melissa Riepsamen, Melinda Smith, &amp; Jacob Matthew</i>
<b>Room 5</b>	11:00-11:30	<b>Stream: Sexuality, Romance and Dating</b> 1044 *Developing romantic and sexual relationships: Exploring the lived experiences of people with complex communication needs <i>Darryl Sellwood, Pammi Raghavendra, Ruth Walker, &amp; Paul Jewell</i>
	11:30-12:30	1429 <sup>W</sup> AAC and dating workshop <i>Lisa Sparkles Lehmann &amp; Gabrielle Hogg</i>

<b>Room 6</b>	11:00-11:45	<b>Stream: Communities of Practice in AAC</b> 1179 <sup>EP</sup> The Effect of a Community of Practice on the Communication Skills of Students with CCN <i>Emily Quinn, Alexandria Cook, Kelly Fonner, &amp; Brandon Eddy</i>
	11:45-12:30	1172 <sup>EP</sup> Giving Our Quietest Children a Voice: Examining the Impact of the Quality Indicators of AT <i>Gretchen Cole-Lade, Claudia Otto, Allyson Robinson, Dianna Ross, &amp; Judy Boshart</i>

<b>Room 7</b>	11:00-12:30	<b>Research Seminar Session 2: Eye-gaze for communication</b> 1438 <i>Michael Clarke, Jenefer Sargent, Tom Griffiths, Katie Price, Bronwyn Hemsley, Rosie Cooper et al.</i>
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<b>Room 8</b>	11:00-12:00	<b>Stream: Collaborative and Inclusive Research</b> 1170 Building Intentional, Cohesive Programs of Research: Slow and Steady <i>Cathy Binger &amp; Jennifer Kent-Walsh</i>
		1043 Access to research participation: An evaluation of new methods developed for users of AAC <i>Betty-Jean Dee-Price</i>

**Lunch (12:30-2:00)**

**Meetings**

<b>Arena 1a</b>	12:45-2:00	Chapter Meeting: ISAAC Australia
<b>Central A</b>	12:45-2:00	Chapter Meeting: ISAAC Canada
<b>Central C</b>	12:45-2:00	Chapter Meeting: ISAAC FSC (French Speaking Countries)
<b>Room 4</b>	12:45-2:00	Chapter Meeting: ISAAC Brazil
<b>Room 5</b>	12:45-2:00	Chapter Meeting: ISAAC Norway
<b>Room 6</b>	12:45-2:00	Chapter Meeting: USSAAC
<b>Room 7</b>	12:45-2:00	Chapter Meeting: ISAAC Denmark
<b>Room 8</b>	12:45-2:00	Chapter Meeting: ISAAC India

**ISAAC Outstanding Consumer Lecture (14:00-15:30) - Arena 1<sup>T</sup>**

**Afternoon Tea (15.30-16:00)**

**Afternoon Session 2 (16:00-17:30)**

<b>Arena 1a</b>	16:00-17:00	<b>Stream: Supporting Language Development</b> 1084 A Guide to Communication Partner Skills <i>Amanda Hartmann</i>
		1428 Recast Type, Repair, and Acquisition in AAC Mediated Interaction <i>Gloria Soto, Michael Clarke, &amp; Renee Starowicz</i>
<b>Arena 1b</b>	16:00-17:00	<b>Stream: AACcess to AAC - Vision</b> 1274 <sup>IW</sup> Complex Communication Needs, Switch Access, Vision Challenges, and Literacy Learning <i>Linda Burkhart</i>

<b>Central A</b>	16:00-17:00	<b>Stream: Supporting Language Development</b> 1047 <sup>W</sup> Supporting the AAC User's Authentic Voice in Therapy, the Classroom, Community, and Life <i>Pati King-DeBaun</i>
	17:00-17:30	<b>Stream: Supporting Participation</b> 1105 Workshops and projects to support an introduction to AAC <i>Emmy Kjellmann &amp; Britta Husted</i>
<b>Central C<sup>T</sup></b>	16:00-17:30	<b>Stream: BUILDing Emerging AAC Capacity</b> 1329 Enabling AACcess in Singapore! <i>Sarah M Yong, Sim Mariam Mohd, &amp; Deborah Xinyi Yong</i>
		1050 Past, Current, and Future AAC Practice in Taiwan <i>Meng-Ju Tsai &amp; Tzu-Ting Yu</i>
		1283 Experiences with Augmentative and Alternative Communication in Mainland China <i>Shula Friedrich Shilon, Xiuyin Fu, &amp; Minzhe Xi</i>
<b>Room 4</b>	16:00-17:30	<b>Stream: Collaborative and Inclusive Research</b> 1088 Research Methods for Engaging with Aboriginal Australians from Remote Locations about AAC <i>Rebecca Amery, Julie Wunungmurra, Joanne Gondarra, Rachel Baker, Anne Lowell, et al.</i>
<b>Room 5</b>	16:00-17:30	<b>Stream: AACcess to AAC - BCI</b> 1423 A brain-computer Interface (BCI) access method for MSAA-compatible software including Tobii Dynavox Communicator Five <i>Kelly Fitzpatrick, Charles Carmack, David Goldberg, Kamilya Gosmanova, Jonathan Wolpaw, et al.</i>
<b>Room 6</b>	16:00-17:30	<b>Stream: Informed Decision-Making</b> 1351 Why ACCess to Meaningful Written Information is a social equity, social justice issue. <i>Cathy Basterfield</i>
		1036 Health Rumours: Useful or dangerous? <i>Susan Balandin &amp; Judith Molka-Danielsen</i>
		1250 Addressing patients' understanding of a specific physiotherapy home exercise programme through pictorial support <i>Ensa Johnson &amp; Karien Mostert</i>
<b>Room 7</b>	16:00-17:30	<b>Research Seminar Session 3: Eye-gaze for communication</b> 1439 <i>Michael Clarke, Jenefer Sargent, Tom Griffiths, Katie Price, Bronwyn Hemsley, Rosie Cooper et al.</i>
<b>Room 8</b>	16:00-17:30	<b>Stream: Telepractice and Mobile Health</b> 1052 Clinical Experiences of high tech AAC service delivery through telehealth <i>Anna Bech &amp; Johanna Korkalainen</i>



- 1265 Impact of KWS training via telepractice on the communication of parent-child dyads; mixed-methods pilot study  
*Aylin Huzmeli, Elsie Chang, Monique Hines, Harmony Turnbull, & Andy Smidt*
- 1269 Optimizing Communication Outcomes for South African Children with Developmental Disabilities: The Role of Mobile Technology  
*Juan Bornman, MaryAnn Ronski, Rose Sevcik, Marika King, Kerstin Tonsing, & Refilwe Morwane*

**Central C 15:30-16:00 Appreciation Afternoon Tea for Volunteers**

**President's Reception (19:00-22:00) - The Star Hotel**

## Wednesday, 25<sup>th</sup> July

Associate Editors Meeting (08:00-10:30) - Room 1

Tobii Dynavox Learning Lounge (all day) - Room 9

### Morning Session 1 (08:30-10.30)

- Arena 1a** 08:30-10:30 **Stream: Communication Accessible Schools**
- 1171 Gateways and barriers to staff responsivity towards students who have significant intellectual and developmental disabilities  
*Maayan Shalev & Orit Hetzroni*
  - 1210 A Scoping Review of Research into Supporting Educational Inclusion for Children using AAC  
*Teresa Iacono*
  - 1288 Schools' organisational factors and participation for students using AAC  
*Signhild Skogdal, Anne Nevøy, & Susan Balandin*
  - 1296 Conrad's Adventures  
*Conrad Yinfoo*
- Arena 1b†** 08:30-10:30 **Stream: Language and Literacy**
- 1138 <sup>™</sup>Effects of Embedding Core Vocabulary in Emergent Literacy Instructional Routines  
*Penelope Hatch, Lori Geist, & Karen Erickson*
- Room 3** 08:30-09:30 **Stream: The Road to AAC**
- 1169 Journey to Multimodal Communication AACess. The challenges and benefits for a teenager with Angelman Syndrome  
*Catriona Collins & Hela Munro*
  - 1362 Insights from four mothers who pursued robust AAC for their adult sons with developmental disability.  
*Laura Jones, Yvette Theodorsen, & Jaquie Mills*
- 09:30-10:00 **Stream: Adapted Homes**
- 1164 A Scoping Review of Smart Home Technology and Implications for People with Multiple Disabilities  
*Christina Corso & John McCarthy*
- Room 4** 08:30-10:30 **Stream: Integrated AAC Systems**
- 1026 Accessing Social Media with Grid 3  
*Maggie Mahoney*
  - 1349 Exploring easyChat, a new vocabulary for everyone!  
*Mark Street*
  - 1034 Alternative Access and ALS: Touch to Look with Grid 3  
*Chris Gibbons*
  - 1033 Implementation of Core Strategies in Grid 3  
*Chris Gibbons*
- Room 5** 08:30-10:30 **Stream: Communication Self-Advocacy**
- 1238 Honoring the right to communicate when people say "He does not communicate"  
*Patricia Politano*

		1142	What do people who use communication devices wish speech pathologists knew? <i>Merryn Gibson, Benjamin Bond, &amp; Leanna Fox</i>
		1289	Autistic Advocacy Network NZ - our campaign for access to AAC <i>Gabrielle Hogg</i>
		1089	*Changing the world with AAC USER Action <i>Jieun Park, Ju-hyeon Kim, &amp; Jihye Lee</i>
<b>Room 6</b>	08:30-09:30	<b>Stream: AAC Camp</b>	
		1408	What are parent's and carer's experiences with the Motor Mouth Camp? <i>Frieda Scholten-Laidler, Emily Castell, &amp; Kelly Savage</i>
		1336	KiwiChat Camp: Experiences and Perceptions of Children with Complex Communication Needs and their family/whanau <i>Jessamy Bell, Mke Ninces, &amp; Sally Clendon</i>
	09:30-10:30	<b>Stream: Supporting Language Development</b>	
		1109	<sup>W</sup> Choose Your Words! <i>Amanda Hartmann &amp; Leanne Shane</i>
<b>Room 7</b>	08:30-10:30	<b>Stream: AAC and Angelman Syndrome</b>	
		1275	<sup>W</sup> Communication and Learning Strategies for Individuals with Angelman Syndrome <i>Linda Burkhart &amp; Mary-Louise Bertram</i>
<b>Room 8</b>	08:30-09:00	<b>Stream: AACcess to AAC – Switch Access, Eye-Gaze and Scanning</b>	
		1384	The road less traveled: Quadrant selection acces method. <i>Elizabeth Baird, Anne Marie Renzoni, Ari Rivera, &amp; Casey Morrison</i>
	09:00-10:00	1091	<sup>W</sup> Eye-gaze technology for play and communication in children with cerebral palsy and complex communication needs <i>Petra Karlsson &amp; Anna Bech</i>
	10:00-10:30	1430	*The changes that AAC + eye tracking technology brought me <i>Meijuan Su</i>

### Morning Tea (10:30-11:00)

### Poster Session - Groups C and D (11:00-12:30)

### Morning Session 2 (11:00-12.30)

<b>Arena 1a</b>	11:00-12:00	<b>Stream: Family Impact of Assistive Technology Scale (FIATS)</b>	
		1135	<sup>W</sup> Using the Family Impact of Assistive Technology Scale to Inform AAC Service Outcomes <i>Stephen Ryan, Tracy Shepherd, &amp; Anne Marie Renzoni</i>
	12:00-12:30	1068	Responsiveness of the Family Impact of Assistive Technology Scale for AAC Interventions <i>Stephen Ryan, Tracy Shepherd, Anne Marie Renzoni, Michelle Servais, Shauna Kingsnorth et al.</i>

<b>Arena 1b<sup>T</sup></b>	11:00-12:00	<b>Stream: AACcess to AAC – Switch Access, Eye-Gaze and Scanning</b> 1390 <sup>W</sup> Making Neural Connections : Switch access teaching through the motivation of safe autonomous movement <i>Esther Dakin-Poole &amp; Roger Dakin</i>
	12:00-12:30	1431 Partner Assisted Scanning: Enable the Unexpected <i>Helen Bayldon &amp; Sally Clendon</i>
<b>Room 1</b>	11:00-12:30	<b>Stream: Multilingual AAC</b> 1159 Selecting vocabulary for a diverse population <i>Jose Perez</i> 1216 AACcess Zulu: Determining the core vocabulary of Zulu-speaking preschoolers <i>Jocelyn Mngomezulu, Kerstin Tönsing, &amp; Shakila Dada</i> 1237 Exploring the ability of bilingual children to map graphic symbols onto words in two languages <i>Kerstin Tönsing &amp; Shakila Dada</i>
	11:00-12:30	<b>Stream: Supporting Vocabulary</b> 1341 Word Episodes enhance Lexical Quality and emergent literacy in AAC. <i>Hans van Balkom, Stijn Deckers, &amp; Bart Noé</i> 1092 Core vocabulary and its applicability for atypical populations <i>Stijn Deckers</i> 1386 Naturalistic Speech Generating Device Interventions for Children with Complex Communication Needs <i>Cindy Gevarter &amp; Claudia Zamora</i>
		<b>Stream: System Design</b> 1251 <sup>EP</sup> Developing a novel system to support language acquisition in children with CCN: An ethnographic study <i>Christopher Norrie, Annalu Waller, &amp; Jianguo Zhang</i>
11:45-12:30		<b>Stream: Tone of Voice</b> 1062 <sup>EP</sup> Tonetable - preliminary data regarding young children's use of synthetic tone of voice <i>Shannon Hennig &amp; Graham Pullin</i>
<b>Room 5</b>	11:00-12:30	<b>Stream: Preventing and Responding to Abuse</b> 1059 <sup>W</sup> Speak Up and Be Safe from Abuse – A Communication Toolkit and Training Package <i>Hilary Johnson, Naomi Rezzani, Ruby Yee, Katie Lyon, Liz Weston, &amp; Denise West</i>
<b>Room 6</b>	11:00-12:30	<b>Stream: AACcess to Recreation</b> 1402 It's prAACtically a Party! <i>Keng Hock Teh, Sim Mariam Mohd, Dawn Wee, Dawn Young, Deborah Xinyi Yong et al.</i> 1382 Supporting Participation for Individuals with Complex Communication Before, During and After Recreational Activities <i>John McCarthy, Jamie Boster, David Hajjar, Christina Corso, &amp; Alyson Spitzley</i>

<b>Room 7</b>	1409	Fun and games; AACcess community and FUN through games supported by Augmentative Alternative Communication <i>Sonja Carpenter &amp; Batin Carpenter</i>
	<b>Stream: Elephant in the Room - AAC Challenges</b>	
	1247	Children should be seen AND heard <i>Siobhan Daley</i>
	1331	Dancing with the Elephants in the Room-- Thriving the challenges we can't ignore <i>Zhade Thompson &amp; Lana Jones</i>
<b>Room 8</b>	1312	Feeding the Education Reality <i>Mitchell Leggo &amp; Leane Leggo</i>
	<b>Stream: AACcess to Employment</b>	
	1029	Community and Employment Links: A great Future for AAC and Professional Partners. <i>Robert Oakman &amp; Sarah Fleming</i>
	1080	From Woe to Go: Processes to Support People with Communication Difficulties in the Workplace <i>Hank Wyllie &amp; Louise Hockey</i>
	1392	Employment of persons with disability in low and middle income countries: A scoping review <i>Refilwe Morwane, Shakila Dada, &amp; Juan Bornman</i>

### Lunch (12:30-2:00)

#### Meetings

<b>Room 1</b>	12:45-2:00	Chapter Meeting: ISAAC Poland
<b>Room 3</b>	12:45-2:00	Chapter Meeting: ISAAC Sweden
<b>Room 4</b>	12:45-2:00	Chapter Meeting: Netherlands and Flanders
<b>Room 5</b>	12:45-2:00	Chapter Meeting: Communication Matters (ISAAC UK)
<b>Room 6</b>	12:45-2:00	Chapter Meeting: ISAAC Israel
<b>Room 7</b>	12:45-2:00	Chapter Meeting: ISAAC Italy
<b>Room 8</b>	12:45-2:00	Chapter Meeting: ISAAC Taiwan

### ISAAC Membership and Awards Meeting (14:00-15:30) - Arena 1<sup>†</sup>

### Afternoon Tea (15:30-16:00)

### Lightning Pitch (16:00-17:30) - Arena 1a

### Afternoon Session 2 (16:00-17:30)

<b>Arena 1b<sup>†</sup></b>	16:00-17:00	<b>Stream: Cultural Considerations in AAC</b>
		1432 <sup>W</sup> A Culturally and Linguistic Responsive Approach to AAC <i>Gloria Soto</i>
	17:00-17:30	1401 Building a Network of Support for Filipinos with Complex Communication Needs:The TINIG-AAC Project Ripple Effect <i>Terese Manalansan, Barbara Munar, Anne Aubrey Dulay, Maryelle Ellaine Dy, &amp; Ellyn Cassey Chua</i>

### Room 1 16:00-17:00 Friends of ISAAC Meeting

<b>Room 3</b>	16:00-17:30	<b>W Publishing in the AAC journal: Strategies for Success and Impact</b>
<b>Room 4</b>	16:00-17:30	<b>Stream: Supporting Communicative Competence</b> 1378 The Development of an Assessment Tool to support AAC Practitioners <i>Suzanne Martin</i> 1125 Exploring pragmatic reasoning in children who have physical disabilities and use aided communication. <i>Beata Batorowicz, Lisa Van Osch, Kait Robbins, Nadine Thomas, Jennifer Van Dorp et al.</i> 1306 Adapting the Social Thinking approach for AAC users in school, community and work <i>Kim Mears</i>
<b>Room 5</b>	16:00-17:30	<b>Stream: Service Provision in the NDIS</b> 1335 AAC and the NDIS - Surfing the Waves of Change <i>Gail Bennell</i> 1377 Increasing AACcess to information, choice and control for NDIS planning: A project in co-design. <i>Jaquie Mills &amp; Laura Jones</i> 1086 Kids Chat 2 You – a mobile AAC support service reaching local Victorian communities. <i>Katie Lyon, Julie Curtis, Marion Van Nierop, &amp; Andrea McQueen</i>
<b>Room 6</b>	16:00-17:30	<b>Stream: Supporting Language Development</b> 1107 AACcess language: A systematic review of parent-implemented symbolic AAC interventions for young children <i>Harriet Korner, Mark Carter, &amp; Jennifer Stephenson</i> 1292 Unaided Language Stimulation – the Cinderella of AAC <i>Elizabeth Brownlie</i> 1116 Using iPads and teaching strategies to scaffold communication skills in students with autism <i>Ushagayethri Venkatesh</i>
<b>Room 7</b>	16:00-17:30	<b>Stream: Cultural Considerations in AAC</b> 1085 'I Want to Start Now, I Want to Learn': Views of Aboriginal Adults on AAC <i>Rebecca Amery, Julie Wunungmurra, Joanne Gondarra, Rachel Baker, Anne Lowell, Pammi Raghavendra, Ruth Barker, Libby Massey, and Deborah Theodoros</i> 1277 Te Reo Māori and AAC: we have the right <i>Geneva Hakaraia-Tino &amp; Ann Smaill</i> 1372 Removing Barriers: The AAC Lending Library <i>Karen Baca</i>
<b>Room 8</b>	16:00-17:00	<b>Stream: Families</b> 1129 The ties that bind us: preparing to let go <i>Liz Moulam &amp; Beth Moulam</i>

**Social Event (19:00-22:00) - Dreamworld Corroboree**

## Thursday, 26<sup>th</sup> July

### Morning Session 1 (08:30-10:30)

#### Arena 1A 08:00-09:00 Stream: AACcess Emerging Technology

1437 <sup>W</sup>Featured Session:  
*Jordan Nguyen*

#### 09:30-10:30 Stream: Lived Experience

1304 <sup>W</sup>The Demanding Device: Lived Experience of Speaking through a Speech Generating Device  
*Kathy Howery*

#### Arena 1B<sup>T</sup> 08:30-10:30 Stream: AACcess to AAC – Switch Access, Eye-Gaze and Scanning

1270 <sup>W</sup>Why Two Switches Might be Better Than One for Initial Learning of Switch Access  
*Linda Burkhart*

#### Room 1 09:00-10:30 Stream: Accessing the Arts

1051 Art with the eyes: Digital art therapy using eye tracking for individuals with Rett Syndrome  
*Anatt Friedman*

1284 How was your day? My Film, My Story! teaching method  
*Mascha Legel, Nicola Grove, Gloria Soto, Annalu Waller, Bert Steenbergen, Hans van Balkom et al.*

1187 Communication at a music festival  
*Hanne Juul Jensen & Emmy Kjellmann*

#### Room 3 08:30-10:30 Stream: Parents as Communication Partners

1003 Parent Instruction in Partner Augmented Input  
*Jill Senner, Kathleen Post, & Matthew Baud*

1153 The EXPAND Program: Expanding aided language stimulation habits of parents of children who use AAC  
*Amelia Edwards, Janelle Sampson, & Pammi Raghavendra*

1332 Parents' perspectives in supporting children with complex communication needs using key word sign.  
*Elizabeth (Liz) Allan, Leigha Dark, & Elizabeth (Libby) Brownlie*

1253 Impact of parent-child courses on the implementation of AAC in daily life  
*Ina Steinhaus & Leevke Wilkens*

#### Room 4 08:30-10:30 Stream: Teaching Approaches for Speech Generating Devices

1143 Context-specific vocabulary instruction: Implementation of Unity's masking tool  
*Merryn Gibson & Benjamin Bond*

1221 Implementation of the LAMP approach in mainstream schools  
*Peter Hockley & Ellen Winchester*

		1403 Empowering Communication Partners: Practical Ideas to Support Individuals with Complex Communication Needs <i>Joni Nygard &amp; Jill Tullman</i>
		1071 Using Client Interests in AAC Intervention: More Than Just a Good Idea <i>Bethany Diener</i>
<b>Room 5</b>	09:00-10:30	<b>Stream: AACcess to AAC - Vision</b>
		1090 "Wears glasses": Why AAC professionals should know more about vision in people with complex needs <i>Julie Bradford &amp; Ladan Najafi</i>
		1407 Developing communication and literacy through AAC for students with multiple disabilities including CVI... <i>Amanda Hall, Kate Lonne, &amp; Steph Ingram</i>
		1330 Using PowerPoint Books to Support Communication & Literacy for Students with Cortical Visual Impairments <i>Deanna Wagner &amp; Gretchen Hanser</i>
<b>Room 6</b>	08:30-10:30	<b>Stream: Co-Construction Patterns in Children who use AAC</b>
		1209 Strategies Used by Aided Communicators in a Task of Object Description with Different Partners <i>Debora Deliberato &amp; Stephen von Tetzchner</i>
		1201 Extending and narrowing – developing various ways in utilizing graphic symbols <i>Kirsi Neuvonen, Kaisa Launonen, Martine Smith, &amp; Stephen von Tetzchner</i>
		1345 Co-Construction between children with physical disabilities who use aided communication and their familiar communication partners <i>Gregor Renner, Beata Batorowicz, &amp; Stephen von Tetzchner</i>
<b>Room 7</b>	08:30-10:30	1193 The price of co-construction <i>Kristine Stadskleiv &amp; Stephen von Tetzchner</i>
		<b>Stream: Using AAC to Support Comprehension</b>
		1208 The effect of AAC on the receptive language skills of children with disabilities: scoping review <i>Catherine Flores, Shakila Dada, &amp; Ralf Schlosser</i>
		1234 The effectiveness of augmented input on understanding of directives for children who require AAC <i>Shakila Dada &amp; Ralf Schlosser</i>
		1154 Effect of frequency of AiLgS on receptive vocabulary acquisition in children with CCN and ID <i>Zaiyya Laher &amp; Shakila Dada</i>
		1259 Graphic symbols as a first language revisited: When AAC is needed for receptive language. <i>Sabrina Kustreba &amp; Gayle Porter</i>



<b>Room 8</b>	08:30-10:30	<b>Stream: Supporting Community and Peer Interactions</b>
		1357 Supporting Effective use of AAC with Young Adults with ASD in the Community Setting <i>Sarah Houlahan</i>
		1110 AAC in the workplace: What we learn when we learn to communicate at work <i>Yolanda Fenton</i>
		1061 AAC and puppet making: insights about introducing AAC techniques to unfamiliar communication partners <i>Shannon Hennig</i>
<b>Room 9</b>	09:30-10:30	<b>Stream: Supporting Communicative Competence</b>
		1325 A Peer Training on Interpreting the Behavior of Middle Schoolers with Multiple Disabilities <i>Christine Holyfield, Janice Light, Kathryn Drager, David McNaughton, &amp; Jessica Gormley</i>
		1182 <sup>W</sup> Social Language and AAC: Accessing Social Language Intervention for School-Aged Children with Complex Communication Needs <i>Julie Maurer &amp; Jacqueline Rowland</i>

**Morning Tea (10:30-11:00)**

**Morning Session 2 (11:00-12:30)**

<b>Arena 1A</b>	11:00-11.45	<b>Stream: Supporting Language</b>
		1397 <sup>EP</sup> Anchored approaches in AAC: how to stimulate communicative intent and vocabulary development <i>Loes Lujten, Stijn Deckers, Hans van Balkom, Margje van der Schuit, &amp; Judith Stoep</i>
	11:45-12:30	1395 <sup>EP</sup> Building Morpho-Syntactic Skills using AAC Apps: Measures of Progress <i>Jennifer Kent-Walsh, Cathy Binger, Aimee Bustos, Nancy Harrington, Ashely Willman, &amp; Carolyn Buchanan</i>
<b>Arena 1B</b>	11:00-12:00	<b>Stream: AAC Assessment Processes</b>
		1118 <sup>W</sup> Identifying Appropriate Symbol Communication Aids for Children: Evidence based resources to enhance clinical decision making; <i>Janice Murray, Yvonne Lynch, Nicola Randall, Liz Moulam, Stuart Meredith, Simon Judge, et al.</i>
	12:00-12:30	<b>Stream: AAC Early Intervention</b>
		1410 Communication in Early Intervention; not a product but a process <i>Sonja Carpenter</i>
<b>Room 1</b>	11:00-12:00	<b>Stream: Accessible Police</b>
		1053 Creating accessibility for people with communication difficulties within Victoria Police services <i>Denise West, Georgia Burn, Barb Solarsh, Katie Lyon, &amp; Hilary Johnson</i>

		1279	Implementing a disability sensitivity training programme with police officers taking statements from persons with CCN <i>Erna Viljoen, Juan Bornman, &amp; Kerstin Tonsing</i>
<b>Room 3</b>	11:00-12:00	<b>Stream: AAC and Cerebral Palsy</b>	
		1195	Fast Acquisition of Graphic Communication by an Adolescent with Cerebral Palsy in Harbin, China <i>Kristine Stadskleiv, Stephen von Tetzchner, Lu Liu, &amp; Hanne Marit Bjoergaas</i>
		1222	Intensive AAC intervention compared with speech intervention for communication participation with children with cerebral palsy <i>Johanna Korkalainen, Patricia McCabe, &amp; Andy Smidt</i>
<b>Room 4</b>	11:00-12:00	<b>Stream: System Design</b>	
		1160	Applying User Centered Design to AAC solutions, services and supports <i>Jose Perez</i>
		1235	Development and evaluation of a message banking application for Amyotrophic Lateral Sclerosis: a human-centered design <i>Giordana Donvito, Irene Malberti, Susanna Pozzi, Gaia Gagnano, Elena Carraro, Christian Lunetta, et al.</i>
<b>Room 5</b>	11:00-12:00	<b>Stream: Lived Experience</b>	
		1258	Compensatory strategies for AAC use from a non-speaker person with autism <i>Timothy Chan</i>
		1083	Access to an easier life - one AAC user's personal journey <i>Joseph Harrall &amp; Sue Suter</i>
		1338	The hard road to ACCess AAC <i>Gregory Dean &amp; Leanna Fox</i>
<b>Room 6</b>	11:00-12:00	<b>Stream: AAC in Education</b>	
		1014	<sup>W</sup> SPAACES: Systematic Planning for AT/AAC Application in the Educational Setting <i>Betsy Caporale &amp; Emily Murchison</i>
<b>Room 7</b>	11:00-12:00	<b>Stream: Social Media</b>	
		1282	<sup>W</sup> Learning to Use Twitter Strategically and Safely: An Evidence-Based Training Workshop <i>Bronwyn Hemsley, Simon Stevens, &amp; Sara Ezekiel</i>
	12:00-12:30	1067	Internet and social media use by young people with complex communication needs: An international study <i>Ingo Bosse, Gregor Renner, Pammi Raghavendra, Martine M. Smith, &amp; Leevke Wilkens</i>
<b>Room 8</b>	11:00-12:00	<b>Stream: Communication Books</b>	
		1002	<sup>W</sup> Paper-Based AAC FlipBooks: When, How, Why do they matter? <i>Deanna Wagner, Caroline Musselwhite, &amp; Gretchen Hanser</i>

12:00-12:30	<b>Stream: AAC and Autism Spectrum</b> 1130 Teaching preschool children with ASD to request using an SGD with differing visual displays <i>May Agius, Jois Stansfield, Emma Turley, Beata Batorowicz, &amp; Janice Murray</i>
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**Poster Session - Group E (11:00-12:30)**

**Dare to LEAD Workshop (12:00-4:00) - Room 9**

**Lunch (12:30-2:00)**

**Meetings**

<b>Room 1</b>	12:45-2:00	Meeting: 2018-2020 Executive Board Meeting
<b>Room 5</b>	12:45-2:00	Meeting: Family Engagement Forum - Striving for Thriving: An Open Forum on Families of All Kinds
<b>Room 7</b>	12:45-2:00	Meeting: BUILD Meeting
<b>Room 8</b>	12:45-2:00	Meeting: Early Career Researchers

**Afternoon Session (14.00-15.30)**

<b>Arena 1A</b>	14:00-15:00	<b>Stream: Training Inclusive Teachers</b> 1016 Measuring the Efficacy of a Teacher Training Program to Promote AAC Use in Inclusive Preschools <i>Michelle Schladant, Monica Dowling, Sarah Messiah, &amp; Ruby Natale</i>
		1227 COCP in the classroom: training and coaching teachers on equal participation in groups <i>Margriet J.M. Heim, Elise Brinkman, Annemiek Veen, &amp; Vera Jonker</i>
<b>Arena 1B</b>	14:00-14:45	<b>Stream: Emergent Writing</b> 1037 <sup>EP</sup> Aided language stimulation and emergent writing strategies improve language outcomes for emergent... <i>Rachel Dougherty &amp; Nicholas Drover</i>
	14:45-15:30	<b>Stream: Classroom Based Instruction</b> 1218 <sup>EP</sup> Classroom-based Communication Instruction: Project Core Year 3 <i>Lori Geist, Penelope Hatch, &amp; Karen Erickson</i>
<b>Room 1</b>	14:00-15:30	<b>Stream: Communication AACcess</b> 1030 <sup>IW</sup> Creating momentum for a communication access world movement. <i>Barbara Solarsh, Hilary Johnston, Meredith Allan, Denise West, Georgia Burn, &amp; Katie Lyon</i>
<b>Room 3</b>	14:00-14:45	<b>Stream: Supporting Language Development</b> 1385 <sup>EP</sup> A glimpse into the sausage factory: Automatic data Logging and self-directed learning. <i>Paul Andres</i>
	14:45-15:30	<b>Stream: Private Speech</b> 1196 <sup>EP</sup> Private speech and aided communication <i>Kristine Stadskleiv &amp; Stephen von Tetzchner</i>

<b>Room 4<sup>T</sup></b>	14:00-15:30	<b>Stream: AAC in Low-Resourced Nations</b>
		1416 PODD implementation in Brazil as an AAC Resource <i>Mariane Alves Graciano Malatesa &amp; Alessandra Gomes Buosi</i>
		1194 AAC at the source of the Nile <i>Kristine Stadskleiv, Stephen von Tetzchner, Juliete Wanyenze Wamukoota, Kerstin Hellberg, &amp; Paul Eria Njuki</i>
	1232 Selection of assistive technology to children in a low resourced environment: Perspectives from rehabilitation professionals <i>Karin van Niekerk, Shakila Dada, &amp; Kerstin Tönsing</i>	
<b>Room 5</b>	14:00-15:00	<b>Stream: Families</b>
		1311 Transitioning into adulthood: the relationships between mothers and daughters with cerebral palsy who use AAC <i>Jia Wen Lee, Andy Smidt, Angela Dew, Georgia Cranko, &amp; Lynne Segal</i>
	1276 Communication AACcess across the divide of international adoption and disability; a mother and daughter's reflection <i>Batin Carpenter &amp; Sonja Carpenter</i>	
	15:00-15:30	<b>Stream: Lived Experience</b>
		1035 My Desert Island Discs: Ten songs telling the story of my life and disability <i>Alan McGregor &amp; Rolf Black</i>
<b>Room 6</b>	14:00-15:00	<b>Stream: Mental Health and Wellbeing</b>
		1146 <sup>W</sup> "I hate my body "I want to die"! <i>Tracy-Kim Gilchrist, Catrin Anderson, &amp; Kim Anderson</i>
	15:00-15:30	<b>Stream: Friendship</b>
		1400 Fostering friendships over time and place when AAC is part of the picture <i>Lana Jones &amp; Zhade Thompson</i>
<b>Room 7</b>	14:00-15:00	<b>Stream: AAC Frameworks</b>
		1094 Blueprint of the communicator: A new theoretical model for AAC <i>Stijn Deckers</i>
		1063 Social Communication Equation - introducing a framework to organise clinical practice around social communicative competence <i>Shannon Hennig</i>
<b>Room 8</b>	14:00-14.45	<b>Stream: AAC and ALS</b>
		1393 <sup>EP</sup> ALS and Speech synthesis, voice banking and message banking: History, current and future trends <i>John Costello &amp; Meghan O'Brien</i>
	14:45-15:30	1134 <sup>EP</sup> A Model for Proactive Comprehensive AAC Intervention for People with ALS <i>John Costello</i>

**Afternoon Tea (15.30-16:00)**

**Closing Ceremonies<sup>T</sup> (16:00-17:00) - Arena 1**



# POSTER PRESENTATION SCHEDULE

## Monday 23 July at 2pm

### Group A: AACcess Language and Literacy

- 1020 Instructional & Interactive Strategies to Enhance Communication Functioning of Children with Down Syndrome: Treatment Study  
*Kati Skulski, Celia Hughell & Marilyn Buzolich*
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- 1054 Developing communication culture through Intensive Interaction in school environment  
*Kaisa Martikainen & Katja Burakoff*
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- 1066 Children's matching-rank for the graphic symbols representing the verb depending on the degree of complexity  
*Jeewon Yoo, Soyoung Jung, Jihee Jung, SeokJeong Yeon, Eunhye Park et al.*
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- 1070 Decision-making to Promote Communicative Competence Among Individuals Who Use AAC: A Survey of AAC Experts  
*Virginia Walker, Sarah Douglas, Melinda Snodgrass, & Yun-Ching Chung*
- 
- 1075 Navigation Ease and Preference of two Communication Applications  
*Daphne Hartzheim, Surani Nakkawita, & Cara Tyson*
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- 1076 Investigating the Effect of Parent Training on Increasing Children's AAC Use  
*Allison Bean Ellawadi, Lindsey Paden Cargill, & Samantha Lyle*
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- 1077 Using an Immersive Classroom to Increase Vocabulary Learning and AAC use in School-Age AAC Users  
*Lindsey Paden Cargill, Samantha Lyle, & Allison Bean Ellawadi*
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- 1079 Knowledge to Action Roadmap for Literacy Education of Children with SSPI who Use AAC  
*Pascal Lefebvre, Jocelyn Barden-Underhill, Amita Bhargava Furgoch et al.*
- 
- 1081 Measuring Early Language Comprehension: Strategies, Technologies, and Challenges  
*Mary Ann Ronski, Nancy Brady, Rose Sevcik, Evelyn Fisher, & Kristen Muller*
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- 1095 Perception of Ewha-AAC Graphic Symbols for Verbs and Adjectives in Children with Intellectual Disabilities  
*Seok Jeong Yeon, YoungTae Kim, & Eun Hye Park*
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- 1124 Capturing Characters: A Photography Intervention to Support Participation for Children with Complex Communication Needs  
*Jamie Boster & John McCarthy*
- 
- 1140 Preservice Student Perspectives on an AAC Camp Experience  
*Karen Pollock & Wendy Quach*
- 
- 1144 Parent Perspectives on an AAC Camp Experience  
*Wendy Quach, Karen Pollock, Jessica Klassen, & Brianne Simpson*
- 
- 1191 Better life with Bliss: the implementation of a three-year long intervention project  
*Kristine Stadskleiv, Lisbeth Seeland, Kerstin Hellberg, Torhild Kausrud et al.*
- 
- 1199 Multipurpose Handheld Devices and Communication in Individuals with Autism Spectrum Disorder: A meta-Analysis  
*Nouf Alzrayer, Devender Banda, Rahul Ganguly, & Rajinder Koul*

- 
- 1241 Assessing Skills and Treatment Progress in Preintentional Communicators with CCN of all Ages: The BCBS  
*Cynthia Cress, Teresa Parrill, Janice Swanson, & Amy Olson*
- 
- 1243 Tempt-Trigger Intervention to Promote Intentional Communication in Two Young Children with CCN  
*Cynthia Cress & Susan Lien*
- 
- 1257 Sensengage: Sensory engagement for people with severe and profound intellectual disabilities  
*Andy Smidt, Sheridan Forster, Sinead Quinlan, & Lauren Yuile*
- 
- 1294 The Effects of AAC Intervention Using Eye Tracking for Students with Severe and Multiple Disabilities  
*Kyung-Yang Kim*
- 
- 1310 Speaking of Silence: Questioning silences in AAC use  
*Renee Starowicz & Gloria Soto*
- 
- 1320 Choosing from the smorgasboard of interventions for people with CCN: A clinical decision-making framework  
*Andy Smidt & Aylin Huzmeli*
- 
- 1327 Increasing Communication Rate: Multiword Core Vocabulary Sequences for French Children Who Use AAC Systems  
*Manon Robillard, Stéphanie Beaulieu, & Émilie Moore*
- 
- 1339 Imagining the possibilities: The journey towards obtaining AAC  
*Sebastian Caon, Peta Booth, & Jessica Moll*
- 
- 1352 Measuring Outcomes of Robust Aided Language System Implementation with Young Children  
*Tasha Haran & Gayle Porter*
- 
- 1356 Eyegaze use in daily life of Spinal Muscular Atrophy children – parents' experiences  
*Grazia Zappa, Chiara Mastella, Katia Alberti, & Maria Antonella Constantino*
- 
- 1361 Response to Augmentative and Alternative Communication-based intervention and expressive language outcomes  
*Veronica Rose, David Trembath, Deb Keen, & Jessica Paynter*
- 
- 1369 Language development and the use of Signs in Kleefstra Syndrome – a case study  
*Luciana Maria Wolff & Maria Cecilia de Moura*
- 
- 1370 AAC to grow: Cognition, Language and use of AAC in SMA1 Children in Italy  
*Grazia Zappa, Chiara Mastella, Priscilla Corti, & Maria Antonella Constantino*
- 
- 1379 The experience of social adaptation of young children with Down syndrome  
*Elvira Stolyarova, Elena Shamro, Elena Ogorodnikova, & Stephen von Tetzchner*
- 
- 1380 Assessing communication skills of adults with profound ID: Is the theory of intentionality helpful?  
*Sheridan Forster*
- 
- 1394 Evaluation of two methods for graphically representing emotional content in functional phrases.  
*Hyeju Han & John McCarthy*
- 
- 1410 Augmentative and Alternative Communication in Early Intervention; not a product but a process  
*Sonja Carpenter*
- 
- 1414 Pragmatic evolution of six children with cerebral palsy after one year of PODD implementation.  
*Alessandra Gomes Buosi & Mariane Alves Graciano Malatesta*
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## Tuesday 24 July at 11am

### Group B: AACcess the Asia Pacific Region and the World

- 1004 Attitude of high school students toward a young adult using augmentative and alternative communication  
*Kyung-Im Han & Yunhye Goh*
- 
- 1021 Providing repurposed technology and educational coaching to diverse learners across the globe  
*Kati Skulski & Dan Phillips*
- 
- 1024 Eye communicate with mainstream technology: A case study of a young girl with Rett Syndrome  
*Deborah Xinyi Yong, Sarah Yong, & Keng Hock Teh*
- 
- 1045 Let's go – castle  
*Noah Nemec*
- 
- 1119 Knowledge and Perception of AAC Use for Individuals with Disabilities in an AAC-Emerging Area  
*Mo Chen & Wa Liu*
- 
- 1122 A-Speak: Thai AAC application for people with communication difficulties  
*Alisa Suwannarat, Rachaporn Keinprasit, Nitha Ungsuprasert et al.*
- 
- 1126 Scoping review: Augmentative and alternative communication (AAC) interventions and training partners in low-and-middle income countries  
*Nimisha Muttiah-Fonseka & Kathryn Drager*
- 
- 1127 Parent perspectives on augmentative and alternative communication (AAC) applications and interventions in Sri Lanka  
*Nimisha Muttiah-Fonseka & Kathryn Drager*
- 
- 1158 Provision of AAC services in Malta  
*May Agius, Sharon Borg Schembri, Antoine Cauchi, Jamie Said, & Martina Zarb*
- 
- 1184 Framework for Analyzing Commercial Aided AAC in Chinese Communities  
*Ming Chung Chen, Ya-Wen Kuo, Shih-Han Chen, Chih-Kang Yang et al.*
- 
- 1197 AAC for Adults with Intellectual Disabilities: Current Status and Prospective from Programs in Taipei  
*Chi-Zong Tsou, Yun Hsi, & Yin-Hsin Liu*
- 
- 1204 Building National Capacity to support AAC as an Early Intervention Method in Croatia  
*Klara Popčević, Jasmina Ivšac Pavliša, Željka Car, Ružica Magušić et al.*
- 
- 1205 Experiences in implementation of AAC in children with Autism Spectrum Disorder in Croatia  
*Monika Rosandić, Klara Popčević, & Jasmina Ivšac Pavliša*
- 
- 1245 The Effect of Aided Language Stimulation to individuals with complex communication needs in Taiwan  
*Hsiu Ching Lee, I Shin Lai, & Meng Jei Wu*
- 
- 1286 A-Tech Project: New Rehabilitation Program for Families with Children who have Special Needs in Russia  
*Ekaterina Klochkova, Irma Dzhaoshvili, Aleksandra Urvacheva et al.*
- 
- 1309 Augmentative and Alternative Communication Promotes Spoken Language: A Case Study  
*Feng Xia, Meixian Huang, Shula Friedrich Shilon, Kristine Stadskleiv et al.*
- 
- 1314 To Find Ways to Improve Social Interaction and Communication Opportunities for Child with Cerebral Palsy  
*Monica Kaniamattam & Judith Oxley*
- 
- 1317 Augmentative and Alternative Communication for Chinese Children with Autism Spectrum Disorders: Experiences from Wucailu Center  
*Minzhe Xi, Menglin Sun, Xiuyin Fu, Yong Liu, Mei Liu, Mengtan Zhao et al.*

- 
- 1340 Report on the First East Asian Regional AAC Conference  
*Menglin Sun, Xiuyin Fu, Yong Liu, Mei Liu, Kristine Stadskleiv et al.*
- 
- 1363 Can ASD children access community using iPad as an AAC tool?: Perspectives from Singapore  
*Vasanthi Asaithambi, Vickneswary Rajo Mutaya, Caroline Tan et al.*
- 
- 1405 Investigating remote coaching modalities to ensure AAC intervention fidelity among parents and professionals  
*Charles Fage, Pascale Grevesse, & Christelle Maillart*
- 
- 1417 The Global AAC Initiative  
*David Goldberg*
- 
- 1420 Reviewing the Current Language Assessment Tools in Taiwan for AAC users  
*Ming Chung Chen & Shu Ching Lee*

## Wednesday 25 July at 11am

### Group C: AACessing Emerging Technologies

- 
- 1025 Supporting users around with world with communication through Grid 3  
*Maggie Mahoney & Julia Scott*
- 
- 1058 Introducing Open Communication Boards SW & AAC linked with Google Drive  
*Min Hwi Joo & Jae Sung Lee*
- 
- 1064 A Preliminary Examination of Technical, Programming, and Implementation Support in Full Communication AAC Apps  
*Allison Bean Ellawadi, Lindsey Paden Cargill, & Samantha Lyle*
- 
- 1103 Creating New Zealand voices: Donor perspectives of the voice banking process  
*Michelle Westley, Dean Sutherland, & Tim Bunnell*
- 
- 1104 Development of Augmentative Alternative Communication System using Necklace Switch and EMG Sensor  
*Gyu Chang Lee, Seong Jun Lee, Geom Ju Lee, Dong Geon Lee et al.*
- 
- 1149 AAC on Demand: The use of webinar to enhance knowledge of AAC  
*Kirsty Holcombe & Sebastian Caon*
- 
- 1228 Filling the Gaps - Supporting spoke services through provision of AAC equipment and training  
*Ladan Najafi & Julie Bradford*
- 
- 1231 Effectiveness of a communication app developed for people with aphasia  
*Mineko Booka, Tetsuya Hiroto, Miyabi Sakai, & Fuko Kitamura*
- 
- 1236 Innovation in speech solutions in Amyotrophic Lateral Sclerosis: a case report  
*Giordana Donvito, Anna Marconi, Lucia Greco, Stefania Bona et al.*
- 
- 1278 Conversations using Augmentative and Alternative Communication: More than just 'talk'.  
*Jane Remington-Gurney & Jayne Clapton*
- 
- 1323 Testing Current Speech Recognition Technologies Against the Speech of Adults with Down Syndrome  
*Christine Holyfield & Kathryn Drager*
- 
- 1334 Enhancing communication within vocational tasks for adolescents with ASD using AAC video visual scene displays  
*Tara O'Neill, Salena Babb, Jessica Gormley, Janice Light & David McNaughton*
- 
- 1364 Online information access by families using AAC: A new application for usability testing methods.  
*Kate Anderson, Adam Wilson, Joanne Watson, & Veronica Halupka*



#### Group D: AACcess Education, Employment, and Culture

- 1006 Development of Web-based Augmentative and Alternative Communication  
*Kyung-Im Han & Myung-Chul Jung*
- 
- 1042 Ethical Challenges in Using Autoethnography as a Method  
*Meredith Allan, Susan Balandin, & Patsie Frawley*
- 
- 1056 Wisdom from the Field: The Training Experiences of AAC Practitioners  
*Sarah Douglas, Patricia West, & Rebecca Kammes*
- 
- 1131 A Survey of Speech-Language Pathologists Regarding AAC in the United States  
*Joanne Naylor*
- 
- 1168 “The only thing that interferes with my learning, is my education” - Albert Einstein  
*Caitriona Tynan*
- 
- 1188 Interview as tool for obtaining information and planning communication intervention for children with multiple disabilities  
*Olga Askenova, Svetlana Leschenko, & Stephen von Tetzchner*
- 
- 1224 Augmentative and Alternative Communication for a Girl with Cornelia de Lange Syndrome  
*Oksana Kryvonogova, Liydmyla Vdovenko, Vera Fomychova et al.*
- 
- 1262 Conversations without speech: Strategies, systems and styles of conversation used by adult communication assistants  
*Jane Remington-Gurney*
- 
- 1273 AACcessing Student SLP Experiences: The value of learning about AAC for the future workforce  
*Harmony Turnbull, Andy Smidt, & Aylin Huzmeli*
- 
- 1280 Educating students with complex communication needs for a more independent future  
*Samantha White & Kate Eddy*
- 
- 1285 Misguided Guidelines: Changing inappropriate educational policy for students with little or no functional speech  
*Chris Borthwick & Rosemary Crossley*
- 
- 1290 I Have a Dream  
*Victor Lam & Rosemary Crossley*
- 
- 1298 Formatting Maths for Head Pointer Access  
*Wendy Yinfoo*
- 
- 1307 Non-formal Activities for Inclusive Groups Of Students – Non4mal 4 All  
*Mariana Meran, Alina Stefania Tutu, Daniela Madalina Constantin et al.*
- 
- 1319 Adolescent Identity Stances with AAC: implications of SGD Access and Language Development  
*Renee Starowicz & Gloria Soto*

## Thursday 26 July at 11am

#### Group E: AACcess the Community, Relationships, Diversity, and Justice

- 1012 I have Aphasia: An app designed by people with aphasia for people with aphasia  
*Rolf Black & Chris Kelly*
- 
- 1027 Construct Validity of the Family Impact of Assistive Technology Scale for Augmentative and Alternative Communication  
*Amie Kron, Virginia Wright, Shauna Kingsnorth, & Steve Ryan*

- 
- 1078 The Relationship Between Parent and Teacher Buy-In, Operational Competency and Children's AAC Use  
*Samantha Lyle, Lindsey Paden Cargill, & Allison Bean Ellawadi*
- 
- 1101 Growing AAC Camps Internationally: from Idea to Practice  
*Valerie Arbeau, Anne Kuhlmeier, & Karen Pollock*
- 
- 1106 Remember to communicate off-line  
*Jeppe Forchhammer*
- 
- 1111 Having my cake and eating it too  
*Emma Green & Toni Green*
- 
- 1128 Supporting Participation for Individuals with Complex Communication Needs through Art: A Systematic Review  
*Jamie Boster, John McCarthy, Christina Corso, & Alyson Spitzley*
- 
- 1132 Collectivism and Individualism: Implications of Cultural Underpinnings for Service Delivery  
*Stephen Lum & Kathryn Drager*
- 
- 1136 AAC is my voice, it means everything to me: Exploring meaning and value of AAC  
*Denise Abraham & Martine Smith*
- 
- 1173 Public Patient Involvement: Promoting a partnership rather than consultation model  
*Liz Moulam, Stuart Meredith, Yvonne Lynch, Juliet Goldbart, & Janice Murray*
- 
- 1200 Community-based speech therapy in Early Childhood Education and Care  
*Taina Olkinuora & Virpi Hämäläinen*
- 
- 1213 Symmetry: Measuring Augmented and Mouth Speaker Performances across Four Communication Tasks  
*Jennifer Seale, Jeff Higginbotham, & Ann Bisantz*
- 
- 1240 Effective Questions while Showing Photographs Aimed at Augmenting Storytelling of Residents in Nursing Homes  
*Haruka Kanetsuku, Tetsuya Hiroto, & Sachiko Hara*
- 
- 1268 The Role of Siblings in AAC Interventions  
*Elena Radici & Marco Castiglioni*
- 
- 1293 Interaction between user of Augmentative and Alternative Communication Systems and Unfamiliar Interlocutor: A Qualitative Study  
*Surani Nakkawita & Daphne Hartzheim*
- 
- 1297 About Me  
*Conrad Yinfoo & Wendy Yinfoo*
- 
- 1315 Bilingual Core Vocabulary List for Children Who Use AAC  
*Robillard Manon, Kelsey Lapointe, Catherine Contant et al.*
- 
- 1321 Talking about death and dying with a communication disability – a research protocol  
*Liqing Zheng, Kate Anderson, & Joanne Watson*
- 
- 1326 The Impact of Age and Bilingualism on Children's Core Vocabulary  
*Manon Robillard, Émilie Moore, Joannie Morris, Alyshia Kiernan et al.*
- 
- 1328 Child-Family-Provider Interactions on an Inpatient Rehabilitation Unit: A Preliminary Investigation  
*Jessica Gormley & Janice Light*
- 
- 1374 A family affair: intergenerational conversations on the need for and use of AAC  
*Shyamani Hettiarachchi, Gopi Kitnasamy, Dilani Gopi et al.*
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# MAIN CONFERENCE ABSTRACTS

## SUBMISSION ID 1146

Interactive (60 minutes)

### “I hate my body” “I want to die”!

Tracy-Kim Gilchrist | Catrin Anderson | Kim Anderson

According to the Australian Bureau of Statistics (ABS) 2007 National Survey of Mental Health and Wellbeing Study, approximately one in every five Australians from the age of 16 – 85 have experienced a mental disorder, with young adults aged 16 – 24 years having the highest prevalence of 26%. The presence of a communication disorder, dysphagia, and speech and language problems reportedly indicate an increased need for mental health services as opposed to the general population. There does not seem to be specific data exploring the incidence and onset of depression and anxiety disorders in those using Alternative and Augmentative Communication (AAC) and even less information when specifically targeting adolescence, AAC and emotional/psychological/mental wellbeing.

It is a given that there are multiple and complex challenges affecting social, behavioural, psychological, and emotional wellbeing in those with little or no functional speech, and the complexity of these issues requires a multidisciplinary approach. The purpose of our workshop is to focus on the life skill resources and tools we have developed and have used to promote overall wellbeing in the face of the daily challenges confronting individuals with complex communication needs, as well as their families, carers and professional team.

It took Catrin around 30 minutes to use her manual board, accessed with eye gaze, to tell me ... “I hate my body” “I want to die!” At 14 years old, Catrin was entering puberty, in a support unit in mainstream school, her social group was diminishing, and her close friend G had just died. Her independent access to communication was extremely limited. Her inner emotional pain and withdrawing was obvious and deeply concerning for all who loved her. She refused to use her speech generating device and was manifesting signs of depression. Intervention with a highly qualified psychologist was employed, but lack of experience in working with an AAC user became a barrier. We were forced to find alternative means to facilitate Catrin’s healing and provide life-skills to thrive.

Being an AAC specialist (and a parent) has demanded personal development and training in both emotional healing techniques and mindfulness practices, which facilitated the design of a purpose-built system. Emotional and psychological wellbeing is an integral part of living a fulfilling and joyful life, and to foster this state requires self-awareness.

Catrin needed effective and timely access to what she wanted to share (typical to any teenager), as well as the, “disability” related issues. She needed to develop the awareness of what was happening in her body, her mind and her heart. After research, and based on experience, we knew that just identifying issues alone would not support wellbeing. We also needed to be aware of the emotions associated with these issues/concerns, and then finally we would need to “shift” the energy to promote an integrated “well being” practice. So, I designed just that, and her mum built it and Catrin uses it with her family and caregivers... almost EVERY DAY. She values it so much that she wants to share it with other teenagers and young adults.

This workshop will share the framework of the entire system including the major categories of issues identified (to be relevant to teenagers) as well as to individuals with disabilities. We will also share the “prompts” with ideas so that the audience can create their own framework. Categories to be discussed include: Body/Physical; Teenager/Adolescence; Social; Emotional; Academic/Mental; Spiritual; Future; Death/Loss; and Anything/Something Else.

Each of these categories has underlying “prompts” for example under Body/Physical may be the prompt related to “pain” or “tired”, or under “Death/Loss/Letting go” it might say, “missing someone”. We also hope to give the audience not only a demonstration but also a personal experience of the awareness tools as well as the strategies and resources to support wellbeing.

Catrin will share herself what the results of using this tool have been. Needless to say, four years later she rarely misses a day without using her wellbeing board and also asks for meditation daily. As a parent, Kim feels that so many parents of children with disabilities feel helpless when they reach a phase of shutdown, sadness and self-loathing. This tool potentially offer teenagers and their families a way to support genuine mental/emotional/psychological wellbeing and perhaps potentially reduce the onset of mental health issues so strongly associated with communication disorders.

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Speech Pathology in Mental Health Services. (2010). The Speech Pathology Association of Australia Limited.

**Evidence Area:** AACcess diversity, AACcess culture, AACcess relationships

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

## **‘I Want to Start Now, I Want to Learn’: Views of Aboriginal Adults on AAC**

**Rebecca Amery | Julie Wunungmurra | Joanne Gondarra | Rachel Baker | Anne Lowell | Pammi Raghavendra | Ruth Barker | Libby Massey**

### **BACKGROUND**

Machado Joseph Disease (MJD), also known as Spinocerebellar Ataxia Type 3 (SCA3) is a rare neurodegenerative genetic disease which affects muscle coordination and control. MJD is the most common form of Spinocerebellar Ataxia globally<sup>1</sup>. Symptoms include progressive dysphagia, dysarthria and anarthria in the severe stages of the disease, but cognition is unimpaired. People with MJD may benefit from Augmentative and Alternative Communication (AAC) systems in moderate and severe stages of the disease.

The prevalence of MJD amongst Aboriginal Australians in the Top End of the Northern Territory is 100 times the global average with more than 650 people at risk of the disease<sup>2</sup>. Yolŋu are the Indigenous people of northeast Arnhem Land and are currently the largest population of Aboriginal Australians at risk of inheriting MJD. For most Yolŋu, English is a foreign language and has little relevance unless needing to communicate with Balanda (non-Aboriginal people). Most Yolŋu have low levels of literacy and numeracy but are multi-lingual, speaking four or five distinct Aboriginal languages, as well as using Yolŋu Sign Language in everyday interactions.

A few studies describe the speech characteristics of people with MJD<sup>3, 4</sup>, but no research has been published on the complex communication needs of people with MJD, speech therapy or AAC programs or services. Yolŋu currently have very limited access to speech pathology services, and no access to aided AAC in their first languages.

### **AIM**

The aim of this research project is to better understand the complex communication needs and experiences of Yolŋu with MJD and their communication partners, and to explore their communication goals, priorities, preferences and interest in AAC options.

### **METHOD**

As part of this qualitative study, one male and nine female Yolŋu with a diagnosis of MJD, as well as 2 male and 2 female communication partners participated in in-depth, small group interviews and mapping of their current communication partners. The age of participants with MJD ranged from 19 to 57 years of age, and their communication partners from 18 to 37 years of age. The Circles of Communication Partners from ‘Social Networks: A Communication Inventory for Individuals with Complex Communication Needs and their Communication Partners’<sup>5</sup> was used as a framework to gather this data. Interviews explored their everyday communication contexts, topics of conversation, languages and literacy, current use of AAC systems and technology. Together with Yolŋu co-researchers, the interviews were translated and transcribed from the participants’ primary languages to English using meaning-based translation. Collaborative analysis of transcripts began concurrently with data collection, following principles of Constructivist Grounded Theory<sup>6</sup>.

### **RESULTS**

Yolŋu participants in this study speak and understand between two and five distinct languages, as well as reporting varied use of Yolŋu Sign Language in everyday communication interactions. Participants were interested in learning about low and high tech aided AAC systems, emphasising the need for AAC systems to be bilingual to meet their communication needs. Participants were interested in group therapy models that enable them to spend time ‘on country’ with their family, participating in meaningful cultural activities, such as hunting. Other preferences and factors influencing AAC service delivery were discussed.

## CONCLUSION

Speech Pathologists have a role and responsibility to advocate for individuals with complex communication needs that do not have ready access to AAC services. The many challenges and barriers in providing services to Aboriginal Australians living remotely, requires speech pathologists to work more closely with community language and cultural advisors and linguists to develop innovative ways to provide services in geographically dispersed and complex, intercultural settings.

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4. Schalling, E., Hammarberg, B., & Hartelius, L. (2007). Perceptual and acoustic analysis of speech in individuals with spinocerebellar ataxia (SCA). *Logopedics Phoniatrics Vocology*, 32(1), 31–46.
5. Blackstone, S., & Hunt Berg, M. (2003). *Social networks: A communication inventory for individuals with complex communication needs and their communication partners*. Monterey, CA: Augmentative Communication Inc.
6. Charmaz, K. (2014). *Constructing Grounded Theory* (2nd ed.). SAGE.

**Evidence Area:** AACcess diversity, AACcess justice, AACcess culture, AACcess relationships, AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence

# “The only thing that interferes with my learning, is my education” – Albert Einstein

**Caitriona Tynan**

## **BACKGROUND:**

2017 saw the introduction of the new Victorian Curriculum catering for students of all abilities from level A-10. Specialist Schools across Victoria have been actively involved in establishing what this looks like for their students on a daily basis. In 2018, Ballarat Specialist School will have approximately a population of 470 students. These students vary in age and range of abilities. (<http://www.ballaratss.vic.edu.au/>) Our School is at the beginning of our curriculum and AAC journey.

The use of the Four Blocks Literacy Framework and AAC within the day-to-day teaching of our students, will enable us to link, not only student outcomes but drive teacher instruction back to the Victorian Curriculum. Our school currently uses AusVels and ABLES sporadically across our campuses. The use of digital technology to share student work, connect with and support our parents, communicate internally and provide professional learning opportunities is an avenue we are also actively exploring.

While success has been seen in schools such as Malkara Special School and Willans Hill, little is known about a roll-out of Four Blocks Literacy in Regional Victoria.

## **AIM:**

In this presentation we aim to explore and clarify the following questions around the use of AAC and the Four Blocks Literacy Framework.

- 1: What difficulties need to be overcome to provide successful implementation and roll-out?
- 2: What are the advantages and disadvantages in “ability” streamed classes?
- 3: What does assessment look like for AAC users in Literacy within the Victorian Curriculum?
- 4: What role does digital technologies play in sharing these successes and frustrations?

## **METHOD:**

Term 4 2017 will see the following:

Through the use of surveys, a collection of baseline data of our educators knowledge on Four Blocks Literacy, AAC, Victorian Curriculum and the use of Digital Technology to enhance teaching and learning.

Re-structuring of our Professional Learning Communities.

Professional Learning around the Victorian Curriculum and how it can look in every classroom.

What assessments do I use in my classroom and do I know where to go next?

Providing educators with an insight into the research on the Four Blocks Framework.

## **2018:**

A selection of Junior and Middle School Classrooms will be focused on to implement the Four Blocks Literacy Framework. These “ability” streamed classrooms have basic to moderate use of Proloquo2go and the educators are eager to participate. Working collaboratively with the Leading Teacher for Curriculum and the Therapy team, teachers will collect and share regular data within their Professional Learning Community. These PLC’s will become the hub for professional learning around the Four Blocks Framework along with designated professional learning days. Teachers will be supported in this initiative by observing lessons, 1:1 coaching sessions, research

papers and support from the Allied Health and Therapy team. We are hoping this project will be overseen by Jane Farrall, however, this has not as yet been finalised.

**RESULTS:**

Findings from this project will highlight the knowledge gained and acquired by educators on how to successfully use AAC within Literacy, how to link literacy activities and assessments to the Victorian Curriculum and how to effectively use digital technologies to share these moments with family and their immediate professional community.

I have no doubt this project will also highlight the struggles, failed attempts and flaws the education system has to offer, however, this information is also an invaluable resource in supporting new schools such as North Geelong SDS who are actively seeking to roll-out the Four Blocks Literacy Framework.

**CONCLUSION:**

This project will demonstrate the success of implementing the Four Blocks Literacy Framework, ensuring all students have access to a suitable AAC device, using digital technologies to: share student literacy success with families, provide professional questioning and further enhance student learning within the classroom. The project will also highlight the direct links to the Victorian Curriculum and how assessments are used to form an accurate point of their students learning and understand the “where to next?”.

I have no doubt this project will have a lot more to offer in the future as it will only be an 8 month old project in July 2018. It would be ideal to continue to build data for at least 2 years to see the success and frustrations as it rolls out across the whole school.

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**Evidence Area:** AACcess education

**Content Focus Area:** Professional Practice Evidence



## **“Wears glasses”: Why AAC professionals should know more about vision in people with complex needs**

**Julie Bradford | Ladan Najafi**

Visual impairment is associated with a wide range of neurological conditions and can significantly impact upon function. It is therefore essential to consider vision when assessing clients with complex needs.

It is known that people with cerebral palsy may experience visual impairment, it is estimated that 1/3 have some visual impairment with 10% having significant impairment (1). In addition, those referred to AAC services in later life may also have age related changes which need consideration; 60% of people who have had a stroke will have visual problems (2), 1 in 5 people aged 75 and 1 in 2 aged 90 and over are living with sight loss (3). Equally, approximately 5% of adults with learning disabilities who are known to services in the UK have visual impairment or are registered blind (4).

In our experience, those with neurological conditions which are known to have visual symptoms such as stroke, progressive supranuclear palsy, multiple sclerosis, appear to be among those least likely to access conventional sight tests, despite there being readily available access to domiciliary service around the UK.

It is known vision accounts for the majority of our sensory input. Therefore, understanding a person’s visual abilities is essential for AAC assessment, especially when considering the use of any language or cognitive assessments reliant on visual skills. It is also essential to establish a person’s visual abilities, when we are looking to provide them with a communication aid which relies primarily on sight.

However, there is often limited information available regarding a person’s vision, beyond that they wear glasses, and assessing vision can be challenging when working with clients with complex needs.

This session will reflect upon the emerging importance of visual skills assessment in our work with clients with complex needs and, using case studies and narratives from practice, we will discuss the assessment methods used where existing physical and language impairments prevent the use of standard tools and assessments.

We will also discuss the introduction of a care pathway and tools being implemented by all members of our team to screen for possible visual problems. This can be completed without specialist equipment or training, and can highlight those individuals who warrant further in depth assessment.

Overall, this session aims to both highlight the need for Occupational Therapists and other professionals involved in AAC assessment to consider vision early on in the process when working with people with complex disability to facilitate effective evaluation of AAC needs and provision of the most appropriate equipment.

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**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Professional Practice Evidence

## A brain-computer Interface (BCI) access method for MSAA-compatible software including TOBII Dynavox Communicator Five

**Kelly Fitzpatrick | Charles S. Carmack | David Goldberg | Kamilya Gosmanova | Jonathan R. Wolpaw | Debra J. Zeitlin | Bart Zoltan | Theresa M. Vaughan**

The purpose of this Interactive Session is to demonstrate use of brain-computer interface (BCI) as an access method for Tobii Dynavox Communicator Five (TD/C-5) and other strictly Microsoft Active Accessibility (MSAA) compliant software [1]. The workshop will include a review of the methods; an introduction to Wadsworth BCI Home System hardware and software including the BCI2000 P300 Speller Application; review of data confirming real-time operation; and an interactive demonstration of BCI control of the Tobii Dynavox Communicator 5 (TD-C5). BCI2000 is an open-source, general-purpose software system for BCI research ([www.bci2000.org](http://www.bci2000.org)) [2].

People affected by severe motor disorders like amyotrophic lateral sclerosis (ALS), brainstem stroke, and high-level spinal cord injury need alternative methods for communication and control. They may not be able to use even the most basic conventional assistive technologies, which all rely on muscle control. A BCI records brain signals, extracts specific measures (or features) from them, and converts (or translates) these features into commands that operate applications that replace, restore, enhance, supplement, or improve natural central nervous system (CNS) outputs [3].

A BCI using the P300 event-related potential (ERP) allows users with ALS to choose among items in a matrix to communicate with others and to control other functions independently in their own homes [4, 5]. The P300 is a positive deflection in the electroencephalogram (EEG) that occurs 200 to 700 ms after stimulus onset and is typically recorded over central-parietal scalp locations. The response is evoked by attention to rare stimuli in a random series of stimulus events (i.e., the oddball paradigm). Farwell and Donchin first discussed using the oddball paradigm for communication three decades ago [6].

Six individuals took part in a study to confirm BCI control of the TD-C5 software: three males, one with ALS (average age 37 + 19, range 17-63). It was reviewed and approved by the Institutional Review Board of NYS Department of Health; and all subjects gave informed consent. We recorded eight channels of EEG from frontal, central, and posterior scalp locations. The BCI User sat in a chair or upright in bed about 100 cm away from a 24" monitor for a single one-hour session. Each session comprised three tasks. The calibration task (T1) required the User to select 21 pre-set characters from an onscreen keyboard. The validation task (T2) required the User to use calibration coefficients determined from T1 to successfully copy-spell the word "JULY," and to free-spell a three-letter word of their own choosing. The Matching Task (T3) required the User to play a nine-set matching game.

Average online performance for the six subjects during the 45-minute T3 session was 98.4% + 4.9%. Further, there were no significant changes in performance between Set 1 and Set 9. The results indicate TD-C5 software can be readily accessed using a P300-based BCI. Further, people can use the system over time without diminished control. Future work will seek to streamline system setup and use, and develop an integrated system that can use eye-tracking control and BCI control alone or in combination.

### LEARNING OBJECTIVES

Participants will become familiar with:

1. BCI translational research
2. The Wadsworth BCI Home System hardware and software
3. BCI as an access method for strictly MSAA-compliant software

## **INTERACTIVE COMPONENTS**

The presenter will use PowerPoint, videos, a BCI demonstration, and discussion to fulfill the learning objectives.

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**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Research Evidence, Professional Practice Evidence

## **A culturally and linguistic responsive approach to AAC**

**Gloria Soto**

Culturally responsive practitioners recognize that there are different ways of perceiving reality and that these are influenced by one's positionality. They are aware that different social 'positionings' are accorded different degrees of privilege, and recognize that some communities are marginalized because of their 'position' within their society. The need for a culturally and linguistic responsive approach to AAC service delivery is heightened by the growing ethnic/racial, linguistic, and socioeconomic diversity among AAC users, worldwide. AAC service providers are increasingly serving a significant number of clients from cultural and linguistic diverse backgrounds that differ from their own.

In this presentation, we will discuss the principles of culturally and linguistically responsive AAC practice, and will present a number of strategies to more adequately address the linguistic and cultural needs of clients from 'marginalized' or 'minoritized' communities.

**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community, AACcess diversity, AACcess culture

**Content Focus Area:** Professional Practice Evidence

## A family affair: intergenerational conversations on the need for and use of AAC

Shyamani Hettiarachchi | Gopi Kitnasamy | Dilani Gopi | Fathima Shamra | Chamara Bandara | Dinusha Nonis

### ABSTRACT

**Introduction:** The introduction and establishment of AAC use requires a family-centred approach. The lack of conviction, arguably on the part of any of the members of the family, could potentially derail efforts for long-term AAC use as a natural part of family conversations. While parents are experts on their children and this expertise can extend to AAC1, sibling relationships are life-affirming and transformative, with them often taking on surrogate parenting roles for their sisters and brothers with a disability2.

**Methodology:** Eight family triads which includes grandparents, parents and children (children who use AAC and their siblings) were invited to be part of the study. Five of the families have a child with cerebral palsy while three have a child diagnosed with an autism spectrum disorder. The participants, though a small sample, were identified purposively to capture the complexities of ethnicity (Sinhala, Tamil, Muslim), language/communication (Sinhala, Tamil, English and AAC), gender and socio-economic background of Sri Lanka. The aim was to explore and document the lived experiences of family members on the need for and use of AAC in the family context.

A combination of data collection methods of family discussions (akin to focus group discussions) and semi-structured interviews individually or in dyads supported by an interview guide together with observations at home and artwork by the children were incorporated. The qualitative data gathered were analyzed through the lens of the 'lived experience' of disability and AAC use in the tradition of Interpretative Phenomenological Analysis (Smith, Larkin & Flowers, 2009) and via family dynamics, culture and language.

**Results & Discussion:** The most striking observation of the emergent themes was the convergence of views between grandparents and parents and the divergence of views and perceptions between them and the children. While parents and grandparents are both resistant to the use of AAC, with both hoping for more focused therapy on speech, siblings imbibed the roles of interpreter and advocate for their sister or brother using AAC. Children using AAC shared their enthusiasm for iPads as did their siblings, although they reported being comfortable with how their siblings communicated non-verbally at present. Parents valued AAC as a way to 'teach' language as a short-term measure, 'only till he speaks'.

**Clinical implications:** The 'lived experiences' and expectations of families of disability and AAC must be explored in order to better understand the complex nuanced intersectionality of disability and culture. The prevalent conceptions or misconceptions about and resistance to AAC must be addressed as part of the therapy process and as part of disability advocacy to ensure 'communication rights'.

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**Evidence Area:** AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence

## **A glimpse into the sausage factory: Automatic data Logging and self-directed learning.**

**Paul Andres**

How does an 11 year-old child using a Minspeak system use language and how does she learn to communicate?

Since her first experiences with simple-tech Selma's rate of learning has varied over the last eight years. She uses a German Minspeak vocabulary system on an Accent 1400 with eye-tracking. She now communicates independently, though with great variation in style according to her partners and her setting.

We recognize when progress has been achieved in individual users, but exactly how that progress came about is often harder to pin down. To help answer this question and to provide effective, real-time data for Selma's intervention planning, automatic data-logging (ADL) on the Accent device was activated. The resulting stream of information was regularly analysed using the Realize-Language website and provided valuable insights into language ability, communications styles and learning constraints.

Because of the distance from her home to appropriate intervention specialists a method of asynchronous distance support was developed.

Using this information contained in the ADL and in consultation with Selma, a continuous series of remote micro-lessons was developed. Her device was adapted to enable the remote delivery of individual lessons and activities, which she could independently access at any time.

In this presentation we will discuss the insights that were gained into Selma's language development and discuss the possibilities of remotely delivered self-directed micro-lessons as a form of tele-practice.

**Evidence Area:** AACcess emerging technologies, AACcess language and literacy, AACcess education

**Content Focus Area:** Professional Practice Evidence

## **A Guide to Communication Partner Skills**

**Amanda Hartmann**

Supporting the communication environment is crucial for success in AAC. Difficulties within the communication environment can lead to major barriers in participation for AAC users. In particular, the interactions and skills of communication partners can make or break AAC. The role of a successful communication partner can contribute greatly to positive outcomes.

This presentation will use the research as well as clinical experience to present a guide for communication partners to create the best communication environment for AAC users. The key factors, essential skills, dos and don'ts, and steps for success will be discussed.

Firstly, we will explore the traits of good communication partners. Next, we will outline the important ways a communication partner can model, prompt and respond within everyday interactions. We will take a detailed look at modeling, (also known as Aided Language Stimulation), with some resources to help communication partners plan how and what they can model. Stepping through the key factors in when and how to provide prompts to AAC users, is an essential skill for communication partners. We also need to consider the different ways communication partners can respond to AAC users. Lastly, we will give helpful ideas for the environment to develop and support communication partners and a responsive communication environment.

While we often spend much time talking about AAC systems and strategies, taking a specific and close look at communication partners can help any team work together for successful communication.

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**Evidence Area:** AACcess education, AACcess the community

**Content Focus Area:** Professional Practice Evidence

## **A Model for Proactive Comprehensive AAC Intervention for People with ALS**

**John Costello**

For people with ALS, a degenerative conditions that will likely impact the ability to speak, it is critical that a proactive and aggressive focus on early introduction and trials with augmentative communication strategies, is implemented. Why is it so critical? Because first considering AAC strategies only when speech difficulties are evident, when significant motor difficulties emerge or when breathing difficulties and overall fatigue is prevalent, one has lost the 'window of opportunity' to participate in several critical communication supports.

Through close collaboration with neurologists and other members of the ALS/MND medical and clinical team, all of whom advocate for extremely early referral for AAC services; a model of AAC counseling, assessment, customization and implementation has emerged. This model has been further bolstered by positive feedback from people with ALS and their families who have been exposed to a proactive approach to exploring a range of augmentative communication strategies.

While there are always individual differences in how any person with ALS is introduced to AAC following a feature matching process, a core list of considerations are part of the protocol of proactive strategies. The appropriate considerations may, in some instances be all addressed in the first session but are often addressed over two or more sessions, scaffolding previous strategies, skills and learning on new considerations. Each of these considerations will be discussed in detail during this workshop and as appropriate, further highlighted through video demonstration including:

1. Review of strategies to enhance speech clarity of speech production
2. Introduction of voice amplification, even when symptoms suggesting concern with volume and breathe support integrity are not evident. Options for voice amplification with full face mask.
3. Define and introduce the strategy of Message Banking developed at this center. A free web-based tool for processing, labeling, categorizing, storing and then downloading banked messages to a variety of speech generating devices will be reviewed.
4. Define and introduce Voice Banking, a process of recording a large inventory of one's own speech that is then used to create a synthetic voice that approximates one's natural voice. Done successfully, this would allow one to spell and create unique messages and then speak them through a synthesizer that approximates one's natural speech. Patients and their families are introduced to audio samples of synthesizers created with leading technologies including: Model Talker, CereProc and Acapela, and personalized voices created by this clinician.
5. Demonstrate new hybrid approach using message banking for voice banking
6. Introduce the concept of 'quick access' low-tech tools in which the person with ALS is fully involved in creating and designing his/her own tools. Alternative access strategies including partner-assisted scanning are also reviewed. Laser pointer with low tech boards are tried as alternative access.
7. Considerations for calling attention using simple voice output aids, commercially available bells, integration with off the shelf home technology such as Amazon Alexa
8. Review of varied text to speech apps (as appropriate for literacy) or symbol based apps.
9. Feature matching assessment for speech-generating device and integration with off the shelf simple environmental control tools



10. Discuss current access and possible needs to identify alternative access to computer, environmental control, telephone, etc.

A web link to downloadable PDFs and video tutorials will be reviewed.

**THREE LEARNER OUTCOMES:**

1. Discuss benefits of proactive intervention to successful use of AAC strategies throughout the course of the ALS disease.
2. Describe at least six strategies that can be introduced to people facing the loss of functional speech or computer access
3. Discuss and define message banking vs. voice banking and know resources for implementation for both.

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**Evidence Area:** AACcess the community

**Content Focus Area:** Professional Practice Evidence

## **A new tool for coaching communication partners: An interactive online program**

**Iina Heikurainen | Pauliina Viljanen | Nella Olasmaa | Mirja Uosukainen | Paulina Lönnroth**

In this workshop we will present an interactive online program for coaching communication partners on how to communicate with individuals who use an AAC system and support their communication skills. The program is currently under development and is designed to be used as a tool for coaching. It consists of an online platform with videos and exercises as well as additional meetings with an AAC professional. The online platform makes the program accessible and also enables the use of telepractice as a method for coaching.

Communicative competence is impacted by both intrinsic factors related to the person who uses AAC as well as extrinsic environmental factors. Extrinsic factors, such as barriers in the environment, may impede communicative competence whereas supporting factors may enhance the communicative competence of the person who uses AAC (Light, 2003). Successful use of an AAC system is heavily dependent on the skills of the communication partners (Kent-Walsh & McNaughton 2005), making appropriate and effective guidance of the communication partners important in order to support the communicative competence of people who use AAC. In Finland AAC systems are easily available for individuals with complex communication needs (CCN) through the specialized health care system. The issue is often the lack of adequate guidance to communication partners after a new AAC systems has been delivered. In our experience, this inadequate guidance seems to be due to lack of time, personnel and appropriate tools in the specialized health care system and among the speech and language pathologists in the rehabilitation field. As a result, individuals with CCN have access to an AAC system but do not often use it because of insufficient knowledge and skills of the communication partners.

Hindering factors when working with communication partners may be their ability to attend meetings with professionals and also the level of involvement during those meetings. Parents who are raising a child with CCN often face many challenges in life making it difficult to find time for AAC implementation. An online program with the possibility for telepractice meetings helps lower the barrier for attending AAC instruction (Douglas, Nordqvist & Kammes, 2016). Prevailing research and practice also recommends that AAC implementation should take place in daily settings (Beukelman & Mirenda, 2013) and using active learning techniques with communication partners is important (Rabe & Knudson, 2016). The role of the professional should be turned from an expert to a mediator of thinking and thus involve the communication partners more (Rabe & Knudson, 2016). Delivering facts about AAC implementation through an online program with opportunities for active learning leaves more space for the professionals to presume the role of a coach instead of providing instructions and expertise.

Our interactive online program for coaching communication partners includes theory, videos, exercises based on the video material and homework exercises for the communication partners. An important part of the program is the additional face to face or telepractice meetings with an AAC professional. Topics addressed in the program are e.g. motivating the communication partners to use the AAC system, aided language stimulation, structure of the AAC system and individualization of the system. The current program focuses on the use of communication books, which are common AAC aids in Finland, but will expand to high-tech AAC systems later on.

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**Evidence Area:** AACcess the community

**Content Focus Area:** Professional Practice Evidence

## **A Peer Training on Interpreting the Behavior of Middle Schoolers with Multiple Disabilities**

**Christine Holyfield | Janice Light | Kathryn Drager | David McNaughton | Jessica Gormley**

### **AIM**

In typical early language development, children receive responses to their presymbolic communicative behavior. These responses map a linguistic symbol (i.e., word) onto a concept. Through frequent and consistent responses mapping the same word onto a concept, symbolic language is born and solidified inside the child's mind (Paul, 1997).

As a result of a variety of intrinsic and extrinsic factors, some school-aged children with multiple disabilities have yet to form symbolic language. These individuals largely communicate through presymbolic means (Iacono, Carter, & Hook, 1998). For example, they might use vocalizations, facial expressions, gestures, and eye gazes to communicate.

Applying lessons from typical language development in the absence of an alternate model (Paul, 1997), it would seem that these individuals, too, would benefit from the consistent and frequent partner responses so critical to the genesis of symbolic thought. It is likely problematic, then, that communication partners identify the pre-symbolic communicative behaviors of individuals with multiple disabilities infrequently (Carter & Iacono, 2002; Iacono et al., 1998). Additionally, when communication partners do identify these behaviors as communicative, they interpret them to mean different things (Carter & Iacono, 2002).

This infrequent identification and inconsistent interpretation would likely translate to inconsistent and infrequent responses across communication partners throughout the school day. This would make the already difficult task of language development for individuals with multiple disabilities even less attainable (Paul, 1997). This study served as an initial attempt to intervene with the communication partners of school-aged individuals with multiple disabilities in order to promote the consistency and accuracy with which they interpret the individuals' presymbolic communicative behaviors.

### **METHOD**

The study used a pretest-posttest control group design (Campbell & Stanley, 1963). Twenty four peers participated. They completed pretest and posttest probes in which they viewed 18 video clips documenting the behavior of three students with multiple disabilities with whom they interacted in school. For each clip, the peers determined if the behavior featured in the video was communicative and, if so, the meaning intended by the behavior.

The 12 peers in the experimental group participated in a short training utilizing video visual scene display (VSD) technology. In the training, the investigator used the technology to model the interpretation of behaviors from three middle schoolers with multiple disabilities. After the investigator modeled this interpretation, the middle schoolers participated in guided practice where they programmed their interpretation of the behaviors as hotspots onto the video VSDs.

### **RESULTS**

In the pretest probes, participants demonstrated limited accuracy interpreting the behaviors of the students with multiple disabilities. They had difficulty both in discriminating between communicative and non-communicative behaviors and in associating an accurate linguistic map to communicative behaviors. Interpretations varied widely from peer to peer, with some participants ascribing communicative intent to most behaviors while some participants ascribed communicative intent to very few behaviors. Peers interpreted meaning of behaviors also varied widely.

Following the training, participants in the experimental group increased their performance interpreting the behaviors of the three middle schoolers with MD. The participants demonstrated an average gain score of 9.5 (out of 18), compared to an average gain score of – 0.6 (out of 18) for participants in the control group. Variability also decreased from pretest to posttest probe for the experimental group, with the standard deviation decreasing from 3.1 in the pretest to 1.8 in the posttest. Comparing gain scores across the experimental and control groups confirmed the training was effective ( $F=78.907$ ,  $p < .001$ ).

#### **CONCLUSION**

Trainings featuring video may be an effective way to promote consistency in the ways in which communication partners, such as peers, are interpreting the behaviors of individuals with multiple disabilities who are presymbolic communicators. Future research should build upon this initial step by evaluating trainings focused on teaching both identification of and responsivity to the communicative behaviors of school-aged and older individuals with multiple disabilities within the real-world context of face-to-face interactions between partners and those individuals.

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**Evidence Area:** AACcess language and literacy, AACcess education, AACcess relationships

**Content Focus Area:** Research Evidence

# A Preliminary Examination of Technical, Programming, and Implementation Support in Full Communication AAC Apps

Allison Bean | Ellawadi Lindsey | Paden Cargill | Samantha Lyle

## INTRODUCTION:

The decreased cost of AAC apps relative to dedicated devices may enable more consumers to purchase an AAC system. However, it is unclear whether the services that AAC apps provide are as comprehensive as those provided by dedicated device manufacturers. The purpose of this research was to preliminarily investigate the presence of technical, programming, and implementation support provided by commonly used AAC apps. Determining the presence of this support is critical, since inadequate support may act as a barrier to successful AAC implementation

## PROCEDURES:

The Communication, Access, Literacy, and Learning (CALL) Scotland AAC Apps wheel was used to direct the search for AAC apps (Millar & McNeill, 2016). To be included in this study, the communication app needed to function as a speech-generating device and be classified as a symbol-based grid system or hybrid app. In instances where there was more than one version of a communication app from the same manufacturer (e.g. Touch Chat HD – AAC with Word Power and Touch Chat HD – AAC), the more comprehensive system was rated (e.g., Touch Chat HD – AAC with Word Power). Twenty-four apps were classified as symbol-based grid systems (n = 12) or hybrid apps (n = 12). Each app was rated for the presence of support provided in the following areas: technical, programming, and implementation. The rating scale was developed by the authors of the current study, three of which are practicing certified speech-language pathologists who are experts in AAC implementation and work primarily with users of AAC.

## RESULTS:

Preliminary analyses indicate a significant difference in support. The AAC apps provided a greater amount of technical support than implementation support. The apps also provided a greater amount of programming support compared to implementation support. There was not a significant difference between technical and programming support.

## CONCLUSION:

The results of this study indicated significant differences in the amount of support provided across each area. Overall, the apps provided significantly more technical and programming support relative to implementation support. SLPs often report feeling unprepared to provide speech and language services to AAC users (Fields, 2015). Although school-based SLPs should be properly trained to design an intervention and implementation plan, the reality is, they often do not feel properly trained and often have large caseloads, preventing them the time they need to gain the expertise. Thus, implementation ideas and resources provided by apps may aid in AAC app implementation. Additionally, SLPs typically only see their clients for a short period of time, so implementation support may be particularly useful for caregivers, families, and teacher who will be required to carry over the home education program and communicate with the student using the device. Therefore, it is critical for caregivers, SLPs, and other team members who work with an AAC user to have access to information that will support both learning how to use the AAC device and implementing a treatment plan (Fager et al., 2012; Feiler & Watson, 2011).

**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence, Professional Practice Evidence

# **A Scoping Review of Research into Supporting Educational Inclusion for Children using AAC**

**Teresa Iacono**

The Salamanca Declaration, signed by 92 governments, called for the full educational inclusion of children with disabilities (Inclusion International, 2009). The Declaration reflected support for the human rights of all children to be educated alongside their peers without disability, with support and adjustments that enable them equal access to an academic curriculum and social opportunities. Unfortunately, inclusive education remains elusive, with many children, globally, missing out on education altogether, or being restricted to segregated settings (Inclusion International, 2009).

Does AAC have a role in supporting inclusive education for children with complex communication needs? An evidence review of inclusive practices by the author indicates that the answer is a resounding “yes.” AAC interventions have the potential to support access to academic curricula and peer interactions and friendships, and play a pivotal role in developing and implementing reasonable adjustments.

## **AIM**

The aim of this presentation was to explore the role of AAC in inclusive education through a scoping review of the research published since 2000 (a few years after Salamanca). The questions posed were:

1. To what extent has AAC research been conducted in mainstream versus segregated settings for primary and secondary school students?
2. To what extent has research addressed the role of AAC in supporting educational inclusion practices?

## **METHODS**

The scoping review framework by Arksey and O'Malley (2005) was followed. Key word searches of the terms AAC, complex communication needs, interventions, disability, school children and school education, and their variations, were used in the databases PsycINFO (OVID), CINAHL (UBESCO) and five in ProQuest. Limits included published from 1 January 2000 to 28 September 2017, English language, abstract available, and research article.

This search yielded 751 titles, which were exported into EndNote™, where 79 duplicates were removed. Titles and abstracts were reviewed to determine whether articles met the inclusion criteria of being primary research, including primary or secondary school students with complex communication needs and/or who used AAC or addressed their activities within schools. Following a review of the full text for titles/ abstracts (n=106), 57 studies remained. Of these, 27 were of children in segregated settings only and 30 addressed children with disabilities in inclusive settings. Summary data were extracted from these 30 studies: citation, aims, participants, design, and educational practices addressed.

## **RESULTS**

Just less than half the research of relevance to the education of children with complex communication needs have been in segregated settings. Overall, these have focused on teaching children to use AAC, such as the Picture Exchange System or high tech, or use of AAC to teach literacy skills. As a group, studies of relevance to inclusive education was more varied in focus. They included evaluating the effectiveness of AAC to improve communication within the classroom (n=12) and use of AAC for academic skills, such as spelling (n=5). They also addressed the use of AAC as a form of assistive technology in the classroom (n=7), and for supporting reasonable adjustments to enable students to access the curriculum (n=8), such as controlling a robot through an AAC device for a mathematics tasks (Adams & Cook, 2014). Nine studies addressed peer relationships or interactions, but often only in terms of the problems experienced by children who used AAC, with few exploring how AAC can enhance them.

There were few examples of AAC professionals working collaboratively with or providing training in AAC to educational personnel (n=7), exploration of the time required to support planning (n=2) or family involvement (n=4).

The studies addressing educational inclusion were largely descriptive, including those of observations conducted in schools (n=10). Other approaches included qualitative analyses of interview or focus group data (n=6), and only two experimental studies.

#### **CONCLUSION**

A focus on segregated settings and in teaching children to use AAC, but for limited academic and social purposes, was evident from this review. It would seem that the potential role of AAC in enabling children to have equal access to quality education has yet to be realized. Research and clinical recommendations for considering the role of AAC in the context of a global push for full educational inclusion will be discussed.

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**Evidence Area:** AACcess education

**Content Focus Area:** Research Evidence



# **A Scoping Review of Smart Home Technology and Implications for People with Multiple Disabilities**

**Christina Corso | John McCarthy**

## **INTRODUCTION**

Assistive technology (AT) is a broad term referring to a variety of adapted technology that is designed to help people with disabilities. These devices provide solutions to increase their participation in daily living and increase their quality of life (Lancioni, Sigafoos, et al., 2013). AT includes, but is not limited to “alternate keyboards, Braille displays, voice recognition software, reading comprehension programs and speech synthesizers” (Donnelly, 2017). Smart home technology (SHT) is defined as the integration of home automation systems and services that lead to an increase in quality of life (Robies & Kim, 2010). The concept of SHT has been around for over 37 years and actual technology has and is continuously improving (Stefanov, Bien, & Bang, 2004). Personal computers and smartphones can be found in at least half of all US homes (Brumitt & Cadiz, 2000). Most recently, there has been an increase in technology that is being controlled by smartphones (e.g., thermostats, smoke alarms, wireless speakers, security systems and lighting) which are allowing people to create a more convenient and safe lifestyle (GetSmartHomeDevices.com, 2017). Accessibility accommodations are increasingly built into operating systems on some level, but adaptations generally rely on using a second modality in place of another. Solutions for people with multiple disabilities remain rare. With the rapid changes in technology, there is a need for updated reviews but a critical need for consideration of access for individuals with severe physical and speech impairments.

## **AIM**

The aim of this scoping review is to explore the state-of-the-art Smart Home Technology currently available to people with disabilities and to identify potential gaps in access. Specifically, we looked for gaps related to people requiring AAC and to people using alternative access methods (e.g., scanning, eye gaze, directed scanning, etc.).

## **METHOD**

To address the aims of this project a scoping review of literature has been initiated. A scoping review will survey the breadth and depth of available literature on SHT and people with disabilities (Grant & Booth, 2009). Preliminary searches were conducted in the following databases: PubMed, ERIC, PsycINFO, Ebsco ASE, CINAHL, IEEE Xplore, Web of Science, ProQuest Dissertation and Thesis A & I. Keywords for the preliminary search will include, but are not limited to: Smart Home Technology, Physical Disabilities, excluding health – healthcare – health care. Research literature will include, but not be limited to: research studies, other reviews, and grey literature. After an initial yield the search will be refined with the following inclusion and exclusion criteria: 1) be published between 2012 and 2017; 2) published in English or translated into English; 3) Report which type of technology was studied (including but not limited to: thermostats, smoke alarms, wireless speakers, security systems and lighting) 4) Report how technology is accessed (i.e., direct selection, voice command, switch access, etc.). This search is currently on going.

## **RESULTS**

The findings from the scoping review will be summarized according to categories such as: 1) what technology was studied; 2) participant skills and impairments (i.e., low vision, hearing loss, etc.); 3) barriers; 4) impact on life or satisfaction with use. Coded data will be explained further and discussed. Common trends (i.e., which smart home technology is used most, common interfaces, barriers for communication disorders, etc.) found in the literature will be reported. Full results and findings will be discussed.

## **CONCLUSION**

Conclusions will be drawn from the analysis of a final collection of studies. Discussion will explore the common trends found among SHT and how to move forward in this area with individuals requiring AAC who also use alternative access methods. Smart home technology could lead to more independence and quality of life for individuals with multiple disabilities. Future directions of research will be addressed and discussed.

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**Evidence Area:** AACcess emerging technologies, AACcess the community

**Content Focus Area:** Research Evidence

# A Survey of Speech-Language Pathologists Regarding AAC in the United States

Joanne Naylor

There are more than 4 million people in the United States who would benefit from some form of alternative and augmentative communication system. Speech-Language Pathologists (SLP) are typically considered the “communication expert” and therefore are called upon to complete Augmentative and Alternative Communication (AAC) Assessments and interventions in all settings. The American Speech-Language-Hearing Association (ASHA) reported in 2016, less than 10% of SLPs consider themselves as having expertise in the area of AAC (ASHA, 2015). Sixty-four percent (64%) of the 10% are working in educational settings, the other forty-six percent (46%) are working fulltime outside the school settings. This research includes a snapshot of information concerning AAC usage and competence of 72 SLPs who are working in multiple settings across the country. The level of perceived expertise was collected from annual certification renewal applications that included AAC listed as an area of expertise. The results of the aggregated data collection does not provide an accurate picture, since there is currently not a standard of ‘expertise’ for AAC designation, this report is based on whether or not the individual SLP considers his/herself an expert or not.

Learning Objectives: The reader will gain insight into the current state of AAC in the United States of America. The variety of AAC used will also be addresses.

## AIM

There were two objectives for this study, 1) to gather information from the SLPs who are currently working in the field and addressing AAC on a daily basis and 2) determine the reasons more SLPs don't report AAC as an area of expertise on their ASHA certification renewals. Method

This research data was collected using a 10 question Survey powered by Survey Monkey. The researcher posted a link to the survey on multiple SLP-focused Facebook group pages. A total of 72 respondent's answers were collected. Respondents answered multiple choices questions regarding their level of certification, level of formal AAC education, employment setting, populations served, and their role in AAC assessment and treatment. Descriptive statistics were analyzed and were reported in percentages.

## RESULTS

The responses collected included varying degrees of ‘expertise’ and involvement in the AAC assessment and treatment processes. Fifty-three percent of the respondents had no formal training in AAC assessment and treatment, the other 46% had received formal training in AAC which included seminars and training using specific AAC systems. Only 26% of the respondents reported being “Totally Comfortable” with conducting assessments and making AAC recommendations. In contrast, 43% of respondents wish they knew how to do an AAC evaluation and were not comfortable making AAC recommendations, and allowed other professionals (e.g., an AT team) to conduct the evaluation and recommend an AAC system. A majority of the respondents (80%) currently work in school-based settings, with one or more age groups. Forty-six percent of the respondents reported not performing any AAC evaluations during the past year, while 28% reported conducting 1-5 AAC evaluations during the past year. Seventy-five percent of the time, static low-tech communication boards and single switches were recommended, 15% were dynamic high-tech voice output devices, and 10% sign language was recommended.

## CONCLUSION

There continues to be a shortage of SLPs who have expertise in the area of Augmentative and Alternative Communication in the United States. Many of the SLPs that are currently working with people who need or use AAC daily do not have appropriate training or resources to serve their clients with the highest level of care. This

sample of 72 SLPs demonstrates the reason for the low number of SLPs reported to have “expertise” in the area of AAC on their ASHA certification renewals (ASHA, 2015), because they don’t have enough training or resources to conduct a comprehensive AAC assessment or provide AAC services to their clients. The results of this research study are concerning, there is a need for more formal training for current and future SLPs in the areas of AAC assessment and treatment.

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**Evidence Area:** AACcess education

**Content Focus Area:** Research Evidence, Professional Practice Evidence

## **A whole school approach to AAC: A school's perspective**

**Cale Begley**

College Row School is a special education school that caters for students diagnosed with severe physical and/or intellectual disabilities and a range of complex needs. Almost all students have Complex Communication Needs (CCN). For many years the students were those with the most complex physical disabilities and medical needs, or most challenging behaviours. In 2015 the school began implementing an improvement plan with a strong focus on Augmentative and Alternative Communication (AAC). Previously the school's approach to AAC was limited and inconsistent. Most staff had a limited understanding of AAC and each class tended to have a different approach to AAC practice. Many students were assumed to be pre-intentional communicators and the observed result of the lack of communication tended to be learned aggression or learned passivity. Without effective communication participation in learning activities was limited. In many cases participation was dependent on the students' ability to understand and comply with verbal instruction. With limited participation the assumed level of competence of the students was very low.

“Communication accessibility means that there are people who understand the alternative form, who can scaffold it in the acquisition period, and who are able and willing to communicate in a manner that gives the individual maximal communicative autonomy”

(Von Tetzchner & Grove, 2003, p. 27).

In line with this statement from von Tetzchner and Grove, College Row School had some fundamental changes that needed to happen to develop a communication accessible environment. In implementing a whole school approach to AAC the primary focus was to develop a success model effecting a genuine change to the approach to AAC. We needed to ensure that all students had access to quality, consistent AAC intervention to assist them in developing a voice both now and into the future. We wanted them to be able to ‘Say what [they] want to say, to whoever [they] want to say it to, whenever [they] want to say it, however [they] choose to say it’ (Porter, 2017). By 2017 the change in AAC practice at College Row School was incredible. All staff, including office staff and new staff, received accredited AAC training and this training was made available to family members and community members. Since 2016 the school has seen around 250 people trained in AAC. Many staff moved on to advanced training including tertiary coursework. All students with CCN had non-electronic AAC systems developed for them and customised to meet access needs and personalised vocabulary. The changes observed among the student population included a higher level of active participation and greater demonstration of understanding, as well as a decrease in challenging behaviour. These changes are linked to one key outcome: an increase in positive engagement. The change experienced was very different to the introduction of an academic program: it relied on a change of understanding, attitudes and culture and had an impact far beyond AAC. Effective implementation of AAC changed the relationships, the environment and the educational philosophy across the school. This philosophy is embedded in both policy and practice. It informs the use of resources and determines performance indicators of staff. The changes have helped to create a highly positive and productive learning environment. Staff work very hard and find value in the work they do. The public perception of the school has increased significantly among families and service providers and the school has experienced over 50% growth over 2016-2017. Additional benefits are that the change is impacting beyond the school with support now going out to mainstream and special needs schools and centres across WA. The school is also running an AAC focused playgroup in collaboration with a local Parent and Child Centre and is expanding support to community based programs and organisations. Although there is much more work to be done, the school has truly achieved a success model for whole school AAC with significant benefits both to individual students and the school as a whole.

Porter and Withal (2008) outline some important factors in engaging a community as developing a shared understanding, a focus on interaction throughout the day and developing strategies to develop a communication community. This workshop will explore the steps taken at College Row School to engage the school community and to develop and sustain this change. From developing buy-in, to resource management, this workshop will explore the successes, challenges and commitment to impact a genuine large scale change in the approach to AAC and the factors that have contributed to success.

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**Evidence Area:** AACcess education, AACcess the community

**Content Focus Area:** Professional Practice Evidence

## **AAC 101: Developing a Basic Course for First Responders in Communicating with Individuals Using AAC**

**Sharon Mankey | Mariesa Rang**

Our study was conducted to determine what first responders knew about augmentative/alternative communication (AAC) and how to interact with individuals who use it by assessing their knowledge before and after participating in a lecture and hands-on activity. The results of the study will be explained and information will be shared on how SLPs can inform their communities of this valuable information that will give people, who sometimes cannot speak up for themselves, a voice in emergency situations.

People with disabilities have been documented as frequent targets of crime (Petersilia, 2001; Bryen, Carrey, Frantz, 2003; Collier, McGhie-Richmond, Odette, Pyne, 2006). First responders frequently do not receive much training on how to interact with individuals who have disabilities and much less for individuals who use AAC.

The presenters contacted various first responder groups (law enforcement, firefighters, emergency medical services, and dispatchers) in northeast Indiana with an offer to in-service their employees. The in-service included information critical to what AAC is, how individuals with disabilities are often victims of crime, and how first responders should interact with individuals who use AAC. A lecture of basic information was developed with the first responders in mind and presented to them. Following the lecture, scenarios (crimes, family disturbances, fire and medical need situations) were distributed with some individuals named as “responding officers” and the others as “victims.” The pairs were then to work together for 5-10 minutes with the information provided to resolve the situation with the “victims” using a communication system ranging from no-tech to high-tech. When the participants came back to the large group setting, the scenarios and the first responder’s reactions to the interactions were discussed. Participants were then given the opportunity to ask questions and make comments. This format is being used to successfully train first responders in communicating with people who use AAC.

A research study was developed to determine what first responders knew about AAC prior to a lecture and a hands-on experience and how their knowledge and attitudes changed following the event. Analysis of the first 141 surveys revealed a positive change in the knowledge base as well as in the attitudes of the respondents as it pertains to AAC and the individuals who use it.

Respondents reported more aided means of communication in the post survey. While they did not report an increase in the effectiveness of the communication via AAC, they expressed a better understanding of the time it takes for individuals to communicate. Attitude changes were noted in this early data in areas of the need for patience and taking additional time in order to meet the needs of the person communicating during emergency.

Since the start of the project an estimated 800+ first responders have taken part in the in-servicing and the presentation to ISAAC will include research data collected from those who chose to participate in the research study. The presentation will detail the effectiveness of the program and how this training may be replicated around the world.

**Evidence Area:** AACcess education, AACcess the community, AACcess justice

**Content Focus Area:** Professional Practice Evidence

## **AAC and Autism: A Framework for Building Communicative Competence**

**Betsy Caporale**

Autism is characterized by significant deficits in receptive and expressive language, however; much of the intervention implemented for this population tends to focus primarily on behavior, not communication. Students with autism spectrum disorders (ASD) are visual thinkers who have difficulty processing verbal information. They also have difficulty expressing themselves using verbal speech. Many never become functional verbal communicators, although they may have learned rote phrases and scripts. In her book, *Thinking in Pictures My Life with Autism*, Temple Grandin, who has been diagnosed with autism, states: “One of the most profound mysteries of autism has been the remarkable ability of most autistic people to excel at visual spatial skills while performing so poorly at verbal skills. When I was a child and a teenager, I thought everybody thought in pictures. I had no idea that my thought processes were different”. She goes on to explain; “Words are like a second language to me. I translate both spoken and written words into full-color movies, complete with sound, which run like a VCR tape in my head. When somebody speaks to me, his words are instantly translated into pictures. Language-based thinkers often find this phenomenon difficult to understand.” Picture communication systems are frequently used with this population for requesting, however; the use of augmentative and alternative communication (AAC) strategies often stops there. An unfortunate result is that many students with ASD have not learned how to become efficient communicators by the time they transition out of high school. Without appropriate AAC supports, they become dependent on adults to facilitate interactions with others, access the curriculum and participate in daily living activities. They may learn to rely on unconventional means of communication which become habitual, such as eloping, acting out physically, or engaging in self-injurious behaviors. They may also react by “shutting down” or becoming reclusive. The implementation of strategies to develop functional communication skills for students with ASD is critical and needs to begin at a very early age. When visual supports are incorporated into the learning environment, students with ASD are more likely to be active communicators and engaged learners. During this interactive workshop, two theories of verbal language development will be discussed. Following this discussion, seven key evidence-based AAC interventions which integrate the use of visual strategies will be described. Suggestions for implementation across a variety of age and ability levels will also be shared, focusing on a collaborative team approach. The presenter will show short videos demonstrating each of these interventions, while providing opportunities for audience members to comment and share observations. Participants will walk away with specific tools and strategies which have proved to be highly effective in developing communicative competence and independence in students with autism spectrum disorders. This workshop is appropriate for anyone serving students with ASD, including teachers, speech-language pathologists, occupational therapists, BCBA's, support staff and parents.

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- . The National Professional Development Center on Autism Spectrum Disorders ([autismpdc.fpg.unc.edu](http://autismpdc.fpg.unc.edu))

**LEARNING OUTCOMES:**

- . Describe two different theories of the acquisition of verbal language.
- . Identify seven different evidence-based AAC interventions to enhance communication and learning for student with ASD.
- . Explain how effective AAC strategies can reduce negative behaviors and increase independence.

**INTERACTIVE COMPONENTS:**

- . Following the description of each AAC intervention, participants will identify a specific strategy that would be appropriate for a student with whom they work, and discuss with a partner how that strategy might be implemented. Volunteers will be invited to share their ideas with the entire group.
- . The workshop will conclude with a 5-10 minute question and answer session.

**Evidence Area:** AACcess emerging technologies, AACcess language and literacy, AACcess education, AACcess the community, AACcess culture

**Content Focus Area:** Professional Practice Evidence

## SUBMISSION ID 1429

Interactive (60 minutes)

# AAC and dating

Lisa Sparkles Lehmann | Gabrielle Hogg

For some personal relationships, mean different things; from having coffee dates with our closest friends and colleagues, to being involved in a community group that has spiritual meaning or self development initiatives to the persons self esteem. For others it might be a close meaningful relationship with someone to connect with on an intimate level. No matter how one views personal relationships, there are common threads to each type, which can be implemented to assist in achieving the kinds relationships, dates and social lives humans naturally aspire to have.

This forum will focus more on the traditional forms of dating, that is, meeting, having social and emotional interactions with another person who share the same feelings. This workshop will not a 'how to' session, but will be a facilitated discussion on the barriers to dating when you have a communication disability, and sharing experiences and the highs and lows of dating generally. The workshop will be aimed at teens and young adults who use AAC, but not discounting participation of family members and professionals who are interested in supporting young people and clients to achieve a healthy social life, including dating.

**Evidence Area:** AACcess diversity, AACcess relationships

**Content Focus Area:** Research Evidence, Personal Experiences and Preferences

## **AAC and puppet making: insights about introducing AAC techniques to unfamiliar communication partners**

**Shannon Hennig**

This talk describes a community based art project in New Zealand. Five adults with intellectual disabilities and complex communication needs (CNN) participated in a 2 month community art project led by a professional puppeteer with no experience with AAC and minimal experience with adults with disabilities.

The goal of the project was for the artist to bring to life each adult's vision for a large scale puppet. She provided the materials and technical skills. The adults with CNN were to communicate their vision and then experience the creative process.

This case study discusses how AAC was incorporated into the project, how interaction between the adults and the artist were supported by a speech-language therapist, and how the artist was introduced to AAC through role-modelling and demonstration. No formal AAC training was provided.

This talk is informed by videos documenting the process and final product as well as an interview with the puppeteer capturing her experience of AAC and first encounter with people with CNN.

We will describe the AAC supports used and just-in-time training provided during the sessions. Specifically, everyone had access to iPads with AAC apps (TouchChat with Wordpower, Speakforyourself, and Co-Writer which is used as a text-to-speech option in this centre), white boards, yes/no symbols, and a low tech core vocabulary book.

The AAC specialist supported one-on-one conversation between each adult and the artist on the first day. These conversations resulted in the adults learning what was possible (e.g., different ways puppets could be worn, different material choices, etc) and each creating a 1 page design brief for their personal puppet. During subsequent sessions, the SLT helped the artist clarify her instructions and role model how to use AAC techniques during conversation.

During the post art project interview, the artist reveals that she hadn't known that there were non-speech forms of communication. Specifically she reported that she had not been aware that "iPads could be used for talking" or "how useful it can be to write things down". She had underestimated the communication and literacy abilities of the adults (all 5 can spell familiar words and compose 2-4 word phrases).

Going into the first session, she reported that she was nervous and worried that she would not be able to communicate with the adults. She insisted that at least one session per week be scheduled with the SLT, although at the time she was not aware this person was an SLT. She commented that on day one her confidence level communicating with the adults was a 1 or 2 and by the end a 7-8 out of a 10 point scale.

The post project interview revealed that the high tech AAC systems were only used when the specialist was present, but were judged to be essential. Low tech supports were used consistently.

Additionally the artist was asked to list and then rate supportive factors on a scale from 1 (very unhelpful) to 10 (essential):

Extra support staff – 10

White boards – 9

Communication book – 7

iPads with AAC apps – 7-8

Puppeteer being focused and clear in her own communication – 8

SLT providing tools for communication, serving an interpreter role, and role modelling how to communicate with each person (all rated 10)

When asked what she would do in the future when interacting with people with communication difficulties, the artist described offering 3 choices instead of yes/no questions, being aware that some people will say yes to everything, writing down questions, using books and pictures, asking specific questions, “checking that I have understand what the person had communicated”, recording ideas as they come up, asking for resources such as communication books and “iPads that talk”, and finding a person who can help interpret.

A reoccurring theme during the interview was feeling “like I was in a country where I didn’t speak the language too [good] and you [the SLT] were there to clean up any cultural misunderstandings”

This presentation will hopefully inspire others to consider community art projects as a way to provide a meaningful reason to talk and a motivating activity to talk about. The lessons learned regarding how to support people who are unfamiliar with AAC may be relevant to other projects. From an AAC perspective, the biggest success was that the adults’ communication attempts with AAC were consistently accepted and responded to and the artist began to use low tech forms of AAC to augment her own spoken communication.

**Evidence Area:** AACcess language and literacy, AACcess the community, AACcess culture, AACcess relationships

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preference

## **AAC and the NDIS – Surfing the Waves of Change**

**Gail Bennell**

The National Disability Insurance Scheme (NDIS) is the biggest social change Australia has seen in more than 30 years. It means people with disability will have a direct say and input into their support arrangements.

The NDIS creates a unique opportunity for allied health practitioners to provide innovative services for people with complex communication needs. As the NDIS gets into full swing across Australia, we are seeing change not only way things services for people who use AAC needs are being delivered, but also changes in the way the scheme itself is run.

Gail has built a private practice working exclusively with people who have complex communication needs. She will share some of the lessons she has learnt from working with the NDIS and will discuss the challenges of providing high-quality services in a rapidly changing environment. She will share some ways that participants and providers can survive (and thrive) in the waves of change.

**Evidence Area: Content Focus Area:** Professional Practice Evidence

## **AAC at the source of the Nile**

**Kristine Stadskleiv | Stephen von Tetzchner | Juliete Wanyenze Wamukoota | Kerstin Hellberg | Paul Eria Njuki**

### **INTRODUCTION**

Children develop language when they are given a chance to participate and use language in socially meaningful contexts (Bruner, 1990). For children who cannot use speech, manual signs or graphic symbols can serve the same purpose. But if children are to learn and use other modes of communication than speech, they must be in an environment that can support these modes.

There is a high prevalence of children with disabilities in many African countries, such as in Uganda, while access to interventions is often poor (Paget, Mallewa, Chinguo, Mahebere-Chirambo, & Gladstone, 2016).

This is also the case for children needing augmentative and alternative communication (AAC) (Bunning, Gona, Newton, & Hartley, 2014). One reason is the lack of professionals who are trained to meet client specific needs (Barrett & Marshall, 2013; Jones, Marshall, Lawthorn & Read, 2013), AAC interventions inclusive. Training in speech-language pathology was established in Uganda in 2008 (Barrett & Marshall, 2013). This means that there are professionals with basic competence in communication science disorders. However, we are not aware of any program focused on AAC intervention for children with disabilities in Uganda.

### **AIM**

An intervention project for children needing AAC was initiated in Kampala in 2016 and is planned continued until 2020. The aim of the project is to introduce AAC into use in an orphanage for disabled children in Kampala, and to increase knowledge about AAC and intervention through collaboration with Ugandan universities.

### **METHOD**

Training in AAC has been provided by a team from Norway, organized as biannual week-long visits to Kampala. Both parents and staff participated actively in the program, as well as children using natural speech. Intervention measures for the children enrolled in the program have been detailed in written reports, and the Norwegian team has been available for supervision by mail in between the visits. The Norwegian team has collaborated with professionals from Ugandan universities to reach out to institutions with children needing AAC and to provide training for students in universities.

### **RESULTS**

The first phase of the project was to provide AAC intervention to children at an orphanage for disabled children in Kampala. So far, nine children have been included in the project, making varying degrees of progress. Some progressed more rapidly than expected, others have shown less progress in communication and language. Low progress has been related to the presence of severe epilepsy, as well as a lack of access to AAC materials between visits from the Norwegian team. In 2018, the program will also be introduced at a special school in Kampala, in collaboration with a speech-language pathologist from Makerere University, and a master course in AAC is planned to be held at a university in Kampala.

### **CONCLUSIONS**

Experiences so far show that engaging caregivers actively in communication activities with their children from the start is vital for success. Addressing communication needs without addressing basic needs, medical treatment of somatic diseases, provision of assistive aids, as well as caregivers' and teachers' computer skills, seem not to be feasible. Inclusive practices where the peers used AAC in interacting with the disabled children have been initiated and supported by the Ugandan collaborators. Expanding the program from the orphanage by collaborating with Ugandan universities and institutions is fundamental if the program is to continue after the five-year project

period. Introducing AAC as a topic at master courses in special education and speech-language pathology will ensure that not only the children enrolled in the project, but also other children needing AAC, will have access to professionals with the necessary knowledge and skills.

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**Evidence Area:** AACcess education, AACcess the world: Developing nations in AAC

**Content Focus Area:** Professional Practice Evidence, Research Methods and Theories

# AAC for Adults with Intellectual Disabilities : Current Status and Prospective from Programs in Taipei

Chi-Zong Tsou | Yun Hsi | Yin-Hsin Liu

## BACKGROUND

This study is about AAC implementation status for adults with intellectual disabilities in seven activity centers and residential programs in big Taipei area operated by The First Social Welfare Foundation in Taiwan. The First Social Welfare Foundation now serves over 400 adults with IDs and has been promoting AAC for about 30 years in its various facilities and through workshops offered to other agencies in Taiwan. Since there are large number of AAC adult users in the programs operated by the foundation and the long history of promoting AAC use, the researchers consider it a good case to investigate the AAC implementation status and the perspectives of the teachers to further understand the current AAC service and the future prospective.

## RESEARCH OBJECTIVES AND QUESTIONS

The major objectives of the study were to find out the current AAC service and teachers' perspectives about AAC design and use, the major research questions were :

1. The characteristics of the adult AAC users in the seven programs
2. The major AAC modalities used and the decision-making factors considered
3. The major content and communicative functions of the messages in the AAC and The usage patterns of the adults
4. Family support for AAC use
5. The major concerns and future needs of the teachers about AAC use

## METHODOLOGY

The research was conducted by a University faculty member with the collaboration from the two speech therapists from the First Social Welfare Foundation. A questionnaire was designed and pretested before delivering to the 53 teachers of the 106 adults who used AAC in various programs. All returned questionnaire were scrutinized and dubious answers were clarified by a follow-up face to face interview conducted by the first researcher and a trained assistant. Data were analyzed by using SPSS 18.0 and the two open questions in the questionnaire and follow-up face to face interview data were analyzed by theme-based qualitative data analysis method.

## RESULTS

1. The foundation now served 432 adults with ID, and 106(24.5%) of them received AAC services. The average age of the 106 AAC adult users was 30.71 years(SD=7.79). 55 (51.9%)of the 106 individuals had more than one disabilities, with the possible combination of ID or autism with cerebral palsy, visual or hearing impairments. . 64 (60.3%) of the 106 individuals had a primary diagnosis of mental retardation and 38(35.8%) of the 106 had a primary diagnosis of autism.
2. 24(22.6%) of the 106 adult AAC adult users had been using AAC strategies over 10 years, and 69 (65.1%)of them had been using AAC for between 2 and 9 years. All of the 106 adult AAC users used at least 2 kinds of AAC strategies, mainly the combination of gestures or sign language with communication books(pictures). 24 of the individuals also used VOCA and only 3 used computer with communication Apps, and 7 used handwriting as the major strategy for communication.
3. Complex factors were involved in the decision of AAC modalities for adults with disabilities, including mainly the age the individuals' ability and multiple disabilities (e.g. visual, hearingmotor or behavioral problems besides ID), interest of the individual in the particular type of strategies(e.g. voice output vs. communication



pictures, ipad vs. communication books etc.) and the characteristics of communication partners. Age makes AAC even more important for individuals with ID due to deterioration of intelligibility or motivation to use speech to communicate. Teachers see more need to encourage using alternative strategies to communicate as these adults get older.

4. The adults used AAC for the following functions in the order from the most frequent to the least : expressing basic needs, expressing preferencesocial etiquette, social interactions, self – management and information acquisition.
5. In General, family involvement of using AAC is low. Only 25(23.6%) of the 106 individuals had a family member who was eagerly involved in using AAC with the individual.
6. The main prospective of the teachers for future use of AAC include: expansion of vocabulary selection, use high-tech strategies for some individuals, enhancing the the readability of symbols for individuals with IDpromoting more spontaneous and active use of AAC, use of appropriate app for ID and family involvement.

Based on the above results, the authors propose that when designing and teaching AAC to adults with IDs, it is necessary to adopt a life-span and ecological perspective and suggestions for the future were proposed to enhance the AAC service for the adult population.

**Evidence Area:** AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence, Professional Practice Evidence

## **AAC in Croatia – current practice and challenge**

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Key words: Developing AAC, experience,

Although many positive changes emerged in the last decade, Croatia is still a country where AAC is an emerging method. This presentation will provide a review of the current practice, challenges and strategies used to promote the use of AAC and Assistive Technology in Croatia.

Challenges have emerged in the numerous fronts: level of awareness, policies and guidelines, human resources, knowledge of professionals, etc. There is a limited awareness of understanding AAC and even less awareness of alternative access methods for electronic and non-electronic communication aids. A research focused on speech and language pathologists (SLP) in Croatia, completed in 2012 (Ivšac Pavliša et al), revealed that use of communication aids was rare and that people primarily used of unaided communication methods such as gestures and sign language. The University in Zagreb is the only university in Croatia that offers graduate coursework in AAC and a course on assistive technology.

Namely, current government policies and social prejudice limit access to assistive technology, access to education and the provision of professional support (SLP, special teacher..) for persons with complex communication needs who need AAC. Students with complex communication needs and their families are still fighting for the right to access information as well as a proper school curriculum. Moreover, speech-generating devices are not identified as a medical equipment and evaluation and treatment by speech-language pathologists are not considered as obligatory for candidates for AAC. Consequently the government does not subsidize communication aids or services provided by speech-language pathologists.

One of the biggest challenges has been addressing the language needs of AAC users from a beginning to advanced level, especially for users that are not literate, because of complexity of Croatian morphosyntax.

Many multidisciplinary efforts among education, practice and enterprise have been made throughout the country to break down these barriers and advance the use of AAC in Croatia.

In 2013, a large project funded by European Union called, "ICT Competence Network for Innovative Services for Persons with Complex Communication Needs" (ICT-AAC), resulted in the development of the first Croatian AAC apps ([www.ict-aac.hr/index.php/en/](http://www.ict-aac.hr/index.php/en/)). At the moment, Unicef Croatia is supporting a big programme which addresses the upgrade of the knowledge of professionals on AAC on the national level (<http://rain.ict-aac.hr/>).

E - Glas, a Croatian company that develops assistive technology for environmental control, joined the effort to bring a range of assistive technology and AAC solutions to Croatia and organize conferences (<http://www.ataac.eu/>). The AT for alternate access methods as well as speech-generating devices are now available for Croatian families. Further E-Glas is currently collaborating with AAC developers to develop pagesets in Croatian. Current AAC pages sets will be translated. In addition, new Croatian pagesets are being created to address the complexity

of the Croatian language needs. New core-word pagesets will be developed utilizing research on most frequently used Croatian Words.

The presentation will describe current steps to bring together Croatian and AAC/AT specialists in the region to share knowledge and resources and spread the word about AAC and even to change the current policy regarding AAC topic. Efforts to improve knowledge and exchange information within Croatia, have included: facebook pages, (AAC Croatia and ICT-AAC), establishment of the Croatian Society for Developing and Promoting Assistive Technology and development of a model of assessing and implementing AAC in Croatia. To foster information exchange with the region, work in underway for future regional AAC/AT conference and development of more advanced or online AT AAC programmes.

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**Evidence Area:** AACcess emerging technologies, AACcess language and literacy, AACcess the world: Developing nations in AAC

**Content Focus Area:** Professional Practice Evidence

## **AAC in the workplace: What we learn when we learn to communicate at work**

**Yolanda Fenton**

This presentation documents the journey of key stakeholders when a beginning AAC user commences working in a work experience program. The family saw the opportunity for their young adult to engage in real work in an environment where the family would have a long term connection with the workplace. The long term objective is for the AAC user to secure and maintain meaningful employment post-school.

It is recognised that vocational communication and social communication are the two main communication areas a worker needs to engage with in the work environment (McNaughton & Chapple 2013). The AAC user needs to be able to access and use language specific to their work environment to complete tasks as well as access and use social language appropriate to interact with colleagues informally. Other factors influencing communication success in the workplace include the pace of the communication interaction. The AAC user often needs more time to be able to express their opinions and ideas. AAC users need to interact with a range of communication partners in the workplace who may not be skilled in the communication needs of the AAC user, or have the confidence or knowledge of the communication system used.

The AAC user, workplace, supporting family members and school personnel were involved in a first time work placement for an AAC user with complex communication needs. Planned and concentrated interventions were required to address potential barriers to ensure that all stakeholders could support the beginning AAC user to have meaningful opportunities to communicate and participate in the work setting, (Light & McNaughton, 2014). The language the AAC user required in the work setting was assessed with all stakeholders consulted. The result was to have identified core language easily accessible with fringe words important to the work environment in logical placement within the communication system.

Just as many other AAC users require significant language support from their communication partners (Blackstone et al., 2007) the AAC user in this study required targeted teaching of social communication to be competent in the workplace. Specific teaching of how to ask partner-focused questions and the use of small talk, which took into consideration the interests of the AAC user along with what would be appropriate in the workplace, was implemented in the school environment. In order for the communication partners to successfully support the AAC user, training and education around use of the AAC system and appropriate interaction strategies were required.

Accordingly, this presentation will focus on a case study which showcases the journey of key stakeholders when a beginning AAC user commences working in a work experience program.

This case will present:

- . Student Profile – Personal Communication Information (PCI) page, video and photo evidence showing use of AAC in workplace environments
- . Family profile – questionnaire indicating AAC use in home – purpose, language modelled, language used
- . Workplace profile – answering questionnaire indicating expectations, knowledge and understanding of AAC. Training given regarding AAC and communication strategies
- . School profile – Description of the barriers, learning opportunities, successes and failures from the team who supported the AAC user in the work environment

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**Evidence Area:** AACcess education, AACcess employment

**Content Focus Area:** Professional Practice Evidence

## AAC is my voice, it means everything to me: Exploring meaning and value of AAC

Denise Abraham | Martine Smith

‘AAC is my voice, it means everything to me’: Exploring meaning and value of AAC

Background: Communication is ‘a basic human freedom’ (Williams, Krezman, & McNaughton, 2008, p. 194) and ‘the most fundamental of human capacities’ (Universal Declaration of Communication Rights, 2014). Humans communicate on a daily basis, and communication is the cornerstone of an individual’s ability to be autonomous (Light, 2000). Despite this, many people with communication difficulties cannot access this right (Bush & Scott, 2009). Augmentative and Alternative Communication (AAC) allows those with complex communication needs to access communication and connection that would otherwise be impossible. However, although AAC has the potential to have a transformative effect, this appears to happen in a minority of cases only (Hodge, 2007). There remains significant work to be done in understanding and advancing the usefulness of AAC, so that it can have a greater impact for more people.

Aims: The question posed in this research is ‘what is the meaning, value, and purpose of AAC to users and key stakeholders?’ The aim is to establish the meaning and value that AAC can and does hold, as well as recurrent themes within and between stakeholder groups which can guide and influence practice. This information can contribute to increased quality of service provision, aiming to bridge gaps where AAC is currently falling short of fulfilling its potential.

Methods and Procedures: The study employed a qualitative descriptive design. An open-ended online survey was used to collect data from people who use AAC, family members, and health and education professionals. There were 189 responses in total. Responses were mostly provided by Speech and Language Therapists and family members. Thematic Networks Analysis was used to ascertain Global, Organising, and Basic Themes which emerged from the data. Participants were also asked to use one word to describe AAC. These words were analysed using word clouds based on word frequency.

Outcomes and Results: Two thematic networks were created from data analysis. These networks are interconnected, with the elements of one network contingent on the constituents of the other network being in place. The findings indicate that for AAC to be successful, there are numerous factors related to the user, the system, and essential support that must be acknowledged. If these elements are addressed, AAC gives users the potential for self-fulfilment and autonomy, with access to opportunities that others take for granted.

Conclusions: The findings suggest that the meaning, value, and purpose of AAC is unique to each individual. However, although individualised, the themes centre around the global theme of potential for autonomy and self-fulfilment. The elements of each network are inter-related and inter-dependent, and aided communication is unlikely to function properly without all of these elements. AAC can mean communication, power, hope, and a voice, and should be considered an essential right. Although it can be frustrating and challenging, it is worth the time and effort to bring freedom, connection, and participation, allowing people who use AAC access to opportunities which others take for granted. However, in order for AAC to be transformative in this way, effective and efficient services are required that are responsive to specific individual/family needs, so that AAC can fulfil its potential for more people.

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**Evidence Area:** AACcess the community, AACcess relationships

**Content Focus Area:** Research Evidence

## **AAC on Both Sides of the Fence**

**Fiona Given**

This paper will discuss a case before the Guardianship Division of the NSW Civil and Administrative Tribunal involving a person, who was the subject of a guardianship application who used a speech generating communication device and the community member of the three member Tribunal panel also used a speech generating communication device.

I am an AAC user who is a community member of the Guardianship Division of the NSW Civil and Administrative Tribunal. I sat on a landmark case, involving Ms. MHN, who used a speech generating communication device. The reason why this case was so significant was because AAC was essential to effective communication between the Tribunal panel and the subject of the application, as well as being a central aspect of the panel's decision.

It also appears to have been the first Tribunal case that involved an AAC user panel member and an AAC user as a party to the proceedings.

Access to justice for Ms. MHN was enhanced by having another AAC user ask her questions and be part of the decision making panel. Prior to hearing the case, the presiding member recognised that it would be useful if I took the lead role in asking questions of Ms. MHN questions. I had to be mindful of asking questions that would require the least effort for Ms. MHN to answer. I also reassured her that she could take her time. I was also able to assist by rephrasing some of the presider's questions to ensure that they were accessible to Ms. MHN.

The tribunal ultimately found that although Ms. MHN was unable to speak, her answers were appropriately articulated using her communication device and a Guardianship order was not warranted.

This case is a demonstration of how far society has come that it is now possible for a person who uses AAC to be a decision maker as well as a person who is a party in a case. This is as significant as having circle sentencing in the aboriginal community.

I would like to see people who use AAC being more prevalent in judicial roles.

**Evidence Area:** AACcess employment, AACcess justice

**Content Focus Area:** Personal Experiences and Preferences



## AAC on Demand: The use of webinar to enhance knowledge of AAC

Kirsty Holcombe | Sebastian Caon

AGOSCI was formed in 1981 and is an inclusive group interested enhancing the participation of people with complex communication needs in Australia. It is a group staffed by volunteers. AGOSCI has a commitment to providing high quality professional development opportunities to people with complex communication needs, families and the professionals who support them.

On the 30<sup>th</sup> of April 2012, Prime Minister Julia Gillard announced that the Commonwealth would fund the National Disability Insurance Scheme (NDIS). The roll out of the NDIS will result in around 465 000 Australians receiving funding to access disability services to provide them with supports that are deemed reasonable and necessary and to have choice and control over the services they receive and who delivers them.

The change to the NDIS meant that there was an increase in the opportunity for more people with complex communication needs to gain access to Augmentative and Alternative Communication (AAC). At the same time the service provision for people with complex communication needs was expanding from the traditional government and non-government sector which had traditionally invested heavily in skill development of a few staff to a more decentralised service delivery model.

AGOSCI as an organisation identified that in this new environment there was a need to support AAC users, their families and service providers to access education around best practice in AAC both to develop the skills of service providers as well as support AAC users and families in exercising choice and control over services they were seeking.

This poster presentation seeks to detail the process AGOSCI used in determining their response to the problem of disseminating information around AAC practice within the Australian community, as well as the evaluation of results and reflections on learnings and future opportunities for other organisations / individuals.

In seeking to address this problem AGOSCI sought a solution that considered the following:

1. That professional development was targeted to individuals who may have limited exposure to AAC practices and / or experiences with people who use AAC as their primary method of communication.
2. The professional development was able to be accessed by all Australians regardless of geographic location.
3. That we consider the needs of AAC users across the lifespan.
4. That AGOSCI seek feedback to inform and refine the strategy and content of the professional development.

To meet these considerations the following solution was identified.

- . Delivery via Webinar was identified as the preferred option to maximise the ability of all Australians to participate.
- . AGOSCI's preference was for the webinars was to be low cost / no cost to maximise the impact on the broader community. It was decided to provide access to all webinars as part of membership.
- . Funding was committed to commission webinar content.

To date 3 webinar sessions have been delivered in 2017 with more to continue to roll out.

- . What is AAC, and what does it look like? Presented by Janelle Sampson.
- . Towards Cohesive Language Development in AAC. Presented by Cathy Binger.

- . Being Part of the AACtion. Presented by Fiona Given.
- . How I became an AAC communicator presented by Nick Bradbury.
- . Championing Communication Access for All. Presented by Barbara Solarsh and Georgia Burn.
- . AAC and the NDIS – Surfing the Waves of Change. Presented by Gail Bennell.
- . Achieving Functional Communication Through Minspeak. Presented by Siobhan Daley.
- . Assessment and AAC – Where do we start? What am I looking for?. Presented by Janelle Sampson.

In rolling out the webinar series a range of barriers and opportunities were encountered including:

- . Technical issues including identification of webinar software, webinar storage and hosting and webinar access.
- . Challenges with content creation for a new medium.
- . Refining of presentation strategies.
- . Challenges of publicising and promoting content to access the people who would most benefit but may not yet have links to the AAC community.
- . Opportunities to record and use content from other events.

Activity is currently underway around analysing data related to the webinar rollout. Data will be collected from registration from webinar, numbers of viewers of saved webinars and feedback from participants. Feedback around future development will be sought from members of the AGOSCI listserv. This represents a group of people who are interested in AAC but may not be members of AGOSCI as membership is not required to access this group. This data analysis will be presented in the poster presentation. Analysis of these results and reflections on how similar programs may be used by others will be presented.

**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Professional Practice Evidence

## AAC to grow: Cognition, Language and use of AAC in SMA1 Children in Italy

Grazia Zappa | Chiara Mastella | Priscilla Corti | Maria Antonella Costantino

### BACKGROUND:

Today “technology dependent” children with Spinal Muscular Atrophy type 1 (SMA1), with either invasive or non-invasive respiratory support, may reach their teens in intensive home care support. This has led us to assume a new perspective regarding the future needs of surviving children.

It is known that extreme muscular weakness prevents children with SMA1 from speaking clearly. Despite their vocalizations and glances, children are not always able to express what they think and this may make them angry and/or frustrated, even if there are many differences between one child to another. This is a very important issue because it affects the wholeness of the person. Nevertheless, the improvement of Communication is still not universally considered within Standards of Care.

### RESULTS:

The AAC PEPE-which is short for Augmentative Alternative Communication Program for Early Parental Empowerment, was developed for SMA1 patients in order to guarantee a model of AAC intervention targeted at the characteristics of SMA1. Early exposure to AAC as an input is in fact especially important for SMA1 children to experiment possible functions and to support internal language and experiences.

In order to better tailor AAC interventions for SMA1 children nationwide, since no studies in the literature describing cognitive development and language comprehension specifically in SMA1, we decided to explore these dimensions in fifteen children with SMA1 aged 3.8–11.2 years. One-dimensional Raven test (CPM) was used to evaluate cognitive development, and Brown Bellugy modified for Italian standards (TCGB) was used to evaluate language comprehension.

All 15 children collaborated to CPM, with an average IQ of 116. Eight children collaborated to TCGB, that was in the normal range in all of them. Children with an early AAC intervention scored in the higher range in both tests.

In 2009: 3 SMA1 children were involved in AAC PEPE

In 2017: 55 SMA1 children, 25 with early onset between 6 and 9 months, are involved in the project.

Young children are immediately exposed to listening to books with full text in symbols (Inbook), and by 3 years of age they are able to use advanced technological tools, can communicate independently and their communication is effective and rewarding.

We would like to point out how early investment in AAC influences abilities in: cognitive, linguistic, interaction, relationship, thought, active participation in daily life, decision-making, learning.

### CONCLUSIONS:

The SMA1 AAC Program is divided into different areas, depending on the family’s and the type of sub-goal aimed for. Using enjoyable stimulating activities, reading books using symbols (Inbook, initially read aloud to the child and progressively read autonomously by the child), teaching symbols to communicate with the introduction of high-tech tools, IPAD or eye-tracking with voice output.

Thanks to the AAC project, the quality of life is improved of both SMA1 children and their families resulting in the acquisition of:

higher IQ and better language comprehension

extended interpersonal, communication skills  
stronger identity, greater independence  
increased self-esteem, self-efficiency  
development of cognitive potential in mainstream classes  
can drive power wheelchair with 1 or 2 switches.

**ACKNOWLEDGEMENTS**

The authors are grateful to children and their parents who participated in this study, without whom this effort would not have succeeded, Italian “Famiglie SMA” association and Milan Policlinico Hospital.

**Evidence Area:** AACcess emerging technologies, AACcess language and literacy, AACcess education, AACcess culture

**Content Focus Area:** Professional Practice Evidence

## **AACcess language: A systematic review of parent-implemented symbolic AAC interventions for young children.**

**Harriet Korner | Mark Carter | Jennifer Stephenson**

For young children who have complex communication needs, augmentative and alternative communication (AAC) holds much promise as a means for learning language and providing access to all areas of life. Many agree about the need for early intervention for communication, (Behmami & Clendon, 2015; Branson & Demchak, 2009), and there is support for parent-implemented approaches to early language intervention, (Akamoglu & Dinnebeil, 2017; Brown & Woods, 2016). Although some recent reviews have reported on partner-implemented interventions, no recent systematic review has focused specifically on parent-implemented symbolic AAC interventions for young children. Both unaided and aided AAC interventions are included in this review and it is inclusive of young children who have a range of diagnoses, including cerebral palsy, autism spectrum disorder and intellectual disability.

AAC strategies used to teach young children communication and language require parents /caregivers to learn new skills, so that they can implement the AAC system in everyday contexts.

### **AIMS:**

This systematic review will examine the following questions:

1. How effective are parent-implemented symbolic AAC interventions in enhancing the communication and interaction between parents and young children with complex communication needs, aged 0-6 years?
2. What do we know about parent outcomes and child outcomes from this research?
3. What future research is needed?

### **METHOD:**

This systematic review used the structured review protocol suggested by Schlosser, Wendt and Sigafoos (2007). Three electronic databases were systematically searched: PsychInfo, Cinahl and ERIC and ancestral searches were carried out to check for additional references. The search string consisted of the following key terms: a) AAC, b) parent / caregiver, c) intervention and d) young child. Studies were included if they were in English and reported on a parent or caregiver implemented intervention relating to communication using a symbolic AAC system with a young child with a disability (0-6 years old). In addition, studies involved use of an experimental design (group or single subject) testing an intervention and reported quantitative data on parent and/or child outcomes. Inter-rater reliability measures for selection of articles and data extraction were conducted. The quality of each study was assessed using criteria based on the What Works Clearinghouse Study Review Guidelines. Tau-U (Parker, Vannest, Davis & Sauber, 2011) was used to estimate effect size for single subject research studies.

### **RESULTS:**

Out of 541 articles initially found through the database searches, 16 single subject research designs and 2 group designs met the selection criteria.

Findings will be discussed in terms of participant characteristics, the nature of the symbolic AAC interventions, including the type of intervention approach used, the type and number of communicative functions targeted, the context for interventions, fidelity of implementation of training parents and fidelity of implementation of the parent interventions and the outcomes in relation to both the parents/caregivers and the children. Evidence for the effectiveness of the interventions will be evaluated with consideration of the quality of the research methodology. Future directions for research will be discussed and implications for clinical practice will be highlighted.

**CONCLUSION:**

The results of this systematic review clarify our current knowledge about the efficacy of parent-implemented symbolic AAC interventions, identify gaps in current research and highlight areas for future research. AACcessing language early in life will help children with complex communication needs to AACcess all areas!

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence

## **AACcess Zulu: Determining the core vocabulary of Zulu-speaking preschoolers**

**Jocelyn Mngomezulu | Kerstin Tönsing | Shakila Dada**

When designing single-meaning graphic symbol-based AAC systems, practitioners typically follow a process of choosing a limited number of words from a pool of all possibilities (Trembath, Balandin, & Togher, 2007) since the navigation and associated memory demands for such systems become extremely high when including a very large vocabulary. Since the vocabulary determines the extent to which the AAC system may be used (Trembath et al., 2007), it is imperative that the implications of the vocabulary selection process are carefully considered. Core vocabulary consists of a relatively small number of words used with a high frequency across different individuals and contexts (Beukelman & Mirenda, 2013). Including core vocabulary together with more individualized fringe vocabulary on an AAC system has been suggested as a method to ensure access to novel sentence construction.

Zulu is the most widely spoken first language in South Africa (with about 12 million home language speakers; Statistics South Africa, 2012). To date, there are no studies that have explored the core vocabulary of Zulu-speaking preschoolers.

### **AIM**

This study sought to determine the core vocabulary for Zulu-speaking preschoolers in order to provide a resource that practitioners can use in order to design graphic symbol-based AAC systems for preschoolers from a Zulu language background.

### **METHOD**

A nonexperimental observational design was used. The speech of six children between the ages of 5;0 and 6;11 years at three different preschools was recorded using body-worn recorders while they engaged in familiar and routine activities of their typical preschool day. Recordings were transcribed using the Systematic Analysis of Language Transcripts (SALT) software programme (Miller & Iglesias, 2012). A total of 1500 words (as defined by orthographic space) were transcribed per child, yielding a total of 9000 words in the sample.

Two types of analyses were done. In the first analysis, the unit of analysis was a word, as defined by orthographic space. In the second analysis, orthographic words were segmented into the smallest meaningful parts, called formatives (Nurse & Philippson, 2006). In both analyses, frequency counts and commonality scores were obtained.

### **RESULTS**

The first analysis yielded 3 203 unique words of which 308 were used with a frequency of over 0.5‰ and accounted for 57.1% of the sample. A closer examination of these 308 words showed these words consisted of a high proportion of conjunctions and interjections as opposed to the syntax related vocabulary typically found in English core vocabulary (Trembath et al., 2007). Since Zulu is a synthetic language (high morpheme-to-word ratio) Zulu words tend to contain both grammatical information (often represented by closed class function words in English) as well as information specific to the content and context. The Zulu core words found do not allow extensive novel sentence generation.

In the second analysis, orthographic words were segmented into formatives using predetermined rules. Once segmented, the combined sample rose to 20 137 formatives, of which 1 110 were unique. When applying a frequency cut-off of at least 0.5 ‰ (per mille) and a commonality score of >2, a core vocabulary of 221 formatives was determined. These 221 formatives accounted for 88.9% of the total sample.

## **CONCLUSION**

While this study used a small sample over a limited geographical area, the results show that through careful handling of the Zulu language a core set of formatives was successfully determined. This, together with appropriate fringe formatives, can be useful to AAC system design for persons from Zulu language backgrounds.

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**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community, AACcess relationships

**Content Focus Area:** Research Evidence, Research Methods and Theories



## **AACcessing Resources to Promote AAC Competencies for the Generalist Practitioner through Interdisciplinary Collaboration and Mentorship**

**Annabeth Martino | Mara Jonet**

### **FOCUS:**

Research indicates that interdisciplinary collaboration can support the needs of individuals with complex communication needs. This presentation will review evidence-based practices for members of interdisciplinary teams in regards to evaluation and treatment related to augmentative alternative communication. We will identify the unique role of each team member throughout the evaluation and intervention process. We will also discuss how to develop functional, family-centered goals in collaboration with all members of the team, as research indicates that establishing common goals between practitioners and families leads to improved functional outcomes and enhanced quality of life. Our therapeutic efforts must take into consideration and reinforce the integration of communication across environments, involving all of the client's communication partners. As practitioners, it is our responsibility to recognize all methods of communication from a client, and collaborate to support effective and efficient communication with all communication partners.

ASHA and AOTA both have published position statements regarding the expectations and scope of practice related to AAC evaluation and treatment. However, many generalist practitioners are expected to complete AAC evaluations and intervention with limited specialized training in this area of expertise. Although both speech language pathologists and occupational therapists are presumed to have qualifications related to AAC and assistive technology based upon their formal education, there are great discrepancies between entry-level expectations in the field and the clinician's perception of their qualification. This can result in complications with respect to planning affective interventions, as well as determining the role of each team member when encountering a new AAC user.

Participants in this presentation will have the opportunity to partake in a live multidisciplinary questionnaire about attitudes and perceptions of their AAC education and current competencies. Informal data will be collected and compared to the following study completed by the presenters. A cross-sectional research method was administered to a sample of Speech Language Pathologists and Occupational Therapists to empirically investigate perceptions of practitioner's qualification in administering AAC evaluations and interventions as part of a collaborative intervention team. Further, we will provide the audience with specific tangible strategies and resources for expanding and improving AAC intervention in their current practice to facilitate optimal generalization of language skills for their current and future clients. Finally, we will review case examples highlighting successful methods of collaboration in order to establish an individualized communication system. This will include anecdotal information about how the team members utilized a transdisciplinary intervention model, and gained competencies required to address the holistic needs of the client and family.

### **LEARNING OBJECTIVES:**

- 1) Identify current evidence supporting why a interdisciplinary approach in evaluation and treatment is necessary to create a comprehensive needs assessment for clients with complex communication needs, including competencies required to achieve family-centered services and functional outcomes.
- 3) Review the current perceptions of clinician's competencies in AAC based upon the results of a qualitative survey, and trouble shoot current barriers to gaining AAC competencies in the field. Tangible resources to optimize continuing education will be provided.
- 3) Participate in collaborative discussion about how to use your AAC resources to promote generalization of functional language across environments.

**INTERACTIVE COMPONENT:**

This presentation will include an interactive survey of the audience regarding their perceptions of competencies in AAC evaluation and intervention. Informal data will be collected, and compared to the results of the aforementioned qualitative survey of interdisciplinary professionals. Participants will then have the opportunity to discuss available resources in their current practice, as well as barriers to accessing continuing education in order to provide evidence-based AAC practices. This will include practical strategies and tangible resources to facilitate AAC in everyday environments.

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**Evidence Area:** AACcess emerging technologies, AACcess education

**Content Focus Area:** Professional Practice Evidence

# **AACessible written information for people who use AAC and have limited literacy**

**Hilary Johnson | Katie Lyon | Rebecca Gallo**

## **BACKGROUND**

Many people face the daily challenge of reading and comprehending written information. People with cognitive disability who use AAC supports to communicate find acquiring literacy skills challenging (Beukelman & Mirenda 2013). Everyday literacy activities could include reading train timetables, bank statements, bills, lease agreements, websites, Facebook posts and road signs. In 2013, the Australian Bureau of Statistics (ABS) conducted a survey of adult literacy and found that 43.7 per cent of Australian adults had below-proficiency-level literacy (Australian Bureau of Statistics (2013) 4228.0 – Programme for the International Assessment of Adult Competencies, Australia, 2011-12). This difficulty affects people with a cognitive or communication disability, older Australians, people with limited English and people with specific learning disabilities. Several organisations have developed simplified ways of writing and presenting information with text and images, commonly referred to as 'Easy English' in Australia and 'Easy Read' or 'easy-to-read' in the UK and Europe. This style of presenting information has often focused on people with intellectual disability and has proven so prevalent that a number of guidelines have been produced internationally to help organisations produce Easy English resources.

A research project reviewed commonly-used guidelines for preparing accessible written information for adults with intellectual disability.

A systematic review revealed that studies included in the review were of varying methodological quality, but all contributed to a wider understanding of the key principles involved in the development of accessible written information.

The research questions: 1. What does the evidence say about the factors that should be taken into account when preparing accessible written information resources?, 2. What evidence underpins the most commonly-used guidelines for the preparation of accessible written information resources?, 3. What does the evidence say about the factors that should be taken into account when supporting a person using accessible written information resources?

The research concluded that: 1. without accessible information, the right of people with disability to self-determination cannot be upheld, 2. information needs to be tailored to reflect the needs and preferences of the intended audience and delivered in a way that is most effective for an individual with intellectual disability, 3. an evidence base for good practice in the production of accessible written information, and the supports required for people with intellectual disability, needs to be established.

## **WORKSHOP DESCRIPTION**

This workshop will explore the findings from the systematic review of peer-reviewed articles on accessible written communications and discuss the relevance to people who use AAC and have limited literacy.

## **LEARNING OUTCOMES**

Participants will: 1. be aware of the international legislation that underpins the need for accessible written information, 2. understand formatting specifications that improve the effectiveness of accessible written communications, 3. learn how to use appropriate vocabulary and syntax when writing accessible written communications, 4. understand the effectiveness of different images, symbols and photos to support text in accessible written communications, 5. understand how communication partners can assist people with literacy difficulties to read accessible written information, 6. understand how to involve people with literacy difficulties in the co-design of accessible written information.

## **INTERACTIVE COMPONENTS**

This workshop will provide participants with a range of interactive and practical experiences, including a video demonstrating the consumer testing process used by one organisation in Australia.

Participants will address, in small groups, the following questions regarding accessible written information: 1. Legislation in different countries that mandate service providers must make reasonable adjustments to improve communications for people with disability, 2. Who are the different audiences for accessible written information?, 3. How do we account for the needs of different groups when we produce accessible information guidelines?, 4. Do some images help or hinder Easy English communications?, 5. How do we know if Easy English actually leads to better outcomes for people who use AAC with limited literacy?, 6. What guidelines could improve the effectiveness of support people when assisting someone to read Easy English?, 7. Can we translate what we know into other accessibility modes such as video, digital and audio communications?, 8. What are the risks of using the same groups of consumers to help produce Easy English if they become 'information experts' rather than a true target audience?, 9. How does Easy English help people with CALD backgrounds, Indigenous backgrounds, older people and people who are educationally disadvantaged?

**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence, Professional Practice Evidence

# AAccessing Student SLP Experiences: The value of learning about AAC for the future workforce

Harmony Turnbull | Andy Smidt | Aylin Huzmeli

## BACKGROUND AND RATIONALE

Speech Language Pathology (SLP) students are the future of Augmentative and Alternative Communication (AAC) service provision. They learn about supporting people with Complex Communication Needs (CCN) who benefit from AAC assessment and intervention within academic subjects. This gives them valuable knowledge about working as a family/person-centred clinician in a strengths-based, biopsychosocial model of support.

SLP students also access clinical placements, providing services to people with CCN, to further strengthen their knowledge and give them opportunities to apply that knowledge to build skills and confidence.

Previous studies indicate that student SLPs gain more positive attitudes towards working with people with disabilities after having attended lectures in disability and/or having a clinical placement providing services to people with disabilities. (Balandin et al, 2011, Johnson et al, 2008)

In an 18 month period the clinical educator in this study provided direct and intensive clinical education to groups of SLP students in a university clinic. The clinic provides student-led assessment and intervention services to a diverse range of people. This includes children and adults with CCN resulting from developmental, congenital or acquired disorders, individually or in small groups in the clinic or in schools. This model of clinical education is unique and allows supervision of a much larger number of students than in other student placements.

The verbal feedback from the students about the placement, their learning experiences and supervision style is positive and indicates that they gain more confidence in considering employment in the disability sector. However this feedback is non-specific and potentially skewed because it is given verbally to the person who is ultimately assessing them.

## RESEARCH AIMS / QUESTIONS

In this qualitative study we aim to explore and clarify the following questions around clinical education for SLP students working with people who use AAC:

- What features of a clinical placement involving AAC do students view as helping students to gain skills, knowledge and confidence?
- Do students perceive that a clinical placement involving working with a person with CCN helps them build the necessary skills and confidence to perform this work in the future?
- How do students feel about working with people with disabilities who use AAC before they experience a clinical placement in this field?
- Are SLP students more likely to consider/apply for positions in disability contexts if they have undergraduate clinical experience?

## METHODOLOGY

There were two phases to this study. The first involved completing brief surveys about their previous experience and attitudes to working with people with a disability prior to their university training and after their lectures and/or clinical placement. The second phase involved focus groups where students discussed the factors that influenced their learning about working with people with a disability.

**FOCUS GROUPS WERE:**

Group 1: Students who were not previously interested in working in the disability sector and who had lectures about working with people with CCN

Group 2: Students who were not previously interested in working in the disability sector and who had lectures about working with people with CCN and had a clinical placement with clients with a disability attending clinic

Group 3: Students who were previously interested in working in the disability sector and who had lectures about working with people with CCN

Group 4: Students who were previously interested in working in the disability sector and who had lectures about working with people with CCN and had a clinical placement with clients with a disability attending clinic

**ETHICS**

Ethics approval was obtained. Participation in this study was voluntary. Focus groups were run by an independent person who was not involved in the clinical education of the participants. Qualitative analysis was used to analyse the data from the survey and focus groups.

**RESULTS:**

The study is currently ongoing. Preliminary data will be available by early 2018.

**CONCLUSIONS:**

Themes that arose during the focus group will provide insight into the experiences of SLP students and will be discussed with relevance to the future clinical education for SLP students in working with people who use AAC.

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**Evidence Area:** AACcess education

**Content Focus Area:** Research Evidence

## About Me

**Conrad Yinfoo | Wendy Yinfoo**

Conrad Yinfoo is a 16 yr old boy with a severe physical disability. Conrad learnt early in his life that people often look at his wheelchair, his lack of speech and his severe physical impairment and assume he doesn't have thinking. Conrad and his family have used photos, books about me, power points, video and other formats to communicate with people about his life to break down the barriers and increase people's confidence in interacting with him and increase their expectations in the classroom. This poster will describe and show examples

**Evidence Area:** AACcess education

**Content Focus Area:** Personal Experiences and Preference

## **Access to an easier life – one AAC user’s personal journey**

**Joseph Harrall | Sue Suter**

My life has changed a whole lot in twelve years of using this great assistive technology. Now I can really access all areas. Not only can I communicate with anyone, anywhere, any time, about anything, but now I also have a way to control my phone by using voice, Bluetooth and or USB. I can do things on the go everyday such as sending a message to somebody that I may be 5 minutes late, or if I am lost I just say “okay Google go back home” and my phone will show me the way.

The truth is, I can talk to everyone. My device gives me access to great communication, but some people think that I’m not able to talk or they don’t give me the time I need. Then my mother bear gets angry at them. But there is no point in getting angry because they are losing out, not me.

I have everything now, with my communication device. I can do anything that you can do but I just need time. I write emails, listen to music, surf the internet, do my school work, and talk to my family and friends. I can reprogram a communication device over a weekend. You should watch me go! I would like to work on communication devices when I leave school because I have the brain to do programming and I hope someone will give me a go. But if not, well hey that is life, as my Dad said. Whatever happens, I think of myself as the next Stephen Hawking. Some people love me and some just don’t know how to communicate with me. I have the power to do things that may change people’s lives. I can use a phone to do everything, but you may be thinking “how did you do this?” and I will say to you I just played with my knowledge to program the phone to do what I want it to do. It makes my life a lot easier because I just talk to my phone and it can do things that might otherwise take me ten minutes to do.

Come and hear my story, and let me show you how my communication device and my other technology allow me to really access all areas of my life – relationships, education, opportunities, leisure activities, and my community.

**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community, AACcess relationships, AACcess social media

**Content Focus Area:** Personal Experiences and Preferences



## **Access to research participation: An evaluation of new methods developed for users of AAC**

**Betty-Jean Dee-Price**

Despite a proliferation of qualitative research and the advancement of augmentative and alternative communication (AAC) people with complex communication needs (CCN) are often absent from sociological study cohorts. (Stafford, 2017; Ison, 2009; Hodge 2007; Lloyd, 2006; Paterson, 2002). Access barriers to research participation for people with CCN is a significant problem. Not only does it leave little known of the day-to-day lives and experiences of those with communication impairments (Hodge, 2007; Duchan, 2006) but it denies their input on general topics of contribution across all facets of community. It also diminishes opportunities for protest. Thil (2015) notes that 'voice' is an important tool in the disability struggle for recognition. Yet as Duchan (2006) reveals, arguments about access are prominent in the disability field, yet communication access is afforded little attention. This view is echoed by Levin (2013) who notes that people with communication impairments are largely excluded from disability politics, wherein like other politics, arguments are dominated by people who communicate well and fluently. Proxy interviewing is common but it leaves viewpoints to be shaped by others. Herein the purpose of the study was to develop and test new methods of data collection that would improve access to research participation for people with CCN.

This presentation reports on the development, implementation and evaluation findings of four data collection techniques developed by combining visual research techniques and emerging anthropological methods with AAC. The aim was to test options for increasing access to qualitative research participation by developing methods that might capture the responses of people with CCN, including those with significant intellectual impairment. These methods, 'theory generated photo elicitation' 'adapted image selection' 'participant sensory selection' and 'sensory ethnography' were tested (n=22) participants (without CCN) and then pilot tested and finally implemented in a study (n=10) of people with CCN, several of whom were reported to have not directly participated in an in-depth qualitative study before. The presentation will outline novel approaches to communication accessible research participation with ideas for qualitative research applicable to the field of AAC and beyond.

**Evidence Area:** AACcess emerging technologies, AACcess language and literacy, AACcess education, AACcess the community, AACcess employment, AACcess diversity, AACcess justice, AACcess culture, AACcess relationships, AACcess social media, AACcess the world: Deve

**Content Focus Area:** Research Evidence

## **Accessing AAC: The Power of an Occupational Perspective**

**Anne Addison | Leila Nicol | Kim Bates | Katrina Macleod**

A number of U.K. services specialising in Augmentative and Alternative Communication (AAC) currently advertise for and employ Speech and Language Therapists and Occupational Therapists to fulfil generic assistive technology roles with no professional affiliation. This presentation will consider the individual roles of the Speech and Language Therapist and Occupational Therapist within AAC, linking them to established competency frameworks and reason why the two unique perspectives are required to address participation limitations experienced by children and young people with complex communication needs (CCN).

Whilst the field of AAC has historically been synonymous with Speech and Language Therapy intervention, Occupational Therapists have traditionally fulfilled an additional role relating to physical access, i.e.: supporting individuals to independently interface with communication devices. However, in parallel to a paradigm shift relative to 'access' (Higginbotham et al 2007), professionals now acknowledge that this concept is not limited to physical abilities, but that access encompasses the cognitive, linguistic and sensory aspects considered by the multi-disciplinary team (MDT). As such, Occupational Therapists working in AAC need to redefine their role, to take an occupational perspective in order to ensure their unique contribution. Through doing so they will be able to work together with Speech and Language Therapists to both support children to express what it is that they want to do, as well as enabling them to do it.

Participation, or engagement in life situations, is currently viewed internationally as the ultimate healthcare outcome (Imms et al 2016). For children, it is widely understood that communication is their primary way of relating to the world, yet for those with complex communication needs, the opportunities to communicate and their means of doing so are often limited. In turn, this impacts on occupational engagement and subsequent participation at a wider level (Raghavendra et al 2012). We will explore the link between language development, AAC provision and the occupational engagement of children and young people with CCN.

Using both developmental theories of language acquisition and occupational science, we will explain how the ability to make choices enables autonomy over access to occupations and is inherent to the idea of 'meaning', the very thing that makes occupations powerful enough to increase health and wellbeing (Fisher 2013). By providing a multidisciplinary perspective, we will also demonstrate what our practical experience has taught us: that in order to support children with CCN to develop functional independence and participate within the broader socio-ecological environment, we need to understand the full extent to which occupational limitations are influenced by communication difficulties. By reviewing the literature and considering case-studies, we will demonstrate that by viewing functional ability within a social and environmental context the MDT can examine how a child with CCN might be supported to independently communicate as a means to engage in meaningful occupations.

### **LEARNING OUTCOMES:**

Participants will be able to:

1. Explain the role of individual professionals in the assessment for and provision of AAC and discuss how different theoretical backgrounds can be brought together to promote participation.
2. Examine the practical elements of Speech and Language Therapy and Occupational Therapy AAC intervention and link these to professional competencies.
3. Describe how communication enables access to occupations and as such is an essential component for effective occupational therapy.

4. Establish an understanding that by using a dual approach, Occupational Therapists and Speech and Language Therapists can support individuals' ability to physically engage in, choose and direct their own occupations as a means to achieving participation.

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**Evidence Area:** AACcess education, AACcess the community

**Content Focus Area:** Professional Practice Evidence

## **Accessing Social Media with Grid 3**

**Maggie Mahoney**

In today's society social media is an important way in which we communicate, share, and consume content and information. AAC users regardless of access methods need easy access to these mainstream websites and applications. Grid 3 provides a range of accessible applications to help our users do more, interact and stay connected. It is possible access the computer, make a quick phone call, send a text message, post to Facebook, send a tweet, email a photo, and much more.

Everything in Grid 3 is designed to be accessed with eye gaze, touch, switch or other mouse pointers, so everyone can stay connected. This presentation will explore how within Grid 3 users can access Facebook, Twitter, WhatsApp, YouTube, and the web; send and receive phone calls, text messages, and emails; manage contacts; store and play music and videos; and how to access mainstream technologies such as the Amazon echo and more!

**Evidence Area:** AACcess social media

**Content Focus Area:** Professional Practice Evidence

## **Access-to-Recess: Students with Physical Disabilities use Support Walkers at Recess and Gain Meaningful Peer Interactions**

**Christine Wright Ott | Fei Luo | Dana Ryals**

### **ABSTRACT**

This workshop will describe an Access-to-Recess Support Walker Mobility Program developed at the Bridge School for students with communication and physical disabilities over a ten year period. The preschool and elementary students leave their wheelchairs behind and transfer into hands free support walkers, which are available for young children with complex physical needs (Wright-Ott 2015), to access outdoor activities, recess, inclusive physical education, field trips, language arts and math. The students use their support walkers and unaided/aided augmentative and alternative communication systems (AAC) at recess to participate in the same playground activities (walking, running, jumping, playing soccer) as their peers, leading to meaningful and novel peer interactions. These highly interactive and motivating experiences are videotaped for the students to review and share with familiar partners through conversations or writings using their AAC systems or social media.

The Bridge School in Hillsborough, California is a private school for preschool and elementary children with complex communication and physical needs located on the district's public elementary school campus. It is dedicated to ensuring that students achieve full participation in their communities through the use of AAC and assistive technology applications.

Recess is a crucial and necessary component of a child's development. Haapala et al., (2014) concluded that physical activity at recess is positively associated with peer relationships at school, and physical activity has been linked to an increase in academic performance, memory and attention (Fedewa and Ahn 2011). Egilson and Traustadottir (2009) reported that children with physical disabilities, who had a combination of limited manipulation skills, lack of verbal expression, and restricted mobility, were least likely to participate in most settings, particularly recess/playground and transportation. Therrien, Light and Pope (2016) reviewed studies on improving social interaction of children using AAC. They concluded that a physical disability negatively impacted social interaction intervention, possibly due to difficulty exploring and obtaining access to peers.

The Bridge School staff have observed peers being more engaged, at ease and willing to interact with students who use hands free support walkers at recess to walk and run, inviting them to play, giving fist bumps, praise and standing close by. Students who are pushed in wheelchairs at recess, who cannot run, jump, chase or kick a ball, demonstrate less physical and social interaction with peers. These findings suggest that students with communication and physical disabilities need not only AAC, but a means to physically access and participate in peer recess/playground activities, using hands free support walkers to increase opportunities for meaningful social interaction with peers.

We will describe hands free support walker features, adaptations, activities, and unaided/aided AAC systems that encourage physical access to playground activities and peer interaction. Videos of children in support walkers participating in meaningful activities will be shared including Peer Soccer, Project Walkway, The Race and Who Is Taller?

### **LEARNING OUTCOMES:**

Participants will:

1. Gain a new perspective on the physical, psychological and social implications of providing hands free support walker mobility with unaided/aided AAC systems at recess and in the classroom for young children with communication and physical disabilities.

2. Describe recess and classroom activities that students can accomplish using hands-free support walkers to foster meaningful interactions and learning.
3. Identify features of hands free support walkers, adaptations and AAC systems/strategies which can increase opportunities for physical participation and interaction with peers at recess and in the classroom.

**INTERACTIVE COMPONENTS:**

Slides and videos of students using hands free support walkers to access recess and classroom activities will be shared to support the physical, psychological and social implications of self-initiated standing mobility.

Participants will analyze a student's progress in mobility and AAC systems/strategies from preschool through elementary school. Adaptations and resources will be available.

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**Evidence Area:** AACcess education, AACcess relationships

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

## **Adapting the Social Thinking approach for AAC users in school, community and work**

**Kim Mears**

It has long been recognised that social competence is fundamental to the communicative competence of AAC users. In 1989, Janice Light discussed how ‘the user of an AAC system must also possess knowledge, judgement and skill in the social rules of communication’ (p.140) and learn a number of sociolinguistic skills.

At around the same time Michelle Garcia Winner began developing her Social Thinking approach. This is a developmental, behavioural approach using cognitive behavioural strategies to teach core social thinking concepts. The approach is predominately used with verbal children and adults who have difficulty in social competency and looks at input (attending to and interpreting social situations) and output (problem solving and responding). This supports people to develop their social competency at a deeper level and be more effective in social situations such as with family and in work or school.

Michelle Garcia Winner’s experience and research has found that the approach is most effective with people who have the cognitive ability to understand the concepts. Her work has tended to stay within the field of social communication difficulties however its principles have much to offer all those who would benefit from improving their social competency skills including AAC users. For too long educators and therapists have had limited resources for teaching social competencies which often had superficial results which do not generalise. The Social Thinking approach offers an opportunity to rethink how social competencies are taught and if it can be adapted to be used by AAC users it could help to develop the crucial social competencies needed.

### **AIM:**

In this presentation the aim is to explore the following questions:

1. Can the Social Thinking approach be adapted without losing fidelity?
2. Can the principles of the Social Thinking approach benefit young people who use AAC to support them to develop their social competencies?
3. Does the Social Thinking approach give us another tool in our toolbox to enable AAC users to be more successful in accessing social relationships in school, in the community and in work?

### **METHOD:**

Initially the students in the final year of a special secondary school (age 18-19) were targeted to prepare them for transition to adult services including college, supported living and work. This was the pilot age group as they had specific life skills sessions scheduled into the timetable. 30 students were part of the programme and were in four groups based on ability and social competency level. Two groups used AAC which included symbols, signs and some text to speech apps. The stages of the Social Thinking ILAUGH approach (Michelle Garcia Winner 2007) was used and activities adapted to enable AAC users to participate and to support understanding of the concepts. An example was using like and don’t like pathway from PODD to talk about feelings and emotions, to think about their own emotions and how others are feeling, which is a fundamental teaching area in the Social Thinking Approach.

The students are seen weekly in a social competency group throughout their final year at school and supported to use the skills learnt in a range of settings with different people to prepare for leaving school.

### **RESULTS**

This work is currently ongoing and its efficacy will be evaluated at intervals during the school year. Evaluation will include:

- . benefit to young person using AAC,

- . ability to maintain fidelity whilst making adaptations
- . increase in skills for staff and confidence in delivering social competency programmes

#### **CONCLUSION**

Initial results indicate that using the Social Thinking approach has provided a framework to explore social competency in a more in-depth way. It has enabled staff working with the young people to tailor the input more specifically to their individual needs and the use of AAC does not appear to have affected the approach or its integral principles. These initial findings suggest that there is value in adapting the Social Thinking approach so that AAC users are able to access it and benefit from all this approach has to offer.

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**Evidence Area:** AACcess education, AACcess employment, AACcess relationships

**Content Focus Area:** Professional Practice Evidence



# Addressing patients' understanding of a specific physiotherapy home exercise programme through pictorial support

**Ensa Johnson | Karien Mostert**

Healthcare practitioners tend to use medical terminology (e.g., transversus abdominis activation instead of tighten your stomach muscles) that patients may not understand (Levin, 2006). Furthermore, apart from English being predominantly used in private and public South African medical settings to communicate with patients, the first languages of healthcare practitioners and their patients may differ (Levin, 2006). Also patients with limited understanding of basic health information may have low health literacy (Haun, Luther, Dodd, & Donaldson, 2012) and therefore struggle to understand the healthcare practitioners' explanations of specific home exercise programmes. As a result, patients are regarded as communication vulnerable; communication breakdowns or miscommunication between healthcare practitioners and their patients may occur as patients may not understand how to execute the exercises prescribed for specific home exercise programmes accurately (Blackstone, 2015; Deumert, 2010).

Poor understanding of medical information may lead to patients: (a) not adhering to their treatment; (b) avoiding to seek medical attention as they struggle communicating with their healthcare practitioners; (c) being misdiagnosed and ineffectively treated by healthcare practitioners, and (d) being unsatisfied and frustrated with their treatment outcomes (Deumert, 2010; Levin, 2006).

Attempts to address patients' poor understanding of medical information by means of augmented visual input have been used by healthcare practitioners during patient treatments and interventions increasing patients' attention, comprehension, recall and adherence (Houts et al., 2006; Thunberg, Törnåge, & Nilsson, 2016).

## **AIM**

In this presentation, we aim to explore the following questions to determine how patients' understanding of a specific home exercise programme could be addressed through pictorial support:

1. What exercises should be included in a home exercise programme addressing chronic non-specific low back pain?
2. How should the exercises identified for a home exercise programme addressing chronic non-specific low back pain be simplified through pictorial support to assist patients with low health literacy' understanding?
3. Did the pictorial support of a home exercise programme addressing chronic non-specific low back pain help persons with low health literacy to understand and execute the exercises correctly?

## **METHODOLOGY**

This multi-method study was conducted in two phases. In Phase 1, a descriptive qualitative design was used to develop a visual schedule for the identified chronic non-specific low back pain home exercises based on the input from various stakeholders, namely purposively selected physiotherapy experts, AAC experts as well as conveniently selected persons with low health literacy. In Phase 2, an experimental design with an experimental and control group of participants with low health literacy was used to determine if the intervention (pictorial support of a specific home exercise programme) assisted participants to understand and execute the exercises correctly. A convenience sampling of participants was done who were randomly allocated to the experimental or control group. After completion of the study, the control group also received the intervention.

## **RESULTS**

Findings will be discussed according to the two phases of the study. For Phase 1, examples of the identified exercises for inclusion in a home exercise programme addressing chronic non-specific low back pain will be provided.

The results of the stakeholder review to inform the researchers on the suitable visual support for the specific home exercise programme will then be addressed. The outcomes of Phase 2 will then be presented.

#### **CONCLUSION**

In a country where patients are often considered communication vulnerable due to their lack of understanding of healthcare practitioners' language or use of medical jargon, implementation of pictorial support to assist patients' understanding is important. Recommendations for future research as well as clinical implications within the physiotherapy field will be emphasised through this presentation.

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**Evidence Area:** AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence

# Adolescent Identity Stances with AAC: implications of SGD Access and Language Development

Renee Starowicz | Gloria Soto

## OPENING SECTION:

This paper presents findings related to the display of identity of an adolescent woman that uses Augmentative and Alternative Communication (AAC). The focus is on AACcess to education and relationships. This analysis draws from the fields of disability studies (Biklen, 2000; Linton, 1998; Shakespeare, 1994, 1996; Shapiro, 1994; Wickenden, 2011a, 2011b), interdisciplinary definitions of identity (Bucholtz & Hall, 2005; Goodwin, Cekaite, and Goodwin, 2012; Jenkins, 2004; Ochs, 1996; Ochs & Capps, 2001), and narrative language development (Gjerde, 2004; Nelson, 1996) with a particular focus on AAC (Light & McNaughton, 2014). It is a qualitative analysis of conversations between the young woman, a peer and a speech-language pathologist that serves as the conversation facilitator.

This paper aims to explore the appearance of identity stances that emerge as a young woman continues to develop proficient use of her communication system and gains linguistic skills through discourse based-instruction. This paper aims to bring forward evidence of these developments through conversation excerpts and provide analysis as to how these developments in linguistic skills relate to the emergence of identity found in interaction.

## AIMS:

In this presentation, I will explore:

- 1 The emergence of stance over time for an AAC user as she develops proficiencies with her SGD
- 2 Discuss implications for thinking about AAC and identity for adolescents through discourse analysis
- 3 Discuss implications of identity development in venues of socialization for education based programs

## METHOD:

Transcriptions were reviewed and examined for evidence of affective and epistemic stance being indexed by the focal student in conversation through Discourse Analysis of research evidence. In order to specifically discuss the emergence of identity related content, utterances that are related to affective stance containing statements such as "I feel," "I am," and epistemic stance such as "I think," "I know," have been collected and organized over their time of appearance. Specifically, each transcription was reviewed for any content expressed by the focal student that related to emotions, mood, and their intensity as discussed by Elinor Ochs (1996). This constituted examples of affective stance. As well, according with Ochs' definition, examples of any expressive statements from the focal student that related to knowledge or beliefs were noted (1996) and constituted epistemic stance.

## RESULTS

Excerpts and examples are pulled out from across the span of the sessions to demonstrate variety and development in stances as they relate to SGD access and language development. Throughout each of these sessions, Lily, the focal student, demonstrates the emergence of identity dimensions that relate to her sense of selfhood or how she understands herself. These remarks are found in both affective stance and epistemic stance. Through these interactions, Lily is constructing and being constructed as a young woman that has interests, close long-term friends, a close family and someone that deliberately makes decisions about content from her autobiographical memory that is important to share with others. In the peer mediated follow-up sessions, Lily has developed her ability to share information about others including her boyfriend and friend, Lance. Lily's skills in narrative emergence and development begin to take share with her use of affective and epistemic stance

## **CONCLUSION**

This investigation takes into account the realm of selfhood (Jenkins, 2010) as it is constructed through affective and epistemic stance (Ochs, 1996). This work situates itself in relation to the importance of language and cognitive development that impact an individual's ability to put words to their experiences and store autobiographical memory that relates to identity (Nelson, 1996). Particularly relevant to the developments seen in Lily's sessions is the support of a discourse based strategy where Bee provides some co-construction towards more complex utterance development (Solomon-Rice & Soto, 2011). As is noted in the data samples, Lily develops increasingly complex and interlocutor inclusive affective and epistemic stances.

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**Evidence Area:** AACcess education, AACcess relationships

**Content Focus Area:** Research Evidence

## **Aided communicators' practices to take responsibility for progress in conversations with speech generating device**

**Irina Savolainen | Kaisa Launonen**

According to conversation analysis, in spoken conversations participants implement the principle of progressivity by following the rules of turn and sequence organizations and by being sensitive to the recipient and the context (Schegloff, 2007). Basic sequence is a series of two actions which are produced by different speakers, and they are relatively ordered as a first pair part (like a question) and a second pair part (like an answer). It is preferred that turns and sequences follow each other fluently, and turn-transitions are quick (Sacks, Schegloff & Jefferson, 1974).

In aided conversations, long delays between turns are common because the producing of an aided utterance takes time (e.g., Clarke, Bloch & Wilkinson, 2013). An essential factor of aided conversations is how conversationalists handle the slowness and the progress of aided conversations in everyday interaction (Higginbotham, Fulcher & Seale, 2016). Previous research has indicated that the responsibility for progressivity in aided conversations usually lies with the speaking partner, and there is a lack of research focusing on how aided communicators contribute to the progress of conversation. Aided communicators seem to be passive, and speaking partners have been considered to implement the role of a director channeling the conversation, or they do not wait for the production of an aided turn to its end (e.g., Sundqvist, Plejert & Ronnberg, 2010). Previous research has also indicated that the conventional frame of aided conversations is a sequence where the first pair part of a sequence is often produced using natural speech, and the second pair part is an aided turn, and the frame provides a resource for interpreting the meaning of an aided turn (e.g., Clarke & Wilkinson, 2008).

### **AIM**

In this study, a focus is on turn-transitions before aided first pair parts. We will analyze the point when an aided communicator starts the producing process, and moot how an aided communicator effects to the progress of a conversation with different practices. In this presentation, we will show some excerpts of the data.

### **METHOD**

In this case-study, an 18-year-old aided communicator who used a speech generating device with symbols, had a conversation with his classmate. Participants were asked to have a free conversation with a topic of their own choice, and the duration of the conversation was not defined. The conversation was recorded with one video camera. The main method was qualitative conversation analysis which is based on microanalysis and observations moment by moment (Schegloff, 2007).

### **RESULTS**

In this aided conversation between peers, the aided communicator was an active participant who channeled the conversation. He produced 77 % of the first pair parts of this conversation, and it was one of the aided communicator's practice to take the responsibility of the progress in aided turn-transition. In addition, the aided communicator contributed to the progress of the conversation in timing the multimodal beginning of an aided turn, for example, starting the producing process, already, during the speaking partner's turn.

### **CONCLUSION**

This case-study indicates that aided conversations are not always asymmetric in such way that an aided communicator is the passive participant, and the speaking partner is the leader. The progress of conversation is preferred also in aided conversations. An aided communicator has different practices to implement the progressivity and decrease the delay of the producing process of an aided turn.

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**Evidence Area:** AACcess relationships

**Content Focus Area:** Research Evidence

## **Aided language stimulation and emergent writing strategies improve language outcomes for emergent learners using AAC.**

**Rachel Dougherty | Nicholas Drover**

This workshop will use four case studies of students with complex communication needs (CCN) to illustrate that the daily implementation of an emergent writing block within a balanced literacy approach improves students language acquisition outcomes and alphabet knowledge through aided language stimulation. All of the students have significant communication needs and have no identified AAC system. Two students (6 to 8 years) have a diagnosis of ASD, intellectual disability & have complex communication needs. The remaining 2 students (16 and 17 years) have a diagnosis of cerebral palsy (spastic quadriplegia), intellectual disability and have CCN. It is now clear from clinical experience and research that children can effectively learn to use their AAC Systems through the use of Aided Language Stimulation (Burkhart, Porter 2000)(Binger, Maguire-Marshall and Kent-Walsh 2011). Over the past decade, aided language stimulation has emerged as a strategy to promote both symbol comprehension and symbol production among individuals who use graphic mode communication systems. The purpose of this action research – to determine the impact of aided language stimulation during emergent writing activities. As the four learners within this action research are early communicators and do not have an identified AAC system, communication partners will vary the number of selected icons according to the user's ability and engagement levels. The expressive communication of the four students in the case study have an approximate size vocabulary of spoken words and symbols of between 1 to 10 words. Baseline measures (Pragmatic Profiles) indicate that all four students use words (in the form of single symbols or physical gestures) as request based language functions, that is, requesting more, requesting an action, requesting an object or requesting help. These early communication attempts are rarely spontaneous and baseline data shows that they are heavily prompted or imitated.

This workshop will illustrate strategies for improving language gains in students who are early communicators and will also illustrate emergent writing strategies to improve alphabet knowledge and concepts of print. The workshop will include opportunities to view different aided language environments and the interactions known that support spoken language development will be emulated with symbol based systems. The focus will be the communication partner and the meaningful interventions that create rich language opportunities for the students in the case study. The strategy of independent writing 'writing without standards' (Erickson & Kopenhaver, 2003) will illustrate the impact of rich language opportunities through highly motivating student selected writing stimulus.

The measurement of impact of aided language stimulation on the four students in this case study will include the following data collection sets:

1. Range of language functions
2. Type of vocabulary
3. Frequency of expressive language during daily 20 minute emergent writing sessions and whether these attempts were spontaneous, responded, prompted or imitated.
4. Alphabet identification and concepts of print

20 cell PODD and alternative access 12 cell PODDs are the AAC interventions used for this action research project. Videos will capture emergent writing sessions to illustrate specific strategies and language opportunities.

## **LEARNING OUTCOMES**

Participants will be able to:

1. Identify key elements within emergent writing sessions that enabled engagement and interaction for students in the case study.
2. Analyse the features of rich aided language environment.
3. Discuss key elements of aided language stimulation that enable rich language opportunities for students with CCN.

## **INTERACTIVE COMPONENTS**

Video of four students engaging in emergent writing session at baseline and at the completion of the action research study (16 weeks). Participants will engage in small groups to discuss key elements of aided language stimulation that they observed during the video clips. In groups, the participants will identify key 'look fors' that enabled rich and authentic language opportunities, eg, synchronising language interactions with the student's attention and activities.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence, Professional Practice Evidence, Personal Experiences and Preferences



## **ALS and Speech synthesis, voice banking and message banking: HISTORY, CURRENT AND FUTURE TRENDS**

**john costello | Meghan O'Brien**

Speech output has been a critical component of independent augmentative communication technology since the 1970s. The development of computer generated speech or synthetic text to speech, approximating the clarity and richness of the authentic human voice has been a goal of developers since the early 20th century. The production of the VODER (Voice Operated Demonstrator) in 1939 by Homer Dudley (Bell Telephone Laboratories, Murray Hill, New Jersey), was the first device that could generate continuous human speech electronically (Dudley H. 1939) (Dudley H. R., 1939). Even before that, as far back as the second half of the 18th century, efforts were made to mechanically create human speech sounds (Kempelen, 1791). Yet it was the development of computer technology in the 1970s, with larger scale electronic storage becoming more robust and less expensive, that realized the introduction of a considerable amount of commercial text to speech and speech synthesis products. (Klaas, 1987).

The most important qualities of a speech synthesis system are naturalness and intelligibility (Taylor, 2009). While the early electronic speech synthesis was robotic and frequently barely intelligible, contemporary speech synthesis much more closely approximates the sound and clarity of natural speech. Despite this, speech synthesis continues to remain distinguishable from authentic human speech.

As intelligibility and naturalness of speech synthesis has continuously improved, focus has shifted to the personalization of voice and the impact on the communication and comprehension of intent with one's personal voice (Higginbotham J. 2010). In his work focused on capturing and preserving banked messages of people at risk of losing the ability to speak, Costello has suggested that one's voice is an acoustical fingerprint (Costello, 2013). When message banking was first introduced in the early 1990's in the pediatric intensive care unit, Costello reported that hearing authentic voice was powerful for not only the speaker but for family, loved ones and care providers (Costello, 2000). He asks "How many times have you heard someone say 'It is so good to hear your voice!'" Through authentic voice, we are able to provide comfort, establish personal connection and bring the spectrum of emotions to people around us through our voice and our unique intonation, prosody and passion. Portnuff asserted "I want to be able to be sensitive or arrogant, assertive or humble, angry or happy, sarcastic or sincere, matter of fact or suggestive and sexy" (Portnuff, 2006).

Through the ALS AAC Program at Boston Children's, message banking has been introduced to hundreds of people with ALS, terminology has been coined (Boston Children's Hospital Augmentative Communication Website, 2006) and a free and technology agnostic message banking web-based tool has been developed to manage the labor of message banking. Leading manufacturers of AAC software have modified their software to auto integrate the messages downloaded from the message bank website while voice bank options such as Acapela can now use those authentic messages to create a custom voice synthesizer.

This session will, review history of speech synthesis. It will detail the history, current trends and new directions in voice banking and message banking highlighting the newest options for one to 'double dip' by banking authentic messages with personal prosody, intonation and emotion while potentially using the same corpus to create a custom voice with voice banking. Examples of custom voice banked synthesizers created by the authors will be demonstrated and compared to message banked messages. Finally, the free to all web-based process will be demonstrated and videos of many people functionally using their personalized voices will be reviewed.

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**Evidence Area:** AACcess relationships

**Content Focus Area:** Professional Practice Evidence

## **Alternative Access and ALS: Touch to Look with Grid 3**

**Chris Gibbons**

Access to AAC for people with ALS evolves with disease progression. Grid 3 is designed for smooth alternative access transitions reducing time, energy, and stress. This seminar focuses on the use of direct selection via iPad or Windows tablet to evolving and emerging alternative access methods including novel switches, EMG, head-mouse, and eye control. Access modalities, and transition between modalities, will be discussed while maintaining full command of all communication, computer, and environmental control features in Grid 3.

Nearly all people diagnosed with ALS will lose their ability to use natural speech at some point in the disease course. It is critical that AAC intervention is proactive and appropriate to reduce precious time delays during disease course (Nordness, et al., 2010). It is also important to reduce energy output, time spent on learning new access modalities, and to minimize stress related to loss of independence, communication, and physical access to AAC. It has been reported that one of the most depressing and disabling aspect of ALS, rated by people with ALS, is the loss of independence (McDonald, 1992). Loss of speech robs people of much of their independence, which is compounded by a great deal of stress due to the unpredictability of areas of increasing weakness and future access to communication. As a progressive condition, there is a nearly constant evolution of physical access methods necessary to maintain independence. For instance, a person with bulbar onset may start out using direct selection on an iPad or tablet to supplement variably unintelligible speech. As motoric deficits increase in degree and dispersion to limbs, they may use headmouse control, joystick, switches (foot, hand, pressure, etc.), or eye control as an input method to a Speech Generating Device (SGD). It is of the utmost importance that clinicians understand ways to quickly and easily transition patients from one access method to the next with the least disruption and stress.

This presentation will step through the expected speech symptomatology noted with ALS and the challenges with access for the two most frequently occurring presenting trajectories (limb and bulbar). For each presenting trajectory, specific alternative access methods will be aligned with complimentary and innovative alternative access methods (e.g. Brainfingers, gyroscopic mouse, voice activation) and programming within Grid 3. Further, I will focus on how communication partner instruction of software and intervention strategies can ease the burden of access point transition, increase predictability of future communication success even in the face of a neurodegenerative condition, and reduce stress related to communication and access to a SGD for the patient and care providers.

Continually progressing symptomatology means progressively adaptive access technology. Many people diagnosed with limb onset find that voice activated environmental controls facilitate a high degree of independence and early familiarization with assistive technology prior to losing natural speech. As natural speech becomes problematic or diminishes beyond practicality, other alternative access methods are necessary. If loss of voice occurs quickly and weakness prevents direct selection, joystick, headmouse, or other mouse emulation, the next best method may include switch control, eye control, or a combination of several technologies including more novel approaches like Brainfingers (an EMG and brainwave switch). Grid 3 is designed to quickly configure and operate with a variety of access methods in concert, between grid sets, even between grid users. This is an important feature since many people with ALS utilize different access methods during different times of the day based on overall fatigue, positioning, or communicative act (e.g. phone vs in bed vs in community, etc.).

Fundamentally, Grid 3 is a user-centered, user-driven software on all levels. As a communication tool, for computer access, and for environmental control it has been specifically engineered to provide continuity of access and utility – even when the user's body is changing rapidly and a variety of equipment and strategies are employed to maintain access. It therefore represents an important tool in the clinical management of communication disability

associated with ALS by providing an infrastructure for access that is highly adaptable. Presentation attendees will have a deep understanding of why continuity of access to SGDs is critically important for people with ALS, an array of access tools available to facilitate that access, and an understanding of Grid 3 software interaction with those tools.

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**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Professional Practice Evidence

## **An AAC system for now and later**

**David Niemeijer | Amanda Hartmann**

In this session we will share how we designed Proloquo2Go as an Augmentative and Alternative Communication (AAC) system that has the features therapists, educators and parents typically look for in a system for beginning communicators yet that can provide the AAC user a naturally progression to a complete, robust AAC system.

Today, most AAC experts recommend that a beginning AAC user starts out with a core word system with a large grid size and an extensive fringe. In other words, with a system that is designed for tomorrow's language and communication skills. Through modeling, the preferred "teaching" method, the user will then develop language and communication skills and eventually learn to use the system to its full potential.

Not every AAC expert, and certainly not the average speech and language pathologist, is convinced of this approach. A more common pattern is the more traditional approach of starting out with activity specific pages with a small grid and a limited selection of words. The idea is that this will be easier to teach and easier to learn as there are fewer words to choose from and there is no navigation. At some point, to allow the user to grow in language and communication skills, the grid size needs to be increased and a shift needs to be made from using activity specific pages to using the main vocabulary.

The benefit of the first approach is that there is no need for relearn. Words and navigation patterns are fixed. Additionally, the user has access to a complete system and can experiment with words and language at any time. In the second, traditional, approach it is hard for the user to generalize what is learned on an activity page to the main vocabulary because words are typically organized differently. Similarly, when grid size is increased, words move and navigation patterns change. In other words, a lot of relearning is involved.

What we wanted to do with Proloquo2Go is deliver an AAC system that would make it easy to start out with a large grid size and access to a rich and robust vocabulary with full grammar support. Yet, we also wanted to support the more common traditional approach, while reducing the need for the AAC user to relearn the system each time more language is introduced. In this session we will review how we achieved these objectives through several key features of Proloquo2Go and its Crescendo vocabulary.

You will see how different grid sizes can be used to support the fine-motor and visual needs of users. We will compare these different grid sizes to see how we can still access all the language within the system. We will look at how core words are used on the home page and within folders for easy navigation and consistent motor planning. It is also important to see how grammar support and typing can be used within the system; ensuring every learner has the opportunity to develop full language. In addition, we will look at how templates can be used successfully to add new content without changing motor plans and navigation. Finally, discover a feature called "Progressive Language" that can be used to get AAC users started on larger grid sizes more easily. It allows us to hide some words on these larger grid sizes and gradually expose core words in a developmental order.

Come to this session to see how an AAC system can evolve and give an AAC user every opportunity to build language and develop real communication.

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**Evidence Area:** AACcess emerging technologies, AACcess language and literacy, AACcess education

**Content Focus Area:** Professional Practice Evidence

# **An Overview of Just-In-Time Supports to Enhance Communication: Clinical Implications and Demonstrations**

**Amanda O'Brien | Meghan O'Brien | Ralf Schlosser | Christina Yu | Anna Allen | Suzanne Flynn | John Costello | Howard Shane**

## **ABSTRACT:**

The provision of specific and timely supports to enhance comprehension, expression, and organization of individuals with ASD is well documented (Shane et al., 2015). The ability to provide visual supports in a JIT manner, using readily available consumer products, is one strategy to better support learners with ASD. Additionally, individuals with ASD often demonstrate greater interest in technology-based visual material (Shane, 2015). Using consumer technology to provide JIT support, therefore, may increase the learner's attention to the information provided.

Research related to using JIT supports for individuals with ASD includes the use of a variety of technology (e.g., iPod®, iPhone®, iPad®, Apple Watch®). While not all reviewed research has formally used the JIT label, each used an as-needed approach to providing supports and can be analyzed according to the JIT taxonomy. Reviewed studies introduced JIT supports for a range of purposes (e.g., employment skills, transitioning, vocabulary access, direction following) (Cihak, Fahrenkrog, Ayres, Smith, 2010; Berezna, Ayres, Mechling, & Alexander, 2012).

While not previously classified as JIT supports, the use of reminders, alerts, and wireless transmission of messages to provide timely supports has also been studied in individuals with acquired disorders of memory and communication. Significant attention has been given to the use of electronic reminders and alerts to increase independence and safety in the acquired brain injury (ABI) population (Linden et al., 2016). Using JIT supports for individuals with acquired communication disorders and physical access needs, such as ALS, was not addressed in the reviewed literature, and is proposed as an area for future research.

Current literature regarding JIT supports for individuals with ABI includes the use of a range of technology (e.g., smartphones, electronic calendars, cameras, voice recordings, alarms). Review and analysis of the available literature using the JIT taxonomy (Schlosser et al., 2015) indicates JIT supports are being used for a range of purposes (e.g., task completion, activities of daily living, employment skills, medication reminders, orientation to date/time) for individuals with ABI (Wong, Sinclair, Seabrook, McKay, & Ponsford, 2016). Studies highlighted a need for development and research of clinical practice guidelines (Charters, Gillett, & Simpson, 2015; Linden et al., 2016).

In addition to the devices and applications included within the reviewed literature, several consumer products have been created with a JIT function (e.g., Snap Scene™, Total Talk, Symbol Talk, Ask My Buddy). Each of these applications and devices has been analyzed according to the JIT taxonomy, and will be reviewed. For example, the Total Talk app supports remote prompting during vocabulary selection, by transmitting visual suggestions from the mentor's iPad to the student's iPad. Total Talk serves as a visual, mentor-generated, wireless JIT support. Each existing JIT-device and application will be reviewed, and example uses of each will be provided.

We propose that many other general-use products can be adapted to support JIT intervention (e.g., Calendar Applications, GPS-based reminders (on iPhone), QR Codes, Apple Watch). For instance, GPS-based reminders on an iPhone automatically deliver location-specific alerts and reminders to a user's iPhone. These are of the auditory, visual, and vibrotactile modality, from an automated source, and pre-programmed for delivery.

## **LEARNING OUTCOMES:**

Participants will be able to:

1. Describe the taxonomy of JIT supports
2. Explain strategies for using JIT supports
3. Identify consumer products with the capacity for providing JIT supports

**INTERACTIVE COMPONENTS:**

Several case examples of individuals with a variety of developmental and acquired disorders of communication and/or memory will be used to illustrate implementation of JIT technology. Configuration and use of JIT tools will be demonstrated using video examples.

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**Evidence Area:** AACcess emerging technologies, AACcess language and literacy, AACcess education, AACcess the community, AACcess employment

**Content Focus Area:** Professional Practice Evidence



## **Anchored approaches in AAC: how to stimulate communicative intent and vocabulary development**

**Loes Luijten | Stijn Deckers | Hans van Balkom | Margje van der Schuit | Judith Stoep**

Teaching language, literacy, and other skills in integrated curricula, starting from thematic units and meaningful learning environments and activities, as supported by Ronski, Sevcik and Adamson (1997), has been common practice in education for children with complex communication needs. Yet, in teaching these children, educators often experience that a thematic approach alone is not sufficient to address the needs of children who have difficulties with integration of new knowledge. As Aitchison (2006) hypothesizes, learning new vocabulary revolves around making connections with the child's knowledge, experiences and their perception of their environment, as is the case in anchored instruction. Anchored instruction is based on the proofed concept of shared contextualized learning environments. Teachers, therapists and/or parents serve as mediator and facilitator in a setting that entices mutual exploration (Bransford, Sherwood, Hasselbring, Kinzer, & Williams, 1990). Using scaffolding strategies, such as highlighting relevant information and connecting the child's present experiences with his or her previously acquired knowledge, the mediator is an essential component in the learning process.

The ways in which interactive anchored instruction can support young children with language delays in preschool classrooms is described by Stoep and Van Elsäcker (2005). Evidence for the anchored approach in an intervention for children with intellectual disabilities and communication problems was found in a study by Van der Schuit, Segers, Van Balkom, Stoep and Verhoeven (2010), all related to our AAC treatment center. Based on this research, anchored instruction serves as the basis for our treatment, which we call the 'KLINc-method'. Anchored instruction consists of five phases. Phase 1: selecting, preparing and experiencing an anchor (i.e. an appealing event that provides children and mediators with a shared set of experiences and is linked to a child's semantic network). Phase 2: exploration of new concepts with the use of storybooks, materials and several experiences with concepts. Phase 3: enhancing depth of vocabulary by including forms of AAC in order to stimulate communication about these new concepts. Through various activities that vary in degree of complexity and target skill (for instance vocabulary, phoneme awareness, story comprehension), children are facilitated to acquire new knowledge. Phase 4: generalization of learned concepts to other environments, other situations and with other communication partners. Phase 5: Evaluation of development and possibilities for next anchor. Children will be asked to communicate about their experiences with their parents and families and we invite all of them to come to school so that they can see what the children learned and what activities they did during the anchor.

During our presentation, we will discuss all these phases of the KLINc-method and the steps you need to make, (AAC) tools and materials that need to be created or integrated, and the people that need to be involved (parents, teachers, therapists, other significant communication partners). We will make use of a single case study of a child with complex communication needs (CCN) to illustrate anchored instruction and the ways to use anchored instruction by several activities to stimulate the communicative intent of children with CCN and to enhance their vocabulary development.

We will show how to create an anchor by using the child's previous experiences and interests and how to connect to their zone of proximal development using the five phases of anchored instruction. We use video and photo material to give examples about the phases.

### **LEARNING OUTCOMES**

Participants will be able to:

1. Describe the different phases of anchored instruction and the ways each phase contributes to the development of vocabulary (breadth and depth).

2. Use receptive and expressive vocabulary of a child, related to an anchor, as the starting point of intervention in constructing a 'wall of word episodes' (i.e., enhancing the semantic network of a child).
3. Discuss key issues of anchored instruction that support children with complex communication needs to expand their lexicon and to enhance and enable their initiatives in communication with others.

**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Professional Practice Evidence

## **Applying User Centered Design to AAC solutions, services and supports**

**Jose Perez**

When creating an app, website, book or almost any physical or digital object there is always a need that this object is supposed to fulfill and a group of people for which this object is created. Designing the journey that this object is going to have in the user's life, from the discovery of its existence, the setup and use of said object, all the way down to its inevitable obsolescence is called User Experience Design (UX), and one of the most popular approaches to UX is User Centered Design (UCD).

UX and UCD have been growing in importance with the explosion of the digital marketplace, and they have been used to design a good number of the most successful services and objects in recent years. The most notable examples of companies employing UX design in their products include Apple, Amazon and Google. In the field of AAC this approach to design is relatively new, but it can provide the tools to craft the most revolutionary and successful AAC solutions and services yet. No matter if you are planning to create a book, a website, an AAC app or a questionnaire for your clients, applying UCD approaches to the design, creation and validation of whatever you are creating can increase the chance of it being successful in its intention.

At the heart of UCD, as the name already implies, is the user. The process starts by understanding the user and his/her needs, this is typically done by one on one interviews. Next is ideation, where based on the information collected you will start creating design ideas and testing them against the findings you got from your interviews. From there you are going to prototype your ideas, test them with real users and iterate on the design based on the results. It's here where one of the most important tools come into play: usability testing. After several iterations you will be ready to produce the object or service you envisioned, but new problems will appear while implementing your idea, and you should be ready to go back to your drawing board, prototype and test again. After the product or service is created and released you will have to keep your feedback channels open, and be ready to iterate and refine your design as more people come into contact with your creation.

At AssistiveWare we have been employing this approach more and more over the last 2 years, and we have learned a few important lessons along the way. In this presentation we will share our experience implementing UCD into our design process, show examples of exactly how we did it and what were the end results, and hopefully inspire other AAC professionals to include more design thinking into their processes.

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**Evidence Area:** AACcess emerging technologies, AACcess education

**Content Focus Area:** Professional Practice Evidence, Research Methods and Theories

## **Are you ready? Emergencies, Disasters, and People who use AAC and Their Families**

**Amy Goldman | Gabriela Berlanga Ramírez | Dean Sutherland | Carolyn Phillips**

The disproportionate impact of emergencies and disasters on the lives of people with disabilities – including people with complex communication needs who use AAC and who often experience multiple or severe disabilities – continues to be an area of concern. This panel will address the experiences of people who use AAC in recent natural disasters in New Zealand (2011 – earthquake); Mexico (2017 – earthquake); and the United States (2017 – hurricane/flooding and fires) and the lessons learned for the “phases” of emergency management:

- (1) Emergency planning: how can people who use AAC be better prepared? how can emergency managers and first responders learn more about people who use AAC and use that information in planning? How can people who use AAC collaborate with emergency planners to create effective emergency plans for the whole community?
- (2) Emergency response: What happens to people who use AAC when they need to evacuate? when they are advised to shelter in place? How are their needs met in mass shelter? What happens when they lose access to their AAC aids? How can voluntary non-governmental organizations help replace lost devices?
- (3) Emergency recovery: What is the long term impact of emergencies and disasters? How long does it take to “recover”? How can voluntary non-governmental organizations help replace lost devices? How can service providers/organizations make sure they are able to continue to operate and serve people who use AAC, even after significant disasters (Continuity of Operations Planning [COOP])?
- (4) Mitigation: What lessons have been learned in the recent natural disasters? What policies/procedures can be put in place by government? voluntary agencies? ISAAC chapters? and – what are the “lessons” in personal preparedness for people who use AAC.

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**Evidence Area:** AACcess the community

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

# **Art with the eyes: Digital art therapy using eye tracking for individuals with Rett Syndrome**

**Anatt Friedman**

## **INTRODUCTION**

Digital art therapy is a therapeutic field that combines emotional support and creative expression through traditional art tools (such as plastic art) and technological art tools (such as computer, iPad, camera). Children and adults with complex disabilities often have fewer opportunities to express themselves and it affects their quality of life.

Art can be a way of achieving success, promoting self-esteem, improving confidence, practicing choices and promoting independence (Alders et al., 2011). “Occasionally, computers may be the only art tool suitable for some physically challenged people” (Parker-Bell, 1999, p. 181, Malchiodi, 2000).

In the last few years, eye tracking technology became more accessible for home use. Eye tracking uses a person’s eye movements to control mouse functions on a computer (Tobii Dynavox, 2017). Although eye tracking is often used to communicate words and sentences, or to play computer games for non-verbal participants with motor limitations, it can also be used as an art tool that enables participants with motor limitations to express themselves in various sensory ways. These include movement, music, painting, singing, screaming, taking photos, and making videos. These expressive forms can also be used in earlier stages of using the device, when the user is less proficient. In addition, these techniques can be used with generic programs such as PowerPoint, as well as with personalized content.

One of the populations that benefits from eye tracking is individuals with Rett Syndrome. Rett syndrome is a severe, genetically-based, neurodevelopmental disorder (Byiers & Symons, 2013) with profound impairments related to speech, dexterity, and mobility. With progression of the syndrome, there is usually a loss of speech and purposeful hand use, limiting the use of signing and other communication strategies (Vessoyan et al., 2016). Over the past few years, more individuals with Rett Syndrome have continued to gain access to their “voices” through eye gaze technology although many still face challenges (Lariviere, 2017).

Using eye tracking as an art tool with various sensory stimulation and personalized content can help increase motivation, meaningful participation, and reduce stress, to allow more access to their inner voice and their emotions.

## **OVERVIEW**

Through a case study, this talk will demonstrate the possibilities that are available for using an eye tracker as an expressive art tool for individuals with Rett syndrome. I will provide examples from my experiences as a digital art therapist with a 20-year-old young woman with Rett Syndrome whom I see weekly for more than 3 years. Using videos and photos, I will show the process of using the eye tracker as a sensory art tool, that can help her to express herself in various ways. I will talk about using an eye tracker with different skill levels, starting with meaningful and personal stimulus response for those with limited abilities using the eye tracker. Later, I will describe examples with more complex processes of decision making using a variety of art media. I will show how the eye tracking is combined with other sensory stimulus in the room and the way it promotes expression.

I will demonstrate how we can use generic programs (such as PowerPoint), and how these examples are accessible and simple to use. I will highlight the importance of family, friends and other people that surround and support the user, and the way the art process and the art product can become like a bridge that connects and strengthens the friendships and empowers these individuals.

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**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community, AACcess relationships, AACcess social media

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

## **A-Speak: Thai AAC application for people with communication difficulties**

**Alisa Suwannarat | Rachaporn Keinprasit | Nitha Ungsuprasert | Worawan Wattanawongsawang | Nittaya Kasemkosin | Kamolpun Punpuing | Saowaluck Kaewkamnerd**

The purpose of an augmentative and alternative communication (AAC) is to facilitate individuals with communication difficulties to enhance their communicative competence (Light, Binger, Agate, and Ramsay, 1999) and also develop their language skills (Ronski and Sevcik, 1996). ACC could be in any forms for examples; manual sign, graphics symbols and voice output communication (Mirenda, 2003). Because of many advantages such as ease of accessibility, portability and affordable price of smart phones and tablets, many AAC applications are available on these devices. With their computational performance, the AAC applications are able to perform sophisticated features such as adjusting the display grid and modifying display attributes (Aliana, Herriger, Koutsoftas, and Bartolotta, 2012). Even though there are a plenty of ACC applications, most of them do not supports the Thai language. The applications that do support Thai language have limited features, therefore, they could not help AAC users to enhance their communication developments. Moreover, all available applications are scoped for people without physical movement difficulties such as autism and related disorders. Without an external input accessibility, it will be hard for people with movement difficulties who need special communication facilitators to use them. To overcome these issues, we have developed the mobile application with all contents in Thai enriching with necessity symbols to serve AAC user developing their communication skills and also allowing the accessibility from external input devices so people with physical movement difficulties can be able to use the application.

### **AIM**

The objective of this work is to develop Thai language AAC application, namely A-Speak (All-Speak). The application is taxonomically organized grids designed to help AAC users developing their communication functions. To serve this purpose, the application provides rich fundamental graphic symbols for various communication functions (Burkhart, 1993) such as

- . Calling attention
- . Denying or protesting
- . Requesting object, action or event
- . Initiating communication with a question or comment
- . Directing action of another person
- . Social comments, exclamations in appropriate contexts
- . Calling attention to self-achievement
- . Combining thoughts into longer utterances to expand an idea
- . Using words to describe location
- . Asking simple questions

The features of the application are listed as follows

- (1) allows user to use both synthesis or recorded voices
- (2) allows user to adjust grid sizes (3x5, 5x7, 6x9 and 7x11)
- (3) allows user to modify display attributes (picture over text, text or picture, color of text and background)
- (4) allows user to hide/unhide symbols (only symbols with related topic are displayed)

- (5) allows user to access the application using external input devices
- (6) allows user to create new contents (text, symbol, picture and voice)

#### **METHOD**

To evaluate the features of the application, 20 AAC users both with and without physical movement difficulties are involved in the process. After a period of training to use the application about 2 months, all participants' experiences while using the application are investigated. We observe all possible difficulties including selecting the wrong category symbol, pressing the screen multiple times, trying to activate the screen with the wrong motion, and selecting the wrong item symbol.

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**Content Focus Area:** Research Methods and Theories



## Assessing communication skills of adults with profound ID: Is the theory of intentionality helpful?

Sheridan Forster

For adults with profound intellectual disability (PID), the journey to enhance communication begins with an assessment by a speech pathologist (SP).

SPs use many tools: formal assessments in standard or modified forms, informal assessments, interviews, observation tools. Some SPs may interact with the person and undertake a dynamic assessment examining what the person can do with learning or support. Many assessment tools are based on the theories of communication intentionality

The theory of communication intentionality grew from the work of Piaget. Bates, Camaioni, and Volterra (1975) focused on the communication of children who had not yet developed speech, and identified infants having a systematic effect on their listener without having an intention or awareness of control over the listener.

Several assessment tools have been developed based on the theory of communicative intentionality: the Early Communication Assessment (Coupe O’Kane & Goldbart, 1998), the Triple C Checklist of Communication Competencies (Bloomberg & West, 1999; Bloomberg, West, Johnson, & Iacono, 2009), and the Communication Matrix (Rowland, 2013).

These tools have enabled SPs to include people with PID in assessments and recommendations; moving people with PID from being a person who could not communicate to being viewed as a person who could communicate albeit unintentionally.

Staff training focused on intentionality. Staff were taught to understand that the unintentional communicator was not able to express themselves deliberately and the meaning of the message was only based on the ability of staff to interpret the behaviour.

Using the theory of unintentional communication, report recommendations targeted partners – partners needed a consistent understanding of behaviours, a program of touch or object cues, and a Chat Book. The support worker might be told to use short, simple sentences. Some SPs, might have included a switch program and may recommend Intensive Interaction.

However, the recommendations provide limited detail on how to interact with the person. Often reports had a quality whereby people assessed at a particular unintentional level had the same set of recommendations, and readers were left with a limited sense of how to communicate better with the person.

Inadvertently, the model of intentionality risked further alienation of the person. Support staff who were told that the person did not initiate interactions would not look for initiations.

Simultaneously several researchers challenged intentionality theory. Trevarthen, Stern and others have showed that at birth infants demonstrated a form of intention (Zeedyk, 1996). Infants, acted in responsive ways (not purely reactive) and demonstrated behaviours to express control over their communication partner. Detailed examination of interaction videos allowed infants to turn the theory of intentionality on its head.

Appreciating changing theories of infant development, I have a different approach to communication assessment. My assessments start the same as others: a conversation with familiar communication partners and questions about perceived comprehension and expression. I video myself interacting with the person.

On reviewing the video, I chose a segment to focus on. I extract free-frames and place these in a written table. Two other columns are made with the first giving an objective description (words, sounds, body movements).

In the third column, I do one of several things: I describe my interpretation of what I see in that moment, propose a hypothesis about the behaviour, express queries, or describe the rationale for my behaviours. In describing my behaviour, I may reference a technique or theory. For example, if a person hits their nose I might respond by touching the person's nose, in-line with current congenital deafblind practice (Janssen & Rødbroe, 2007). The transcript sets a model of reflective practice. The actions that appear to work are named in recommendations.

The theory of communicative intentionality has been invaluable in making assessment accessible to people with PID. It has lifted them from people who can't communicate, to being people who communicate unintentionally. But the theory requires review – it has paid insufficient attention to interaction. Assessments need to show how, like a baby has a meaningful interaction with their mother, a person with profound ID and their support worker can have a mutually satisfying and meaningful interaction.

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**Evidence Area:** AACcess relationships

**Content Focus Area:** Professional Practice Evidence

# Assessing Skills and Treatment Progress in Preintentional Communicators with CCN of all Ages: The BCBS

**Cynthia Cress | Teresa Parrill | Janice Swanson | Amy Olson**

## **BACKGROUND:**

- Normative milestone measurements typically show what children or adults with CCN cannot do, rather than the communication strengths they may demonstrate in different ways
- Existing communication measures for persons with CCN can identify broad categories of communication skills using measures such as the Communication Matrix (Rowland & Schweigert, 2004), Communication Complexity Scale (Thiemann-Bourque, Brady et al., 2009), and the Triple C Checklist (Bloomberg & West, 1999).
- A dynamic and normative assessment of intentional communication skills that is adaptable to children with CCN is already available, the CSBS (Wetherby & Prizant, 2003).
- The Basic Communication Behavior Scales (BCBS) is an assessment of basic pre-intentional communication that is:
  - Based on research-based domains of communication
  - Standardized for administration to adults and children with CCN due to developmental or acquired impairments
  - Applied for pre-intentional communicators of any age
  - Scored using modality-independent behaviors
  - Assessed with practical dynamic/interactive temptations
  - Including formal AAC and literacy activities
  - Including multisensory and social temptations
  - Detailed in information on multiple communication skills
  - Appropriate for planning and tracking intervention progress
  - Focused on identifying communicative strengths of basic communicators rather than identifying standard milestones that have not been achieved

## **RESEARCH QUESTIONS:**

- Does the BCBS identify communication strengths across domains for pre-intentional communicators across ages from toddlers to adults?
- Which communication behaviors and/or domains on the BCBS differ between children and adults with CCN, or between developmental and acquired disorders?
- Does the BCBS effectively show treatment progress for basic communicators with CCN receiving a variety of communication interventions?

## **METHODS**

Participants: 20 children and adults with CCN due to autism, physical impairments, intellectual impairments, sensory impairments, and/or acquired impairments (e.g. dementia)

## **PROCEDURE:**

- BCBS – Administration at home, facility or school: 14 different BCBS social, object, and communicative temptations, video recording of interaction with examiner and familiar person

- Coders scored presence or absence of 31 possible behaviors for each temptation or probe administered in the BCBS. Each raw score was converted to a ratio score.
- BCBS behaviors scored by temptation were grouped into eight domains of social and communication skills: emergent communication, affect, attention, engagement, anticipation, reciprocity, mastery, motivation, and exploration. Four additional domains were scored globally across temptations: speech, pre-emergent literacy, emergent receptive language, and self-regulation. Additional attention and sensory probes are administered and scored.
- Concurrent normed assessments are administered for development across modalities, adaptive skills, and intentional communication, with case history and screeners for conditions such as ASD.
- 10 of the children and adults received one-time assessments with the BCBS at multiple sites around the US, to determine appropriateness for capturing communication strengths according to familiar interactants
- 10 of the children and adults received multiple BSCBS to track communication progress from interventions including: More Than Words (Hanen), LAMP, or the Tempt-Trigger Intervention at multiple sites around the US

#### **PRELIMINARY RESULTS & DISCUSSION**

Data collection is still ongoing at the time of submission. Preliminary administration of the BCBS as a one-time assessment indicates that both children with autism and children with multiple physical and sensory impairments can demonstrate a variety of skills on the BCBS. Familiar interactants (parents and teachers) rated the BCBS highly for child interest and engagement with the BCBS activities, as well as the representativeness of the information gathered about the child's communication. Children administered the BCBS had measurable communication strengths on the BCBS in all of the communication domains assessed. Administration of the BCBS with adults who have developmental disabilities showed similarly rich communication skills across domains in the adults, and was similarly rated for interest and appropriateness for adults by familiar interactants.

For intervention tracking, the BCBS was used to track communication skills in children with autism or other developmental disabilities using the Tempt-Trigger Intervention developed by the first author. Children showed substantive improvement in person-directed behaviors and increases in the complexity of communication behaviors across domains using the BCBS after treatment compared with before treatment. Similar treatment tracking research is underway for the More Than Words and LAMP interventions.

Conclusions: The BCBS is an effective and rich assessment of communication skills in children and adults with a wide variety of ages and disabilities, and a sensitive indicator of treatment progress in preintentional communicators with CCN across ages.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence

# A-Tech Project: New Rehabilitation Program for Families with Children who have Special Needs in Russia

Ekaterina Klochkova | Irma Dzhaoshvili | Aleksandra Urvacheva | Stephen von Tetzchner

Today in Russia there is a lack of evidence-based programs for children with special needs. In most cities, families get old-fashioned help, such as massage and medical treatment for any disability. The same intervention program may be given to all children, independent of what kind of disability they have, and without attention to the family's aims and wishes.

Rehabilitation programs in Russia are usually medical based. The intervention is focused on the disability, not on daily skills and the child's activity and participation. Usually parents are not included in discussion of the aims of the program and they are not allowed to attend the sessions. They just have to wait for a specialist to fix the child, and not contribute to adapt the child to the positive challenges of daily life.

## A-TECH

In 2016, the rehabilitation program A-Tech was started in Saint Petersburg by the non-commercial organization "Physical Rehabilitation". The program is family focused and the main goal is to improve the activity and participation of children with special needs. The program has an interdisciplinary team which includes physical therapists, psychologists, communication specialists and occupational therapists, who use assessments and classifications, such as MACS, CFCS, EDACS, GMFS, and COPM. In the A-Tech program, all the aims are discussed with parents. The professionals work together with the child and the parents to develop the child's skills of daily living, mobility, productivity and social interaction. Most of the children have severe motor and communication disabilities, and difficulties coping with the activities and routines of daily life. At present, eight children with cerebral palsy and two children with genetic syndromes attend the A-Tech and have individualized programs.

Every week, each family attends one individual session with a communication specialist, one session with a physical therapist, and a two-hour session in a group with other parents and children. Every month the parents attend a four-hour support group lead by a psychologist. During the individual sessions, parents are guided in how to give their children necessary support and scaffold the child's communication skills in daily routines. The sessions are individualized and adapted to each child: some may be taught how to improve eating, dress without the mother's help, or how to sit with a minimum of support. Communication with adults and peers, including the use of augmentative and alternative communication (AAC), is often a core element of the children's programs. The program includes assistive technologies for mobility and communication, adapted to the needs of the individual child. Between sessions the parents are given tasks for follow-up at home.

## RESULTS

When they started attending the program, half of the parents asked for goals related to the development of mobility and speech. After some months, eight of the ten parents formulated more specific goals like: "chose the right sitting position for play", "make a choice between two items", or "ask for more action with a gesture or communication button". The parents had realized that although the program could not cure the child's cerebral palsy or genetic syndrome, it could help children to more independent functioning and participation in social and societal life.

## CONCLUSIONS

It is new and unique in rehabilitation intervention in Russia that a program is directed at increasing activity and participation in society, and that the intervention measures are created in collaboration between children, parents and professionals. The program shows positive results for the children and the families.

**Evidence Area:** AACcess education

**Content Focus Area:** Professional Practice Evidence

## Attitude of high school students toward a young adult using augmentative and alternative communication

Kyung-Im Han | Yunhye Goh

Nowadays many students with disabilities go to regular schools in Korea. However it is difficult for students using AAC to attend regular schools because schools are not prepared to accommodate their severe and profound disabilities. Therefore, AAC aids are still strange to regular high school class teachers and students in Korea and a variety of AAC aids has not yet been developed in Korea. When students using AAC attend regular schools, the important things are acceptance and attitude of peers toward students using AAC.

Many studies are available regarding attitudes toward AAC of adults, adolescents, and upper grade elementary students (Gorenflo & Gorenflo, 1991, 1997; Beck, Fritz, Keller, & Dennis, 2000; Beck, Bock, Thompson, & Kosuwan, 2002; Lilienfeld & Alant, 2002). However, these kinds of studies have not been implemented in Korea except three studies (Han & Lee, 2008; Han, Soto, & Jang, 2011; Jo & Han, 2015). Those studies were implemented in kindergarten, elementary school or middle school settings. Therefore, this study was conducted to find attitudes of high school students toward a young adult with intellectual disability using AAC according to their gender, age and AAC types. This was one of pioneering studies in Korea.

The participants of this study were 318 boys and 328 girls, total 646 students who were 9th grade and 11th grade in four high schools in a city, South Korea. The participants were randomly selected and divided into three equivalent groups: one group watched video A, the other group watched video B, and the last group watched video C. The AAC user was a 24 year-old male with intellectual disability. His receptive/expressive age was the equivalent a 9 year – old. The problem resolving function was the equivalent of 5 year-old. The three videotapes were as follow. In videotape A, the AAC user interacted with a partner about 6 min. with gestures and vocalization. In videotape B, the AAC user interacted with a partner about 6 min. with a communication board. In videotape C, the AAC user interacted with a partner about 6 min. with a SGD.

After watching the videos, participants completed the Korean Augmentative and Alternative Communication Attitude Questionnaire (KAACAQ) for high school students. This questionnaire included 59 items and a 5-point Likert rating scale. KAACAQ for high school students was designed to measure three factors: affective/behavioral, cognitive and communicative attitudes. The cognitive attitudes are measured by participants' thoughts of the AAC user. The affective/behavioral attitudes are measured by participants' intentions to behave toward the AAC user. The communicative attitudes are measured by participants' perceptions on the AAC user's communicative competence. The Cronbach's coefficient alpha of KAACAQ for high school students is .893. And the content validity was established from 5 professionals composed of regular/special education teachers and professors and pre-survey from 120 students in the 10th grade students didn't participate in this study. All questions of KAACAQ for high school students included both positive and negative items and are randomly ordered. For the process of data, standard deviation, and 3-way ANOVA were carried out.

The results and discussion were as below:

First, in overall attitude according to AAC types, the attitude on the use of SGD was more positive than using communication board and unaided AAC. This result was similar to Gorenflo & Gorenflo (1991). In the overall attitude, upper grade students had more positive attitude than lower grade students. This result was different to Han, Soto, and Jang (2011). In the overall attitude, girls were more positive than boys. This finding was in agreement with the results reported by Beck & Dennis (1996) and Han & Lee (2008).

Second, in terms of affective/behavior attitude, there was no meaningful differences between grades of students.

This result was in agreement with the results of Back, et al. (2000) but was different to other researches (Han & Lee, 2008; Han, Soto, & Jang, 2011; Jo & Han, 2015). The affective/behavior attitudes of all students were more positive on using SGD than unaided AAC and communication board. Girls had more positive affective/behavior attitude than boys.

Third, cognitive attitude of high school students was more positive on using SGD than communication board and unaided AAC. Girls' cognitive attitude were more positive than boys and upper grade students' cognitive attitude were more positive than lower grade students. This finding was in agreement with the result reported by Lilienfeld & Alant (2002) but was different to the result of Jo and Han(2015).

Forth, attitude toward the AAC user's communicative competence was more positive on using SGD than communication board and unaided AAC. Upper grade girls' attitude on communicative competence using SGD was best but lower grade boy's attitude on using unaided AAC was worst.

**Evidence Area:** AACcess culture

**Content Focus Area:** Research Evidence

## **Augmentative Alternative Communication in Early Intervention; not a product but a process**

**Sonja Carpenter**

Sonja Carpenter, a Speech Pathologist in Early Intervention for the last 9 ½ years, presents three case studies of children with Complex Communication Needs (CCN) and their families on how Augmentative Alternative Communication (AAC) has assisted them, on their communication journey, to AACcess relationships and their community. Sonja reflects on how AAC is not a product but a process; a dynamic process that is interactive and ever-evolving between the child, the family and their support team.

People (children) with Complex communication needs (CCN) are described in the literature as 'people who have little or no speech, associated with a wide range of physical, sensory and environmental causes.' This can limit their ability to participate in society independently (Balandin, 2002, cited in Speech Pathology Australia 2012, p 9.). In New Zealand, around 4% of children will experience difficulties speaking as a result of a disability, some with multiple disabilities (New Zealand Disability Survey, 2013).

Research shows that children with CCN, and their communication partners are likely to benefit, either temporarily or permanently, from the use of Augmentative Alternative Communication (AAC). (Balandin, 2002, cited in Speech Pathology Australia 2012, p 9.). Research has also shown that incorporating the use of Augmentative Alternative Communication (AAC) as part of intervention can increase communication effectiveness and allow children access to different communication strategies to better support and enhance their natural speech attempts (Cumley, 2011; Light J., Drager K., 2007; Ronski M., & Sevcik R., 2005).

This presentation supported by video clips, will portray:

- . Description of the Early Intervention model (The Champion Centre) in which children and families receive support.
- . Background information on each child with CCN (Diagnosis, sensory impairments, environmental factors, personality and family circumstances).
- . Opening the conversation with a family around introducing AAC as a tool to support communication in the midst of the grief process of coming to terms with the nature of their child's disability.
- . When and how do we have that conversation and how can a multi-disciplinary team support both the family and the Speech Pathologist in this process?
- . How to decide which AAC tools to use within a family focussed framework. One framework used looks at the Student/child, their Environment and the communication Task, to then be able to decide, within the team, which communication Tools are likely to be the most appropriate (SETT-framework, Zabala.J., 2005).
- . The communication journey of each of the children and their families and which AAC tools were introduced and at what stage to support that journey. These tools ranged from tactile books, manual signs, communication (core) boards, iPads with communication Apps and dedicated Speech Generating Devices.
- . What have the children and families taught us along the way about introducing AAC? The children and their parents/caregivers are able to teach us invaluable lessons that no textbook can provide, if we are willing and take the time to listen to their stories.
- . What are the highs and lows of introducing and implementing AAC tools in a family and community setting?

The reflections in this presentation, are set within the context of Early Intervention provided by The Champion



Centre, in Christchurch New Zealand. The centre provides multi-disciplinary early intervention services to pre-schoolers (from infant to 6 years old) with significant disabilities and their families. It is a centre-based, multi-disciplinary model of service in partnership with parents/caregivers as first teachers. The children have a wide range of developmental challenges including Down syndrome, Chromosomal Disorders (Prader Willi Syndrome, Williams syndrome, Angelman syndrome), Cerebral Palsy, Autistic Spectrum Disorder, Dyspraxia and the consequences of prematurity.

Early Intervention at The Champion Centre is based on five core values of endeavouring to be; relational, family-centred, strengths-based, ecological and reflective. This presentation, by reflecting on past AAC journeys of families and therapists working together, looks to see how the stories of yesterday can improve how we write the stories of tomorrow for children with CCN and their families.

**Evidence Area:** AACcess education, AACcess the community, AACcess relationships

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

## Augmentative and Alternative Communication for a Girl with Cornelia de Lange Syndrome

Oksana Kryvonogova | Liydmyla Vdovenko | Vera Fomychova | Viktoria Gorshkova | Stephen von Tetzchner

In early intervention, parents frequently inquire about the child's development of speech. They typically try to make the child imitate sounds and words, without taking their functionality into account. Although augmentative and alternative communication (AAC) has been used for some time for children with little or no speech in Ukraine, the use of AAC is still rare. One reason is the many popular myths about AAC, such as that AAC is suitable only for children with autism spectrum disorder; or that a child who uses graphic symbols for communication will never start talking. There is therefore a need for scientific research on the use of AAC for children with disabilities in Ukraine, and for making the results known in the general population. This study describes the use of AAC as part of an early intervention program for a young girl with Cornelia de Lange syndrome.

### METHOD

Case study methodology, with observation, note taking, and interview. Assessment with the Russian Child Development Inventory (RCDI).

### ALICE

Alice is an only child and lives with her parents. She received a diagnosis of Cornelia de Lange syndrome when she was one year old, and started to attend the Early Intervention Department at the age of 2;11 years. At this age, her Russian Child Development Inventory (RCDI) scores for fine and gross motor skills, self-help, social interaction, and speech production corresponded to a developmental age of 1½ years. Comprehension of speech was better than production. She could perform two-step instructions, such as: Take the ball and give it to your mother. She imitated simple gestures and recognized relatives in photographs. Alice was usually quite calm and slow, and easily distracted, with an attention span of 20-30 seconds. She did not go to the toilet alone or ask for a pot. She appeared inattentive at meals and could hold a spoon for a long time without bringing it to the mouth. She often played with the food, making the meal last very long, but chewed and swallowed when food reached her mouth. When offered a choice between two toys, she looked at the adult, nodded and smiled, but did not choose any them. When given a toy, she would manipulate it and investigate it tactually, auditorially and visually. She vocalized to attract the attention of others and during plays. Her best communication was with manual signs, such as PHONE, YES and EAT. It is difficult to understand what Alice wants, and the aim of the intervention was to teach Alice to use manual signs and photographs as alternative means of communication

### INTERVENTION

Intervention included teaching Alice to make requests with pointing to objects, manual signs and photographs. She was guided to sign GIVE when seeing a desirable object, and to point to choose between two objects. She was taught to sit down the adult signed SIT-DOWN and used this sign herself when she wanted to sit or wanted a teacher or parent to sit during a game. To communicate about agents – who is going to do it – she had photos of the parents and herself. She was taught to point at persons or photographs of persons to answer the question Where is Mommy (Daddy, Alice)? Play activities were gradually made more complex.

### RESULTS

After six months of intervention, Alice pointed actively and used GIVE in interaction and play with adults at the Center, and at home with her family. She used photographs of her family and answered question about their whereabouts. She attended more to pictures of objects, and used them in games. She engaged in simple pretend play: feeding a doll and putting it to sleep, and loading cubes into a toy car. Her parents said that they understood Alice better and spent more time playing with her. Children with Cornelia de Lange syndrome are at risk for poor

development of communication. This case study demonstrates they may benefit from structured use of AAC in meaningful activities.

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**Evidence Area:** AACcess education

**Content Focus Area:** Professional Practice Evidence

# Augmentative and Alternative Communication for Chinese Children with Autism Spectrum Disorders: Experiences from Wucailu Center

Minzhe Xi | Menglin Sun | Xiuyin Fu | Yong Liu | Mei Liu | Mengtan Zhao | Yuanzhe Sun | Le Wang | Kristine Stadskleiv | Shula Friedrich Shilon | Stephen von Tetzchner

Awareness of the benefits of augmentative and alternative communication (AAC) for children and adults with disabilities and little or no speech is increasing in many countries where AAC has not been well known. The use of AAC is increasing but China is still in an early stage of AAC implementation. There are many Chinese children in need of AAC who are not provided with such communicative means. In order to achieve a wider acceptance among parents and professionals, there is a need to adapt AAC material and intervention strategies to Chinese language and culture.

Wucailu Research and Treatment Center for Children with Disabilities has promoted the use of AAC in China, especially with children who have autism spectrum disorder, but also with children who have other disabilities and severe speech problems. Wucailu organized the translation and publication of "Introduction to Augmentative and Alternative Communication" (von Tetzchner & Martinsen, 2011) in Chinese, and trains teachers to include AAC in intervention for children with limited speech. When AAC is introduced in a new country, there will always be challenges related to cultural knowledge, ideas and attitudes. This aim of this presentation is to share the challenges and the solution, the way the challenges were overcome and the processes related to how AAC was adopted by the teachers.

At Wucailu, the focus is on developing a set of symbols to be used by Chinese children with autism spectrum disorders. Below are examples of adaptation and experiences from teacher training.

## 1. Modification of symbols according to Chinese culture

- a) Some symbols for common Chinese foods are lacking, such as DUMPLINGS.
- b) The image of some symbols may be adapted to make them more transparent and easy to understand by communication partners, such as HIGH, LOW, LONG, SHORT, TAKE TURN, DAY, and NIGHT.
- c) Symbols for the actions, often double actions, that Chinese children typically do as part of their morning exercises and other educational activities in preschool and school, such as SQUAT, SQUAT-AND-STAND-UP, WALK-BACK, SWING-ARMS-AND-JUMP, MATCH, DOTS-CONNECTING, PUSH-DUCK-TOY, DISAPPEAR, SHAKE-SAND-HAMMER, PUT-ON-BACK-BAG, MOVE-CHAIR, WALK-ON-BALANCE-BEAM, and STICKUP-NAME-CARD, TAKE-BOW-BOX.

## 2. Challenges related to AAC

- a) A lack of Chinese evaluation and assessment tools for AAC intervention
- b) A lack of materials and textbooks in Chinese about AAC
- c) Not enough written in Chinese about the benefits of AAC and experiences with AAC in China, including the experiences of Wucailu Center
- d) A lack of dissemination to make AAC generally
- e) A need for more family work to engage parents and grandparents: Attitudes, team work, guidance of practice

### 3. Current AAC tools

The communication aids used at Wucailu include individual cards with graphic communication symbols, symbols in key-chain, hand-held communication boards, Taiwanese style communication boards, communication books with movable symbols, communication books with fixed symbols, Apps in tablets and telephones, and communication programs in computers.

### 4. Teacher training

AAC training is provided to the teachers in Wucailu Center, as well as teachers from other centers in China. This include:

- a) Theory, principles and practice guidance
- b) Discussions of common attitude and doubts of teachers in China
  - a. Will AAC impede the children's development of spoken language?
  - b. AAC is not on the "evidence-based intervention" list
  - c. Do not know much about AAC, have heard about AAC
  - d. How can I use AAC to help students during the class
  - e) How can I use AAC in individual training and group teaching?

### 5. Results of teacher training (based on feedback from teachers after training)

- a. More teachers accept AAC as a tool for developing communication skills for children with ASD or developmental delay
- b. More teachers use AAC as part of their intervention programs
- c. Positive experiences with developing a system for training teachers in AAC

6. In November 2017, The First East Asian Regional AAC Conference was arranged in Beijing (see conference poster).

**Evidence Area:** AACcess education, AACcess culture

**Content Focus Area:** Professional Practice Evidence

## Augmentative and Alternative Communication Promotes Spoken Language: A Case Study

Feng Xia | Meixian Huang | Shula Friedrich Shilon | Kristine Stadskleiv | Stephen von Tetzchner

Spoken language is a bridge of communication between people. Some children with severe motor impairment, intellectual disability, autism spectrum disorders and severe language disorders do not develop comprehension and use of spoken language in the typical manner. They have little or no speech and few means to make themselves understood and participate in society. Research has demonstrated that augmentative and alternative communication (AAC) may function as a supplement to, or a substitute for, spoken language, and promote the development of spoken language.

In China many parents and teachers are not familiar with AAC and the research that shows the usefulness of AAC. One frequently mentioned concern among those who have heard about AAC is that children with little or no speech who use AAC will not speak because they have an easier form of communication. Many children without speech therefore do not get AAC intervention. The result is less positive development than is possible.

### METHOD

Case study design with assessment, registration of development of manual signs, graphic symbols and speech, observations, and case notes.

### CASE

The boy has a diagnosis of developmental delay. At six years, he had very little speech but appeared communicative. He joined an AAC project which was a collaboration between Changing Special Education Center in Shanghai and a Norwegian team. Intervention strategies were taken from lectures at Changning Center, guidance from the Norwegian team and a Chinese textbook on AAC (von Tetzchner and Martinsen, 2011).

The boy's mother and class teacher were very active participants in the intervention. There were three periods in the intervention project. First the teacher and the parents tried their best to understand the significance of AAC through the lectures and guidance from the Norwegian team. In the second period, the teacher and the boy's mother discussed manual signs and graphic symbols for the boy, and made a communication book. In the third period, the teacher and the boy's mother trained the boy to use graphic symbols in daily life.

The intervention had three main elements. Firstly, the goal of the training was communication in daily life. Vocabulary selection was based on the boy's and the family's interests and adapted to the ecological environment. Secondly, intervention was built on close home-school cooperation. A special teacher from Changning Center worked together with the boy's mother to select the initial vocabulary and make and implement a teaching plan. The teacher and the boy's mother had good cooperation and much discussion during the whole intervention. The teacher helped the boy's mother to understand the usefulness of AAC and guided her in the use of AAC at home. When the mother had a problem in the intervention, the teacher would give her a demonstration. Thirdly, incidental teaching of AAC was used to take advantage of the potential communication situations that occurred in the natural environment.

The boy was attentive and learned some manual signs and graphic symbols already when they were introduced for the first time, but seemed to learn graphic symbols easier than manual signs. The graphic symbols were used at home from the start. The mother had the impression that the boy understood the correspondence between symbols and objects, but needed much support in using the symbols for communication. He understood symbols for daily life activities and objects, like TOWEL, SOAP, and TOOTHBRUSH.

After 15 months, the boy had become very skillful at using graphic symbols to obtain different sorts of fruits, food, and toys. He was also taught graphic symbols for actions and guided to construct sentences with two or more symbols, including communication about play and other activities, family members, and emotions. In addition, the graphic symbols were used to make day schedules and he understood his daily routines and could communicate about them.

Due to his advanced age, the boy's prognosis for speech was assumed to be poor but speech was always used together with the manual signs and graphic symbols. However, he started a spurt in spoken language development, and began to use words for many of the symbols he had been taught, such as mian (noodles), xuxu (pee), bao (bag), xiangjiao (banana), and pingguo (apple). At eight years, he uses the communication board and also initiates spoken communication. The AAC intervention is maintained to support his positive speech development.

#### **CONCLUSION**

Many parents worry that AAC may hinder speech development. This case study found that AAC did not hinder but rather promoted the development of speech. The boy showed a significant increase in spoken language when he was taught to use manual signs and graphic symbols.

**Evidence Area:** AACcess education

**Content Focus Area:** Professional Practice Evidence

## **Augmented Speakers and Mental Health: Let's Talk About It!**

**Kathy Howery | Monica Braat**

Mental health as an area of concern and focus in schools is being recognized around the world. There is a growing understanding that emotionally healthy students are more likely to be successful in school and in life. But what of students who require AAC? Their mental health needs may go unrecognized. This session will raise this issue through stories shared by augmented speakers and connect this to the newly revised Communication Bill of Rights (Brady, et al., 2016). A brief overview of AAC will be provided as well a review of some recent work being done in the field of mental health. Next stories from augmented speakers will be shared followed by mental health issues raised by each story and which of the Communication Rights are being challenged by the issues raised. Ideas for addressing concerns will be discussed.

Stories were gathered as part of a research study into the lived experience of speaking through a speech-generating device (Howery, 2017). Although stories of maltreatment, abuse, and ableism were not sought after in the study, such stories emerged both in context of school and larger community experiences. This presentation will reflect on what those lived experiences tell us, can teach us, and can challenge us in the area of providing mental health supports for this too often silenced population.

Participants will be encouraged to reflect on issues raised and share both their experiences and ideas for how the field can create awareness and positive supports for every student, included those who rely on augmentative and alternative communication to make their voices heard.

**Evidence Area:** AACcess education, AACcess the community, AACcess relationships

**Content Focus Area:** Research Evidence, Professional Practice Evidence



## **Autism and Sensory Processing Challenges: recognise and regulate for communication and learning.**

**Fiona Beauchamp | Haylee Parfett**

Many children with Autism Spectrum Disorder (ASD) present with sensory processing challenges. Multiple studies have consistently shown that approximately 92% of children with an ASD demonstrate some degree of sensory processing differences (Chen, Rodgers, & McConachie, 2009; Kientz & Dunn, 1997; Lane et al., 2010; O'Donnell et al., 2012; Tomchek & Dunn, 2007).

In order to learn successful movement skills for communication, learning and function we rely on accurate proprioceptive, tactile and vestibular feedback to determine where our muscles and joints are in space (Rozenkranz & Rothwell, 2012). Individuals with sensory challenges may be unable to receive, process, plan and respond appropriately to sensory experiences. This significantly impacts on their movements, which are often then interpreted as unintentional or repetitive behavioral responses. Commonly seen sensory seeking behaviours further impact upon people's perceptions of a person's ability, cognitive functioning and can in turn influence the opportunities they are provided for learning and communication. Many individuals with sensory processing challenges may also have difficulties with processing visual and/or auditory information, which further impacts upon their learning of language and communication skills.

The sensory and motor systems interact directly with each other in order to affect motor planning and movement performance. Standardised cognitive assessments involve the observation of an individual's physical response (control of movement to point, look, manipulate, speak) to a carefully selected target (Peeters, Verhoeven & de Moor, 2009). Participation in standardised assessments may be problematic if the individual a) is able to produce the motor movement in non-communicative contexts, but not in the assessment and b) their movements are not intelligible to the assessor. Many of these students are therefore incorrectly labeled as "low functioning" or "pre-intentional" as a result of their lack of performance on these assessment tasks. Professionals should presume competence, with open expectations and a focus on putting the necessary sensory and motor strategies in place to support learning, communication and function.

As all communication relies on motor movements, children with sensory processing challenges will have different communication pathways (Cafiero and Meyer, 2008). Sensory and motor challenges impact heavily upon many early communication and gestural movements typically used as indicators for language 'readiness.' It is therefore critical that the student's family and educational team have a shared understanding of how sensation impacts the student's communication and learning. Communication systems that account for an individual's sensory needs can then be carefully selected and implemented.

This interactive workshop will provide information and case studies to enable participants to:

- . Understand the different types of sensory feedback and strategies to address sensory seeking/avoiding. What to look for...What does it mean... What to do...
- . select communication systems that meet an individual's sensory needs
- . support individuals to use language (speech, sign, pictograph) to request appropriate sensory feedback
- . support long-term intelligible direct access to an AAC system
- . develop a comprehensive sensory diet (in collaboration with a skilled OT)
- . embed strategies within the home and school routine to support participation and access to an educational curriculum.

Long term communication autonomy may be heavily dependent on the degree to which the support team has a shared understanding of each individuals unique sensory processing challenges.

**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Professional Practice Evidence

## **Autistic Advocacy Network NZ – our campaign for access to AAC**

**Gabrielle Hogg**

We have set out a mission to improve the lives of Autistic AAC users in a New Zealand context. We are so far behind then other countries advancements, in the understanding the use of AAC devices when it comes to Autistic individuals.

I will take you on a journey of learning how to write submissions to the government, particular the journey around the Education and Science committee around improving the education for autistic individuals in primary, secondary schooling – well attempting to. How this was all done through AAC at the oral submissions meeting. How the politicians on the committee accepted and embraced me as an AAC userbut how this hasn't quite made it to autistic students in primary and secondary education, and very little understanding in tertiary education.

I will discuss the ways we have been working with local district health boards in their understanding of AAC and how they are starting to implement some of our ideas and suggestions to make it a better experience for AAC users in a hospital environment.

**Evidence Area:** AACcess education, AACcess the community, AACcess employment, AACcess diversity

**Content Focus Area:** Personal Experiences and Preferences

## Better life with Bliss: the implementation of a three-year long intervention project

Kristine Stadskleiv | Lisbeth Seeland | Kerstin Hellberg | Torhild Kausrud | Thora Laila Johansen | Siri Paulshus

Parents provide invaluable support in scaffolding their children's language development. When children use graphic communication, parents are however often not knowledgeable about how to support their children's language development as they lack prior experience (von Tetzchner & Stadskleiv, 2017).

Bliss is graphic symbol system (Bliss, 1965) that is used for aided communication. The system has unique qualities in promoting the development of language, communication and literacy (Dahlgren Sandberg & Hjelmquist, 1997; Jennische & Zetterlund, 2015; Kausrud & Ottem, 2000; von Tetzchner, 2015). In recent years, the use of Bliss seems to have declined. This decline might be due both to lack of systematic follow-up of young children starting with aided communication, as well as difficulties in accessing the symbols on advanced speech generating devices.

To promote the use of Bliss, interventions must therefore have a two-fold aim. Interventions must both support and enable the child's language environment by providing continued support to parents and teachers in kindergarten/school, and work towards making Bliss symbols more easily available on high-tech communication devices.

### METHOD

A three-year long intervention project including children and adolescents using Bliss, their parents and the professionals in kindergartens and schools commenced in the autumn of 2017. The intervention project will run until the spring of 2020. The intervention consists of nine group gatherings, as well as supervision of parents and professionals in between the gatherings. In the gatherings there will be a mixture of group activities and individualized follow up. Communication tasks for the children to solve together and with adults, teaching of Bliss symbols, assessments of the participating children and adolescents and groups for sharing experiences for the adolescents, parents and professionals are key elements of the intervention project. The aim of the project is not only to develop an intervention program for introducing and getting started with Bliss, but also to promote participation in the local community and increased quality of life. Assessments of cognition and language comprehension, as well as of children's, adolescents and parents view on communication, participation and quality of life will be performed at baseline, midway and at the end. The results from the participants will be compared to that of aided communicators matched for age, gender and functioning receiving treatment as usual.

### RESULTS

An introduction into the specific benefits of using Bliss, and the details of the project will be presented. This includes the assessment protocols, the topics of discussion in the youth group, the themes chosen for teaching of and experience sharing between parents and professionals, as well as a step-wise plan for promoting linguistic development in the participating children and adolescents, using Bliss symbols. Experiences from the first year of the intervention project will be presented. So far six families have committed to the project, but inclusion into the project is continuing until November 2017. Data on child functioning seen in relation to progression of initial language development will be presented and discussed.

A part of the project also involved making Bliss symbols easier available for children using speech generating devices. Results on the progress of this work will also be presented.

### DISCUSSION

Providing comprehensive and continued support is essential for children needing advanced aided communication.

This requires a multidisciplinary and longitudinal effort, involving both parents and the professionals which follow up the children in everyday life.

#### **CONCLUSION**

The presentation will give an overview over a comprehensive and longitudinal intervention project aimed at children and adolescents learning to use or using Bliss. The project started up in the fall of 2017, and the results from baseline assessments and the first year of intervention will be presented and discussed.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Professional Practice Evidence

## Bilingual Core Vocabulary List for Children Who Use AAC

Robillard Manon | Kelsey Lapointe | Catherine Contant | Stéphanie Beaulieu | Émilie Moore

Successful AAC intervention relies on the appropriate vocabulary selection by clinicians and family members (Beukelman, McGinnis, & Morrow, 1991). Researchers agree that 200-250 words represent approximately 80% of what we say (Trembath, Balandin, & Togher, 2007). Previous studies show that these core words not only have a high frequency of use, but also a high degree of commonality among users (Beukelman, Jones, & Rowan, 1989). These words are called core vocabulary and usually consist of pronouns, prepositions, conjunctions, determinants, verbs and adverbs (Trembath, Balandin, & Togher, 2007).

Although many studies have documented the core vocabulary of children, to our knowledge, no study has created a bilingual vocabulary list. Researchers have only documented the core vocabulary in one language (i.e. English only or French only). While previous studies have had bilingual participants, the core vocabulary list was created in only one language (i.e. Robillard, Mayer-Crittenden, Minor-Corriveau & Bélanger, 2014). However, the reality in many countries is that children are often exposed to more than one language at a very young age. In fact, according to Statistics Canada (2013), 64.7% of Canadian francophone youth converse in both French and English by the time they finish school.

Because bilingual children might not necessarily use each language the same way a monolingual child would, it is not enough to translate the same vocabulary into a different language when creating a bilingual AAC system (Robillard et al., 2014; Soto & Yu, 2014). Just the same, it might not be sufficient to simply take two vocabulary lists of different languages to program an AAC system.

### AIM

Since children often use more than one language to communicate on a daily basis, this pilot study investigated the need to create a bilingual core vocabulary list which would include both English and French words. Therefore, the goal of the present pilot study was to create a bilingual core vocabulary list in order to facilitate the use of AAC for children have complex communication needs and need both English and French core vocabulary.

### METHOD

Participants included two bilingual children who were recorded at two different age intervals (once at age 6 and again at age 10). These children had participated in Robillard et al.'s study in 2014, and again in a new study which is under way. One child's dominant language was French, and the other English. They were recorded in a classroom during an entire regular school day. Transcriptions are presently being analyzed. Four bilingual core vocabulary lists will be generated and compared according to age and language dominance. If no negligible differences are found between the new lists, they will be combined to create one bilingual core vocabulary list.

### RESULTS

The hypothesis is that there will be a significant amount of core words in each language and will allow the creation of a bilingual core vocabulary list to use when programming AAC systems. It is predicted that there will be some similarities between the two age groups, and language dominance, but there may also be important differences in the use of core words. Results regarding the similarities and differences between the lists will be presented. The need to continue and further investigate this new research question with more participants will also be discussed.

### CONCLUSION

The results of this study should not only benefit children who have complex communication needs, but also facilitate the work of clinicians who program AAC systems. Consequently, this bilingual core vocabulary list will offer a better understanding of the words needed when programming communication devices. This pilot study could lead to further research regarding bilingualism and core vocabulary lists because it has rarely been studied.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Research Evidence

## **Blueprint of the communicator: A new theoretical model for AAC**

**Stijn Deckers**

Communication can be defined as an information exchange process between a sender and receiver in which the response from the receiver suits the intentions of the sender (Levelt, 2004). Communication skills are fundamental to participation in all aspects of life, such as family, friends, school, work, and community. These skills provide the power to express needs and wants, to share information, to develop social relationships, and to participate within expected social etiquette routines (Light, 1989). As Chomsky already stated, communication requires productivity. Human communication is multimodal in nature as people mostly use a combination of speech and non-speech modes to communicate. This association between verbal and non-verbal communication modes is highly influenced by the communicative context, especially when it comes to the use of AAC.

The social-pragmatic approach of word learning emphasizes this inherently social nature of language and word learning (Akhtar & Tomasello, 1998). Word learning emerges naturally from situations in which children are engaged in social interactions in which they are attempting to understand and interpret (adult) communicative intentions as expressed in utterances (Tomasello, 2003). This communicative perspective on language learning seems to be lacking from language (development) theories. Models of language generation and comprehension are often limited to (fluent) speech. The field of AAC could benefit more from existing language theories, but these would need an adaptation: the role of communication and multimodality needs to be included in language theory. Multiple models exist that describe processes during the generation of fluent speech, of which Levelt's 'The blueprint of the speaker' is one of the most influential models. Levelt's model is very useful as an explanatory model to indicate possible causes of a production problem. The applicability of Levelt's model was the focus of attention during the Research Seminar in Lisbon 2014. Attendants agreed on the usefulness of Levelt's model for (clinical) reasoning in AAC, but several pitfalls were identified then. During this presentation Levelt's model will be introduced in more detail, next to several adaptations already presented in literature (in the last years), such as adaptations for American Sign Language and the use of gestures in people with Aphasia. During this platform presentation a new proposed model will be presented, which I will call 'the blueprint of the AAC communicator', and this model will be related to the communication and language development of children with complex communication needs to show the reasoning and evidence behind this model.

**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Methods and Theories



## **Building a Network of Support for Filipinos with Complex Communication Needs: The TINIG-AAC Project Ripple Effect**

**Terese Manalansan | Barbara Munar | Anne Aubrey Dulay | Maryelle Ellaine Dy | Ellyn Cassey Chua**

Paul is a 25-year old non-ambulatory male with cerebral palsy. He is functionally non-verbal, and communicates using facial expressions and indistinct vocalizations. Paul has been receiving regular speech and language intervention, once a week, 1 hour per session, for years, but he still fails to communicate even his most basic needs. He is one of the thousands of Filipinos with complex communication needs who did not have access to AAC systems and services – one of the thousands who did not have a voice – until TINIG AAC project came along.

To address the needs of Paul and many other individuals with complex communication needs through AAC, it is necessary to provide a supportive environment that is not just limited to their immediate family, but one that also includes professionals, the community, and the society. The TINIG AAC Project has laid down the foundation for building the support for Filipinos with CCN because, rather than focusing mainly on its outreach program, it centered on educating and training SLPs to deliver quality AAC services and train other SLPs to do the same. From the first seven SLP participants, who are educators and clinical supervisors, SLPs trained by the TINIG-AAC project has grown to 27 in three years. At present, there are 14 more SLPs training under the program. The number may still be small, but it belies the impact of the project. Through the hands of these AAC specialists, the project established itself as a catalyst for developing support systems for Filipinos with CCN:

1. **Research.** In a span of 36 years, only two studies on AAC have been conducted in the Philippines. Since the TINIG AAC project started in 2014, however, three new AAC-related research projects have already been conducted in only three years time. There is now preliminary information about Filipino SLPs' perceived competence, pre – and post-professional training, and practice in AAC; Tagalog/Filipino core vocabulary; and the potential of a page set with the aforementioned core words in supporting Tagalog language development.
2. **Policy.** Special interest groups (SIG) have yet to exist in the Philippine Association for Speech Pathologists (PASP), the country's recognized professional association for SLPs. Despite the relative novelty of a SIG, the TINIG AAC project pushed for the creation of such a core group for AAC-trained SLPs. Following a modified Delphi approach, short focus group discussions were conducted to identify what characteristics this potential SIG should have to fit the unique needs of Filipino SLPs and clients with CCN. According to the twenty-two AAC-trained SLPs who participated in the discussions, the following areas were found to be of high priority in planning for an AAC SIG in the country: 1) vision and mission, 2) organization structure, 3) AAC service provision policies, 4) continuing education, 5) research, 6) curriculum development, and 7) advocacy. The creation of such a SIG is a groundbreaking step in ensuring quality and evidence-based AAC practice in the country.
3. **Education.** As a consequence of the project's focus on education and mentorship, 19 seminars, talks, and workshops have been given in 6 provinces to laypeople, teachers and school administrators, medical and allied medical professionals, support groups, and NGOs. In addition, one of the four universities offering an SLP program now has an "Introduction to AAC" course that is handled by an AAC specialist from the TINIG AAC program. As a result, there is an overall increase in awareness and interest on AAC in the country.
4. **Outreach.** The TINIG AAC project gives out AAC systems each year the program runs. To date, the project has given out 37 iPads with AAC applications to Filipinos with CCN. Additionally, planning is currently ongoing for a possible nationwide AAC mission for next year, which will be in partnership with public special education schools, Non-Government Organizations and Local Government Units. This will feature volunteer AAC specialists travelling to key provinces in the country to provide free AAC screening and AAC systems for individuals with CCN, and free family/parent training on facilitating use of said systems.

**Evidence Area:** AACcess the world: Developing nations in AAC

**Content Focus Area:** Personal Experiences and Preferences

## **Building Intentional, Cohesive Programs of Research: Slow and Steady**

**Cathy Binger | Jennifer Kent-Walsh**

### **OVERVIEW**

Building long-term lines of research that lead to a cohesive body of work can be a daunting prospect for researchers. In this session, we will discuss possible paths and plans that can assist researchers in building intentional, systematic programs that – over time – make a significant contribution to the AAC field.

### **The Intentional Researcher**

We will begin the session by acknowledging and briefly addressing some of the challenges in building an intentional research career, including the following:

- . Clarifying who we want to be, as researchers. This includes answering key questions such as: Why did I return to school? What do I want to study? What burning questions do I have, and how will answering them make the world a better place? What gaps are there in my field that I can help fill?
- . Discussing the career paths of researchers with clear vision and goals vs. those without. For example, those with clear vision and goals build systematic lines of research over time and have disciplined reasons for taking on tasks; those without clear vision and goals can be more susceptible to conducting research studies in a more haphazard manner and may find themselves agreeing to taking on responsibilities that take time away from their research programs.
- . Reviewing some of the common distractions that can pull us away from our research programs (volunteering for committees and conferences, consulting with families, etc.) and provide some suggestions for navigating those demands on our time.
- . Committing to being strategic regarding the tasks we choose to participate in versus those we choose to decline.

### **BUILDING A BODY OF COHESIVE RESEARCH**

For the latter part of this session, we will discuss possible paths toward building a cohesive body of research over time. For example, following these steps can help to build a cohesive research program:

- . Establishing what is currently known as well as gaps in the literature: systematic reviews & meta-analyses
- . Defining prevalence of the population: demographic surveys
- . Initial intervention studies to pilot intervention approaches: single case experimental designs across a range of methodologies
- . Larger intervention studies to scale up earlier work: group designs, including randomized controlled trials

Example from our own research program: Improving morphosyntax of children who require AAC

- . Systematic review of morphology and syntax of individuals who use AAC (Binger & Light, 2008)
- . Demographic surveys of preschoolers and school-age children who use AAC (e.g., Binger & Light, 2006)
- . Small intervention studies using single case experimental designs (e.g., Binger, Kent-Walsh, Berens, Del Campo, & Rivera, 2008; Binger & Light, 2007; Kent-Walsh, Binger, & Buchanan, 2015)
- . Larger single case experimental design (Binger, Kent-Walsh, King, & Mansfield, 2017)
- . Two randomized controlled trials (currently underway)

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Methods and Theories

## **Building Morpho-Syntactic Skills using AAC Apps: Measures of Progress**

**Jennifer Kent-Walsh | Cathy Binger | Aimee Bustos | Nancy Harrington | Ashely Willman | Carolyn Buchanan**

### **INTRODUCTION & OVERVIEW**

Children with complex communication needs have been documented to be at risk for poor expressive language outcomes. Unfortunately we know that unintelligible speech can mask the underlying expressive language abilities of these children. One manner in which AAC can be used to bypass unintelligible speech, and afford ongoing expressive language development and use, is by teaching pre-literate children how to combine words through the use of single meaning graphic symbols (i.e., line drawings representing individual concepts such as IS, JESSIE, LAUGHING). To create sentences using an AAC app (or any aided AAC device), preliterate children must select (in successive order) single meaning graphic symbols displayed on a 'page' or 'screen' within the app. In this manner, successively selecting IS + JESSIE +LAUGHING yields different meaning than selecting JESSIE + IS + LAUGHING.

Although this process of transposition, or 'mapping' mentally represented spoken sentences onto single-meaning graphic symbols may not necessarily always be transparent or intuitive to young children, recent research in this area is promising; preschoolers with and without receptive language deficits have been documented to be able to learn to produce multi-symbol utterances (i.e., phrases and sentences) using single-meaning graphic symbols within AAC apps efficiently within a number of investigations conducted by different research groups (e.g., Kent-Walsh et al., 2010; Tonsing, 2015). In addition to the general increases in multi-symbol message productions demonstrated in these investigations, there are emerging data to indicate that success can be achieved through interventions designed to target specific linguistic rules (e.g., Kent-Walsh et al.2015). To further explore this promising area of AAC intervention research, this presentation will include research findings in our ongoing line of work. The presentation will include both sample findings documenting increases in expressive syntactic performance with 5 year old children using an AAC app, and findings addressing performance measurement issues for morpho-syntactic investigations with preschoolers using AAC.

### **EXPRESSIVE SYNTACTIC PERFORMANCE OF 5 YEAR OLDS**

The purpose of the first ongoing investigation to be presented is to evaluate the impact of an aided AAC modeling intervention incorporating contrastive targets and concentrated modeling on the following with children using AAC with receptive language skills within normal limits: (a) the productive use of a range of simple auxiliary 'to be' declaratives and yes-no questions by children using AAC with receptive language skills within normal limits, and (b) generalization to productive use of both closely related and less related untrained linguistic structures. An experimentally controlled single-case, multiple-probe across participants design is employed within this investigation. Data will be presented for at least one cohort of three 5-year old children using AAC. A Proloquo2Go iPad app display containing the 29 symbols necessary to produce the target structures is used. The intervention is comprised of concentrated modeling and interactive play components (Kent-Walsh et al., 2015). Dependent measures include simple auxiliary to be declaratives (1st & 3rd person singular & 3rd person plural) and simple inverted yes-no questions (1st & 3rd person singular & 3rd personal plural). Generalization measures include: simple auxiliary to be declaratives (2nd person), simple inverted yes-no questions (2nd person), to be declaratives (1st & 3rd person singular, 3rd person plural) and yes-no questions containing copulas (1st & 3rd person singular, 3rd person plural).

### **PERFORMANCE MEASUREMENT FOR MORPHO-SYNTACTIC INTERVENTIONS WITH PRESCHOOLERS**

The purpose of the second ongoing investigation to be presented is to examine the use of three commonly used techniques to measure expressive AAC language progress. Specifically, preschoolers' mean length of utterance

(MLU) and gain scores are examined prior to intervention and after 8 sessions of AAC language intervention within: (a) probe tasks, (b) play routines and (c) shared storybook reading (e.g., Binger et al., 2017; Ronski, et al., 2010, Tonsing et al., 2014). Targeted linguistic structures are as follows: agent-action-object, attribute-entity, entity-locative, possessor-entity. iPads with ProLoQuo app with activity-based displays including vocabulary relevant to included play and storybook activities are used. Procedures include the participants: (a) completing all 3 measurement conditions (probe, play, storybook) prior to beginning intervention with sessions, (b) engaging in a total of 8 play-based intervention sessions involving aided modeling, spoken modeling, WH question asking, contingent responding, time delay, and gesturing toward the iPad, and (c) completing all three measurement activities again. Results will be presented for three children ages 3 – 4 with relatively strong receptive language skills and poor speech intelligibility.

Data collection and analyses are currently underway for both investigations to be presented. Based on progress to date, we expect to demonstrate increased use of targeted structures following intervention in both investigations, and to present evidence of generalization in the first investigation, as well as evidence of the highest MLU scores for the play condition in the second investigation. Full results will be presented for both investigations along with interrelated implications for future research and clinical practice.

**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence

## Building National Capacity to support AAC as an Early Intervention Method in Croatia

Klara Popčević | Jasmina Ivšac Pavliša | Željka Car | Ružica Magušić | Katarina Škorvaga

Communication represents an essential human need as well as basic human right. One of the essential rights for the youngest children who have complex communication needs and cannot use standard means of communication is to have access to intervention and support mechanisms that improve communication, including the right to have access to Augmentative and Alternative Communication (AAC) and other assistive technology (AT) services and devices at all times (Communication Bill of Rights, National Joint Committee for the Communication Needs of Persons with Severe Disabilities). Providing assistive technology to children with developmental delay/disabilities as early as possible facilitates their development and prevents social exclusion. Available and affordable assistive technology reduces costs when it supports early childhood development and educational achievement, reducing the need for formal support services, time and physical burden on caregivers and further impairment.

Implementing AAC at an early age is vital for children's interaction with others, learning, education and participation in everyday activities. Over the last few years, Croatia has undertaken many efforts to advance the use of AAC. Education of speech and language pathologists and special teachers has been improved in recent years through the introduction of courses on AAC. Alongside other improvements in education, changes have also begun at the University of Zagreb in terms of multidisciplinary collaboration focused on the development of high technology tools for children with complex communication needs.

Despite these changes, AAC is still rarely used within early intervention in Croatia. Research into the use of AAC in Croatia seems to indicate a low level of awareness of the concept. Not all professionals understand that AAC is one segment of early intervention and a path to achieve functional communication and better inclusion. Unaided methods were predominantly used among Croatian professionals with the rare usage of high-technology tools (Horvat, 2014). Many parents and people who are in contact with the youngest children still have reserves about the use of AAC and tend to lean on the common myths about its use.

Slow progress in implementation of AAC methods for the youngest children who have complex communication needs and cannot use standard means of communication is an example of the need to improve early intervention and support for young children in Croatia. Trained personnel are essential for the proper use of AAC, as well as for beneficiary training and follow-up. If these key steps are not present then assistive products are often abandoned or they are of little benefit and even harmful, resulting in extra healthcare/welfare costs. The lack of trained personnel also means low number of community based services.

Another challenge is access to assistive technology. The high cost, limited availability and inadequate financing as well as widespread lack of awareness and suitably trained professionals have resulted in only limited access to AAC devices for children with disabilities in Croatia. There is a need to increase awareness among decision makers and to create an enabling environment that will foster the creation of policy and legislative frameworks that will improve access to high quality affordable ACC devices and services.

It is for these reasons that UNICEF Croatia has partnered with the Faculty of Education and Rehabilitation Sciences to provide technical assistances to the relevant organizations: (1) 32 civil sector organizations (CSO) and institutions from the health, education and social sector; (2) Key stakeholders for setting up assistive technology service provision, especially ACC devices and services, for children aged 0-8 years. The main goals of the technical assistance programme are to: (a) Build the capacity of the healthcare, education and social institutions, and CSO through training on ACC and early childhood intervention concept, and (b) Increase awareness and knowledge

among key stakeholders that will initiate national policy dialogue on creating assistive technology service provisions, standards and financing mechanisms related to access to ACC devices and services.

The poster depicts the current status of the use of the AAC in Croatia, the goals and activities developed within the programme as well as the future directions.

A Communication Bill of Rights From the National Joint committee for the Communicative Needs of Persons with Severe Disabilities. (1992). Guidelines for meeting the communication needs of persons with severe disabilities. *Asha*, 34 (Suppl.7), 2-3.

Horvat, L. (2014). Uporaba potpomognute komunikacije kod različitih profila stručnjaka u Republici Hrvatskoj. Edukacijsko-rehabilitacijski fakultet, Sveučilište u Zagrebu.

**Evidence Area:** AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence, Professional Practice Evidence



## **‘But I’m just a teacher’ – leading change in schools from the bottom up.**

**Olivia Hepburn**

Four years ago I found myself in an exciting but daunting position as I entered my first teaching job in a school for children with severe and complex learning difficulties in Surrey (United Kingdom). I was fresh out of teacher training but I was armed with big ideas. Prior to training to become a teacher, I had found myself in the fortunate position of working alongside some highly skilled, inspirational practitioners and I had learnt a lot about best practice in Alternative and Augmentative Communication (AAC). I had previously worked as a teaching assistant, where I dedicated a lot of time to implementing PODD (Pragmatic Organisation Dynamic Display) in the school I was working in and through this I learnt how important it is that people with complex communication needs have access to a robust language system. As a newly qualified teacher, I joined a school that did not yet share my views on AAC. As I often find myself surrounded by people who do share my views, it is easy to forget that for many people, the concept of Aided Language Stimulation and providing children with a robust language system, is a new concept which challenges previous practise and beliefs. As I began teaching my class (8 students who all experienced some level of communication challenges) without PODD by my side, I felt ill-equipped to provide these children with the opportunities I felt they deserved. I was very aware that, with all the enthusiasm in the world, there was no chance I could do this alone and that I would need to work hard to share my ideas and change perceptions in the school.

“The attitudes and expectations of people in the environment may be critical for children who use alternative forms because these children depend on the means and opportunities provided by professionals.” (von Tetzchner & Grove, 2003, p.15)

But as a 24 year old, newly qualified teacher, how could I expect to stimulate change? How could I help to create an environment where our pupils would be surrounded by people who believe that they could learn to use a robust language system?

From my experience working towards becoming a certified PODD presenter in the UK, I have found that there are many people asking the same questions that I was asking myself. It is hard to believe that as a young professional, new to the job and seemingly inexperienced, it is still possible to stimulate change. It is still possible to change the attitudes of staff and parents on an individual level and it is possible to create change at a whole-school level. But four years on, I am grateful to find myself in a position where I am struggling to keep up with requests for communication systems for more and more children. I am surrounded by a fantastic staff team, many of whom have been hugely receptive to my ideas and suggestions and many who are more than willing to dedicate their own time to creating communication books for children in the school. I have the support of a very motivated, enthusiastic and receptive senior leadership team who have taken on board my ‘crazy’ ideas and encouraged and supported me in many ways.

This attitude shift did not happen overnight. It took a lot of time and patience to get to where we are now. There were inevitable challenges and I am sure there will be more to come as we continue to move forward. In this presentation I will explore the many factors that influenced our success as a school. I will identify the range of strategies and approaches that proved successful in changing people’s perceptions and I will share the experiences and ideas of the teachers, teaching assistants and parents who were on the receiving end of my preaching to identify what they found most useful for helping them to understand this approach to teaching.

Renner, G. (2003) The development of communication with alternative means from Vygotsky’s cultural-historical perspective in von Tetzchner, S. & Grove, N. (eds)

Augmentative and alternative communication: Developmental issues. London: Whurr Publishers Ltd.

**Evidence Area:** AACcess education

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

## **Can ASD children access community using IPAD as AAC tool?: Perspectives from Singapore**

**Vasanthi Asaithambi | Vickneswary Rajo Mutaya | Caroline Tan | Suhada Zaki Hakim**

Severe language impairments are a common characteristic of Autism Spectrum Disorder (ASD; DSM-V: American Psychiatric Association, 2013). Approximately 60 to 70% of children with ASD aged 7 years and above who are enrolled at St. Andrews Autism School, Singapore are non-verbal. Approximately 50% of them use some kind of AAC(Augmentative and Alternative)tools for communication; predominantly PECS followed by communication boards, Voice Output Communication Aids and Hi-tech Speech Generating Devices (SGD) such as IPAD. Development in communication technology has led to exciting advances in AAC systems (Sennott&Bowker,2009). About 10% of students use Speech generating Devices such as IPAD to communicate within the classroom setting in the school environment. They use a variety of Applications on their IPAD to communicate namely, Sonoflex, Prologue 2 Go, Sounding board, Touch chat and the like.

### **SUBJECTS:**

This is a descriptive paper focussed on the influence of IPAD to access community during school outings. Three to five students ranging from 8 years to 14 years were selected to take part in the study.

### **Methodology:**

The study lists 3 different communicative settings namely Supermarket, the cafeteria in school and fast food outlet and at least 3 different communicative partners as variables that can be factors that contribute to the success of IPAD as a communicative device in the community.

### **ANALYSIS:**

The perspectives of teachers and members of the community are assessed based on a 5 point Likert scale questionnaire of 12 questions. This might help us throw light into the awareness, ease of use and challenges faced by the community to interact with students who use IPAD as an augmentative tool. This study also highlights the need for training the students on the skills of adapting the IPAD as an integrated communication tool in the mainstream community. (Flores,M.,Musgrove,M.,Renner,S.,Hinton,V.,Strozier.S.,Franklin S.,et al.(2012)).

### **CONCLUSION:**

In a small community, community members are also communicative partners for students who use IPADs as AAC devices to communicate with them.The main needs are identified as:

A)Training minimally verbal and non – verbal students with ASD to operate the IPAD as an effective augmentative communication tool than a mere leisure item.

B)Educate the teachers and the general public by means of awareness programs, talks and education leaflets in community centers about ways in which children and young adults on the Autism Spectrum use high tech devices with “voice” output as a means of communication.

Hence the study concludes further work to be done in the above-mentioned areas to integrate students with ASD to function as independent integrated members of the society in Singapore.

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Communication, 28(2), 74-84.

**Evidence Area:** AACcess emerging technologies, AACcess education, AACcess the community

**Content Focus Area:** Research Evidence, Professional Practice Evidence, Personal Experiences and Preferences

# CapAACity building across Victorian communities: the Communication Access Network

**Denise West | Hilary Johnson | Meg Irwin | Katie Lyon**

## **AIM**

Since its inception in 2002, the Communication Access Network (CAN) has been working to build the capacity of individuals with complex communication needs and the people and organisations with which the person engages (family, friends, carers and community, mainstream, and specialist disability services) and to build communication accessible communities and services.

CAN is based on a “hub” and “spoke” model of service delivery. It comprises a “hub” (Scope’s Communication and Inclusion Resource Centre) which coordinates the network and provides mentoring, strategic direction, information and resources and 11 “spokes” known as Regional Communication Services across Victoria. Each Regional Communication Service (RCS) is auspiced by a Health, Community Health or Disability organisation.

The RCS speech pathologists build local capacity to support the participation of people with communication disabilities. They work with community organisations, businesses, local speech pathologists, individuals who have complex communication needs and their communication partners. CAN has developed strong partnerships between the disability, community, corporate and health sectors through its capacity building role. It also provides individual consultative services to those with complex communication needs who require Augmentative and Alternative Communication.

CAN was block funded by the Victorian Government’s Department of Health and Human Services for the last 15 years. With the introduction of the National Disability Insurance Scheme (NDIS), funding for CAN’s individual services and capacity building activities was uncertain. A review was undertaken to align the activities of the Victorian CAN to the NDIS outcome framework.

In this presentation, we:

- align CAN activities to the Information, Linkages and Capacity Building (ILC) Outcomes Framework of the NDIS illustrated through stories and case studies;
- identify the strengths and outcomes of this model for people with complex communication needs and their local communities;
- identify limitations of the current model and make recommendations; and
- propose a future model that fits within an NDIS context.

## **METHOD**

This was a retrospective evaluation aligning to the ILC framework and was based in a review of CAN publications, longitudinal data, annual reports, web products and other resources. Consultation sessions and a data collection exercise were held with the Communication Access Network and advice was sought from a project advisory committee.

## **RESULTS**

There is extensive evidence that CAN activities align to the Information, Linkages and Capacity Building (ILC) Outcomes Framework of the NDIS. CAN has been able to demonstrate that:

- people with disability participate in, and benefit from the same community activities as everyone else;
- people with disability use and benefit from the same mainstream services as everyone else;

- people with disability have the skills and confidence to participate and contribute and protect their rights;
- people with disability are connected and have the information they need to make decisions and choices;
- people with disability actively contribute to leading, shaping and influencing their community.

While the focus of CAN is on people with complex communication needs, the community development activity of CAN means that all people (adults and children) with communication limitations regardless of age or cause of limitation are advantaged by the communication access work of CAN in creating more communication accessible communities and services for everyone. We estimate that CAN potentially positively affects 78,000 Victorians (to age 64) with communication (activity) limitations and/or an estimated 2.5 million Victorians who do not have sufficient literacy skills to meet every day needs and/or people of culturally and linguistically diverse backgrounds.

#### **CONCLUSION**

Capacity building focused on people with communication disability and on local and community opportunities can engage and transform mainstream and community services to be inclusive of people with communication difficulties. CAN has made a unique contribution to the lives of citizens with communication disability, and created communication accessible communities and services in Victoria.

**Evidence Area:** AACcess the community

**Content Focus Area:** Professional Practice Evidence

# Capturing Characters: A Photography Intervention to Support Participation for Children with Complex Communication Needs

Jamie Boster | John McCarthy

Children with complex communication needs (CCN) who use augmentative and alternative communication (AAC) face unique challenges when participating in interactions with their peers. Research has shown that peers often take more opportunities in communication exchanges (Light & McNaughton, 2014) and that children with CCN mainly interact with adults in their environment (Chun, Carter, & Sisco, 2012). Based on such findings, it is necessary to develop intervention programs that not only target necessary AAC skills but also engage children with CCN in interactions with their peers in a meaningful way. Creative activities can potentially create a context for such interactions and may provide a fun and engaging space for children with CCN to interact and collaborate with their peers. Boster and McCarthy (2016) specifically explored the benefits of a photography intervention and found increased communication between a child with CCN and a peer. Results of this study support further exploration and refinement of a creative intervention that incorporates elements of photography and collaborative learning.

## AIM AND METHOD

The aim of the current study was to design, implement and evaluate a collaborative photography intervention for children with CCN who cannot use their natural speech to interact with same-age peers. The role of photography in the current study was to serve as context for collaborative learning activities that support engagement in social interactions and increase communication opportunities for children with disabilities. The research questions addressed include:

1. Is a functional relationship present between participation in collaborative photography activities and engagement in social interactions for a child with CCN and a peer?
2. Is a functional relationship present between the frequency of initiations and responses of a child with CCN and participation in collaborative photography activities?

The current study utilizes an experimental single-case design methodology with an ABAB reversal design. Participants include children who use AAC and a peer between the ages of 5 and 10. Each phase of the study includes a minimum of five, 20-minute data collections sessions. During baseline phases, the pairs of children complete individual craft activities. As part of the intervention, children complete collaborative photography activities. The intervention activities are structured according to conceptual theories in collaborative learning (Johnson, Johnson & Holubec, 1993) and introduce children to photography activities that they complete together. The intervention activities are specifically designed to facilitate turns and included elements such as individual accountability, face-to-face interaction and shared goals. The ABAB design will present three opportunities to assess whether change occurs between baseline and intervention phases.

The collaborative photography intervention's impact will be measured by comparing levels of engagement and frequency of initiations and responses by the child of CCN during the intervention to baseline measures. Time interval sampling will be used to identify the number of intervals containing reciprocal interactions defined as an initiation followed by response. For intervals in which a reciprocal interaction occurs the role of the child with CCN will be noted (i.e., initiator, responder). Data will be analyzed with systematic visual comparison of the level, trend, and variability of performance that occurs during baseline and treatment conditions as well as examination of immediacy of effect, overlapping data, and consistency among similar research phases (Kazdin, 1982). The effect size of the intervention will also be analyzed using the Tau-U calculation.

## **RESULTS**

Data collection for the current project is ongoing. An overview of the results of the pilot with children without disabilities and the results of at least two dyads including a child with CCN will be presented during the ISAAC 2018 convention. Discussion will focus primarily on the impact of the intervention on children with CCN and their peer's interactions. Details will be provided regarding the number of interactions that occur per phase as well as on the roles children with CCN take during their interactions in the activity.

## **CONCLUSION**

The results of this study will inform intervention practices for professionals working with children with CCN and contribute to the knowledge base guiding future research endeavors. The study will also outline strategies for pursuing creative venues, such as photography, as a means for including children with CCN in social interactions with their peers.

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**Evidence Area:** AACcess relationships

**Content Focus Area:** Research Evidence



## **Changing the world with AAC USER Action**

**Jieun Park | Ju-hyeon Kim | Jihye Lee**

Through the 2016 ISAAC International Conference, the Korean AAC User, especially the Korean adult with brain lesions, described the reality that communication rights were violated in all areas of daily life including labor, education, and culture in the community for the first time.

At the same time, the KSHB(Korea Solidarity for Human rights of disability people with Brain lesions) has established a network to support communication rights, to share the results of activities for five years with foreign organizations in order to guarantee the communication rights of the people with brain lesions. It literally communicates with the world through the use of AAC like last year's presentation title.

As mentioned in the 2016 announcement, for the support of effective communication rights, especially for the adults with brain lesions in the blind spots of service support/institutions, a professional support system was needed, so political work was performed for this.

This presentation introduces the process of enacting the ordinance to support the communication rights that have been going on and is going to talk about the activities carried out in the community in order to guarantee practically not only the simple system but also the right of communication.

Communication rights that we think of a person with communication disability can not be established as a single word or sentence, but the right of communication is a minimum right that must be guaranteed for a person who lives in the community for a lifetime.

Especially in the absence of awareness of AAC, the understanding of AAC is just limited to the level of assistive technology device. So, it aims to change this recognition, talk about diversity of AAC(Communication assistant, low tech AAC etc.), make it possible to establish and implement the individual support plan necessary for the person with language barrier to communicate smoothly.

For this, KSHB established a network center called 'Communication Rights Support Center' which plays an overall role related to communication rights support and worked on enacting ordinance of 'Establishment and operation of Communication Rights Support Center in Seoul' for institutional support from the first half of 2016.

In this process, KSHB contacted various places of interest such as local governments (Seoul City), local councils (Seoul city councils), and conducted activities such as press conferences and discussion meetings based on meetings. After many complications, The KSHB has initiated the [Ordinance for the Promotion of the Rights of People with Disabilities in Seoul], which covers the contents of the 2017 August Communication Rights Support Center and not only the center, but also the whole contents about the support for the communication rights of people with disabilities, and it is currently in the process of parliamentary deliberation.

In addition to the ordinance, KSHB is carrying out communication rights support projects with the budget support of the Ministry of Health and Welfare, the municipal government and others in order to realize the continuous ties with the people with communication disabilities and the real communication rights. The main contents include establishment of plan to support individual communication rights(communication consultation, professional service connection, AAC self-help group, AAC accessible-peripheral equipment etc.), communication rights promotion and improvement of awareness, and communication rights promotion conference. These activities are not AAC-mediated centered on experts (language therapists, occupational therapists etc.) but rather the support of the individualized communication rights led by themselves. The focus is on the characteristic that communication is mutual, it is meaningful to create an environment that allows people to live in a community like a person, with dignified rights.

The short-term goal given to us is to submit a report on the reality of the right to communicate of people with disabilities under the detailed goal 3.c in Incheon Strategy, the 10th anniversary of the Third Asia-Pacific Disability and the preparation of measures for practical communication rights to UN ESCAP. (It is ongoing)

A long-term goal is to realize the communication rights of the disabled of all communities through communication rights support centers, make them communicate with the world. In other words, it is the right of themselves to take the initiative to communicate, and the AAC USER group to communicate with the world through the international stage and to highlight the presence of themselves. Like the sentence of World CP Day “I am here, We are here”.

**Evidence Area:** AACcess the community

**Content Focus Area:** Personal Experiences and Preferences

## Child-Family-Provider Interactions on an Inpatient Rehabilitation Unit: A Preliminary Investigation

Jessica Gormley | Janice Light

To deliver effective family-centered services and evaluate communication effectiveness within a health care environment, one must first understand the complex contextual factors influencing patients and families. Individuals are affected by the dynamic interplay of personal relationships (e.g., patient-provider), the interactions among these relationships (e.g., between a patient's family and providers), social policies governing relational networks (e.g., staffing), and socio-cultural beliefs (Bronfenbrenner & Ceci, 1994).

Many children with CCN rely on alternative and augmentative communication (AAC) strategies (i.e., any method of communication other than oral speech) to communicate with medical personnel during inpatient hospital stays. However, frequent communication breakdowns with staff places these children at increased risk for negative experiences and poor medical outcomes (Blackstone, Beukelman, & Yorkston, 2015). Time constraints and limited staff communicative competence have been identified as barriers to supporting the communication needs of children with CCN in hospitals (Hemsley & Balandin, 2014). However, a paucity of evidence is available to describe the communication patterns among health care professionals, children with CCN, and their families in hospitals, necessitating observational studies to document the current communication experiences of these individuals in the inpatient setting (Hemsley & Balandin, 2014) and describe salient features of child-family-provider communication patterns to inform future intervention.

### AIM:

The objective of this study was to describe child-family-provider interaction patterns of a 28-month old child with CCN in an inpatient rehabilitation setting during medical encounters, therapy sessions, and feeding sessions.

### METHOD:

An observational study was conducted to describe the child-family-provider communication interactions of a 28-month-old child with CCN with a history of prematurity, developmental delays, and diagnosis of failure to thrive. The child received inpatient rehabilitation services in the United States of America during the five-week study period. Adult communication partners included the child's mother, father, and pediatric rehabilitation providers (e.g., nurses, therapists). Following informed consent, naturalistic video-recordings were collected during 10-days of a five-week period. All video-recordings (a) occurred between the hours of 7:00am and 7:00pm, (b) occurred during medical encounters, therapy sessions, and/or feeding sessions, and (c) involved the child participant and at least one provider.

Video recordings were coded for the following variables:

- (a. Total unique communication partners,
- (b. Frequency and duration of communicative interactions across contexts (e.g., medical encounters, feeding sessions) and professions (e.g., nursing, speech therapy),
- (c. Duration and percentage of communicative interactions when parents were present,
- (d. Average child-directed and adult-directed turns across communicative contexts and professional category,
- (e. Total child and adult communicative turns, and
- (f. Communicative modes used by the child.

**RESULTS:**

Preliminary analyses indicated that the child interacted with a minimum of 27 rehabilitation providers during the observation period. The average duration of medical encounters was shorter relative to feeding and therapy sessions; however, medical encounters were more frequent. At least one parent was present for all medical encounters and most therapy and feeding sessions. Parents were typically passive participants in therapy and feeding sessions; however, were more active during medical encounters answering staff questions. The child used multimodal communication throughout all contexts to communicate with adult partners (i.e., signs, speech approximations, conventional gestures); however, the child's parents, primary speech-language pathologist, and occupational therapist performed best in interpreting the child's communicative attempts. Remaining staff performed with variable accuracy in interpreting the child's communicative attempts. The child's parents often served as "translators" to staff to describe the child's communication attempts. No attempts were made by any adult partner to trial aided AAC strategies.

**CONCLUSION:**

Children with CCN may encounter a myriad of medical personnel throughout an inpatient hospital stay. These staff may perform with variable levels of accuracy in the recognition and interpretation of unaided AAC techniques. Communicative accuracy may be influenced by the staff member's familiarity with the child's communication system. If staff is unfamiliar with the child's communicative system, increased communication breakdowns and increased reliance on the child's family during interactions may occur. The results of this study corroborate past findings for the need to increase communicative competence of staff, access to AAC tools, and collaboration among families and providers to improve communication in this setting (Hemsley & Balandin, 2014).

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**Evidence Area:** AACcess the community

**Content Focus Area:** Research Evidence

## **Children should be seen AND heard**

**Siobhan Daley**

As a young person who has used AAC for 14 years I have personal experience in pretty much everything AAC (sign, PECS, big mack buttons, PODD style books, tech talk and high tech communication devices – DV4 and now Minspeak). Since I started to use AAC at a very young age I have experienced the many benefits of having AAC become a part of me from early on, as well as many experiences with good and bad communication partners and switching devices and styles.

In this presentation I will explore and discuss these aspects of AAC from personal experience, as well as suggesting some tips on how people can better support AAC users, as to start them using AAC from a young age, being a better communication partner, as well as supporting them as they switch AAC systems.

**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community, AACcess employment, AACcess diversity, AACcess culture, AACcess relationships, AACcess social media

**Content Focus Area:** Personal Experiences and Preferences

## Children's matching-rank for the graphic symbols representing the verb depending on the degree of complexity

Jeewon Yoo | Soyoung Jung | Jihee Jung | SeokJeong Yeon | Eunhye Park | Youngtae Kim

### INTRODUCTION AND AIM

The verb is known to be more difficult to learn/guess than the noun in the graphic symbol because the verb in the static graphic symbols is hard to describe the movement of action (e.g., Schlosser & Sigafoos, 2002; Yeon, Kim & Park, 2016). However, studies investigating the graphic symbols for the verb are limited compared to many studies examining the graphic symbols for the noun. Moreover, although the elements used in the graphic symbol in AAC system are various (i.e., an arrow, a wave, a part of body), little is known about in ways these elements are combined (or the degree of complexity) that best represent the verb. We aimed to examine the degree of complexity of elements in the static graphic symbol that would best represent the transitive verb in school-aged children with typical development (TD) and in children with mild intellectual disability (MID) using Korean EWA AAC symbols. Also, since it is documented that the ability of linking the graphic symbol to the referent may be related to the language ability (Barton, Sevcik, & Ronski, 2006), we examined whether children's matching-rank for the graphic symbol with the verb would be linked to children's vocabulary skill.

### METHOD

One hundred and nineteen children for TD group (age mean =11.60) and 10 children for MID group (age mean = 9.28) participated in this study. Children completed the standardized receptive vocabulary test and the matching-rank task for 23 transitive verbs. The complexity of the graphic symbol representing the transitive verb was manipulated by varying the combinations of 4 elements (an object, a sign, a part of body and a whole body). For example, Condition1 was less complex with an object and a sign while Condition 4 was more complex with an object, a sign, and a whole body. In this task, children were asked to rank order from 1 to 4 where a 1 was the best-matching and a 4 was the worst-matching regarding how the spoken target verb and the graphic symbol were well matched among 4 conditions for each verb. For MID group, children were asked to rank only the best – and the worst-matched graphic symbol considering their limited ability of task comprehension.

The frequencies of matching-rank for each condition across 23 verbs were calculated and the separate partial correlation analyses with controlling for age between vocabulary score and the frequencies of each ranked number for each condition were conducted.

### RESULTS

Both groups selected Condition 4 (more complex) as the 1st rank (the best-matching symbol) while they selected Condition 1 (less complex) as the 4th rank (the worst-matching symbol) for representing the transitive verb. In the TD group, there was a negative relationship between the 1st rank and receptive vocabulary while there was a positive relationship between the 4th rank and receptive vocabulary in Condition1. Also, in Condition 4, there was a negative relationship between 4th rank and receptive vocabulary for the TD group. In the MID group, there was a positive relationship between the worst-matching rank and receptive vocabulary only in Condition 1.

### CONCLUSION

Both groups indicated Condition 4 which was more complex condition, and contained relatively many pieces of information as the best-matched symbol for the verb while both groups indicated Condition 1 which was less complex, and contained not much information as the worst-matched symbol for the verb. These results suggest that containing more information using various elements (at least four elements in this study) in the graphic symbols for the verb may help children understand/guess the meaning although they may look complex for children with MID as well as for children with TD. Also, the current study showed that the higher vocabulary knowledge

children had, the less complex graphic symbol they indicated as the worst-matched symbol for the verb, suggesting that there may be a relationship between the degree of information delivered by the elements in the graphic symbols and children's language skills.

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**Evidence Area:** AACcess culture

**Content Focus Area:** Research Evidence

## Choose Your Words!

**Amanda Hartmann | Leanne Shane**

You've got a core word vocabulary AAC system set up for your students, but you're not sure what to do next. You know it's important to model so your students can see language being used on their systems. But how do you plan your lessons around core words? Which words should you model in what combinations? How can you model increasingly complex language? What about modeling a variety of communication functions? And what do you do about curriculum topic specific vocabulary? Where will you find the time to program in "marsupial", "lava", and "colony"?

This session will offer helpful hints in two areas. First, how do you choose what core words and core word combinations to model for your students? We will present a framework called 3 W's –Words, Whys, and Ways. Words are the specific core words we choose to model for our students. Whys are the reasons why we communicate – the pragmatic communication functions such as requesting, commenting, telling stories, asking questions, giving opinions, teasing, etc. Typically our students who use AAC get stuck in requesting and responding to multiple-choice questions. But there's so much more to talk about! The third W is Ways, by which we mean syntax and morphology –the ways we put words together and change their form to create sentences. We'll share templates for creating lesson plans that combine all the 3 W's so you can move your students forward towards full communication.

Finally, we'll cover the basics of the Descriptive Teaching Model. Developed by Gail

Van Tatenhove, this model helps you to use the core words you know your students need to learn for everyday functional communication in place of the curriculum topic specific vocabulary it takes you so long to program in and teach. This session will be a combination lecture, demonstration, and make and take. We'll provide you with the resources you need to create a core word-based lesson –word lists organized by word kind, frequency of use, and power / flexibility for

AAC users, lists of communication functions with examples, and sample core word planners.

Note: The Proloquo2Go Crescendo vocabulary will be used to demonstrate these techniques. However, the lesson plans should be usable with any core word based vocabulary.

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Full list of references found at the AssistiveWare Core Word Classroom: <http://coreword.assistiveware.com/t/academic-references/65>

**Evidence Area:** AACcess education

**Content Focus Area:** Professional Practice Evidence



# Choosing from the smorgasbord of interventions for people with CCN : A clinical decision-making framework

Andy Smidt | Aylin Huzmeli

## AIM

The aim of this presentation is to present a framework to guide clinical decision making for speech pathologists and others working with children and adults with complex communication needs (CCN) and intellectual disability. This paper will review intervention approaches and consider ways in which this information can be organized to allow student and novice speech pathologists to select appropriate intervention approaches for their clients.

## BACKGROUND

In the past 30 years, the scope of intervention for people with a disability has broadened to include a focus on functional outcomes and quality of life (Buntinx & Schalock, 2010; Verdonschot, De Witte, Reichrath, Buntinx, & Curfs, 2009). The implementation of the Participation Model (Beukelman & Mirenda, 2013) and the ICF (World Health Organization, 2001) has encouraged a focus on participation in community environments and on the impact of societal attitudes and resources on the quality of life of a person with a disability.

People with a disability present with a broad range of CCN including those who are (i) not yet intentional communicators, (ii) those with some communicative intent who do not demonstrate symbolic understanding and (iii) those with clear symbolic understanding who communicate using a range of verbal and non-verbal means. The complexity of matching the specific communication needs of a person with the available intervention approaches and understanding why that approach is being recommended involves complex reasoning which many student and novice practitioners find difficult.

Creation of a framework: As a University lecturer, teaching pre-service Speech-Language Pathologists, the first author wanted to guide students towards making sound clinical decisions about intervention. Students were observed to want to select intervention based on availability and apparent simplicity without underpinning their decision with evidence and in a systematic way. The first author attempted to support students to consider functional goals for clients. Students became confused between goals that were tri-focused (Siegel-Causey & Bashinski, 1997), those that focused on participation (Beukelman & Mirenda, 2013) or those that were recommended for a specific disorder (for example PECs for Autism). More information further confused the students. Should you have goals that are based on quality of life (Buntinx & Schalock, 2010) or goals that are about profiling (such as communication passports)?

This presentation will include suggested intervention for clients at a range of communication levels (including unintentional, intentional and symbolic communicators) and will address the need to consider both AAC and non AAC interventions to achieve a variety of functional goals.

The presentation will also include feedback from students who have been taught using this model to provide their perspectives about developing clinical reasoning within this framework.

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**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Research Methods and Theories

## **Classroom-based Communication Instruction: Project Core Year 3**

**Lori Geist | Penelope Hatch | Karen Erickson**

Many students with significant cognitive disabilities have restricted communication abilities and need additional access to professionals with the knowledge and skills to address areas of need (Erickson & Geist, 2016). Previous work suggests that teachers and teaching assistants can address this need (Kent-Wals, Murza, Malani, & Binger, 2015). The presentation will discuss the communication needs of students with significant cognitive disabilities and review evidence-based practices for addressing them, including: (1) use of augmentative and alternative communication (AAC) systems (see Ronski, Sevcik, Cheslock, & Barton, 2006) (2) core vocabulary (see Snodgrass, Stoner, & Angell, 2013) and (3) modeling (see Sennott, Light & McNaughton, 2016). Additionally, the presenters will discuss the importance of communication partner instruction (see Kent-Walsh et al., 2015) and approaches to providing professional development to educators. Finally, the presenters will describe the Project Core implementation program (including how to access all project-related resources at <http://project-core.com>) and share preliminary data regarding educator use of the evidence-based AAC practices and student access to aided AAC, as well as student level of symbolic communication.

An iterative development approach was applied to the design, testing and refinement of the Project Core implementation program. Input from teachers and structured observations across 17 classrooms informed the program components. Guided by the field of implementation science (see Fixsen, Blase, Metz & VanDyke, 2013), the development approach leveraged researcher and practitioner collaborations to understand the context, barriers, and necessary resources for effective delivery of the implementation program. During the 2017-2018 school year, four schools will implement Project Core. The impact of the program is being investigated through a combination of structured classroom observations, which measure educator and student access to and use of the Universal Core to model, initiate, and respond. The impact is also being measured by pre – and posttest administration of the Communication Matrix. The presenters will share preliminary results of the study.

The Project Core implementation program components are informed by Ronski and Sevcik's system for augmenting language (SAL), an approach developed for individuals with significant cognitive disabilities (see Ronski, Sevcik, Cheslock, & Barton, 2006). Specifically Project Core uses: (1) natural environments; (2) models of use by communication partners; and (3) ongoing feedback. Different from SAL, Project Core uses: (1) print-based AAC systems and 3D symbols when students do not have access to an AAC device with speech output; and (2) a prioritized set of 36 core words that is called the Universal Core vocabulary. In Project Core, educators integrate modeling and related teaching practices into daily activities (e.g., arrival and mealtime) and instructional routines (e.g., shared reading and predictable chart writing). The presenters will review how to access each of the available implementation program resources from the Project website at [project-core.com](http://project-core.com).

### **INTERACTIVE COMPONENTS:**

Case examples of students will be presented to the group. Early communication behaviors will be described and presented using photos. Participants will identify the likely communicative intent of the behavior and discuss how core vocabulary could be used to model more conventional forms of symbolic expression. Quick interactive polls will be presented on screen to invite participants to respond using mobile technology to questions related to their experiences with the strategies presented.

### **LEARNING OUTCOMES:**

1. Participants will define 3 evidence-based intervention practices for meeting the communication needs of students with significant cognitive disabilities.

2. Participants will identify at least 5 predictable events during a school day that provide opportunity to model core vocabulary.
3. Participants will define 5 components of the multi-tiered system for augmenting language (mSAL) with Universal Core vocabulary approach.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Research Evidence, Professional Practice Evidence

## **Clinical Experiences of high tech AAC service delivery through telehealth**

**Anna Bech | Johanna Korkalainen**

The aim of this presentation is to introduce real-life clinical experiences and learnings from providing high tech Augmentative and Alternative Communication (AAC) service delivery through telehealth to clients with complex communication needs.

Rural families have identified several barriers to accessing paediatric speech pathology services. These include limited choice of therapists, travelling long distances to access a suitable professional and the high cost of travel (Lim, McCabe, Purcell, 2017; Anderson, Balandin, Stancliffe, 2013; O'Callaghan, McAllister, Wilson, 2005). The National Disability Insurance Scheme (NDIS), has further impacted the provision of services to rural clients, due to limited funding for travel. Currently in NSW Far North Coast, clients are awarded up to \$1000 for travel annually. As a consequence, it is increasingly difficult for services to reach rural clients through traditional face to face intervention.

Telehealth potentially offers a viable and effective mode of service delivery to address these challenges (Cason, Cohn, 2014). It allows for a wider choice of service providers, reduces travel time and therefore reduces the cost of travel. In addition, exploratory studies have indicated that parents understand the practicality and effectiveness of telehealth, particularly in rural settings (Mashima, Doarm, 2008; Anderson, Balandin, Stancliffe, 2013). It also poses unique challenges that need to be addressed in order to achieve effective outcomes from the service.

Clinical experiences from a telehealth service that was delivered through a disability organisation based in NSW, which specialises in working with children and adults with a disability and has expertise in the delivery of services to meet goals relating to provision of high tech AAC, will be detailed. The service was provided via Skype by a highly experienced speech pathologist with expertise in AAC and included the assessment, trial and implementation support of an eye gaze device. It also incorporated training of the support team, including the family and local Occupational Therapist. The requirements to making telehealth mode a success, as well as the challenges to delivering this service will be discussed. From the clinical experiences, the success indicators included; gathering very detailed background information on the client to ensure technology set up adequately prior to the appointment; and the provision of a highly competent technology support person at ground level. Challenges that were experienced included issues with set up of the AAC system; limitations with the view that a camera can provide and the need to establish sufficient rapport over Skype to enable the therapist to deliver difficult messages around prognosis and future needs.

It was clear from these clinical experiences that telehealth has a place in the world of speech pathology intervention for AAC goals. The outcomes of the therapy services provided and potentials for future delivery of AAC support through telehealth will be discussed.

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**Evidence Area:** AACcess emerging technologies, AACcess the community

**Content Focus Area:** Professional Practice Evidence

## **Clinicians Knowledge and Use of Factors that Predict, Moderate, and Mediate AAC Communication Outcome**

**Stephanie Sievers | David Trembath | Marleen Westerveld**

### **AIMS:**

Individuals with autism spectrum disorder (ASD) may experience a wide range of communication difficulties. In the Australia context, it is estimated that 68% of individuals experience “severe to profound difficulties understanding or being understood by other” (Australian Bureau of Statistics, 2012). Augmentative and alternative communication (AAC) interventions offer the potential to compensate for these difficulties and have shown promise in enhancing communication skills. However, implementing AAC interventions can be challenging due to the heterogeneous population, and of research evidence regarding what works for whom and why (Lund, Quach, Weissling, McKelvey, & Dietz, 2017). There is emerging evidence for factors that predict, moderate, and mediate AAC communication outcomes for children with ASD (Ganz, Davis, Lund, Goodwyn, & Simpson, 2012; Flipin, Reszka, & Watson, 2010). However, it is not clear to what extent this evidence is informing clinical practice, nor what factors clinicians feel are most relevant to their decision making. Therefore, the aims of this study were to (a) investigate the extent to which SLPs know and apply research regarding predictors, moderators and mediators in their AAC decision-making for children with ASD and (b) identify any additional factors SLPs view as important to their decision-making.

### **METHOD:**

We used a mixed methods survey distributed internationally to certified special language therapists (SLP) who have experience working with children with ASD and AAC interventions. Participants were recruited through professional organizations under the Mutual Recognition Agreement (e.g., Speech Pathology Australia, American Speech-Language-Hearing Association), online communities (e.g., AAC for SLPs), and through the research team’s professional networks. The survey comprised (a) Likert scale items for knowledge and use of potential predictors, moderators, and mediators of AAC intervention outcomes, and (b) open ended items examining SLPs’ views on additional factors that they feel influence intervention outcomes and should be the subject of further research. Survey questions were informed by a systematic review of published studies examining factors that predict, moderate, and mediate outcomes to AAC for ASD.

### **RESULTS:**

The survey was opened in 30 September 2017 yielding 176 responses within the first two weeks, and will close in November 2017. To date, the majority of participants were affiliated with ASHA due to order of advertising for participants with years of experience ranging from less than a year to over 40 years and over 50% having post-graduate qualifications (e.g., Masters, Ph.D.). Common, additional professions in addition to SLPs were applied behavioral analysis (ABA), assistive technology specialists (AT), and teachers.

The factors with the highest average rating scores were communication competence, age of therapy onset, duration of therapy sessions, general cognitive ability, and joint attention. Factors that lower average knowledge rating were play skills, communication partner knowledge, chronological age, and motor skills. The predictors, moderators, and mediators found in research that were considered the most in clinical practice, on average, were language use, AAC input at home, motor skills, frequency of AAC exposure, and communication competence. Factors receiving ratings, on average, no or little consideration were chronological age, hours of parent training, play skills, and ASD severity. Other factors clinicians mentioned in open-end response that were important to their decision making were the child’s motivation and parental buy-in.

**CONCLUSION:**

Overall, clinicians had some knowledge, and indicated some use, of factors that have been found to predict, moderate, and mediate communication outcomes in AAC research. Clinicians also identified the need for further research examining the possible impact of the child's and her or his communication partner's motivation, as well as other environmental factors, on AAC outcomes.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Professional Practice Evidence



# Co-Construction between children with physical disabilities who use aided communication and their familiar communication partners

**Gregor Renner | Beata Batorowicz | Stephen von Tetzchner**

## **BACKGROUND**

Negotiation of meaning is an inherent element of conversations (Nelson, 2007). For many children who use augmentative and alternative communication (AAC), conversational interactions include co-construction of the meanings of the aided utterances (Brekke & von Tetzchner, 2003). Children using aided communication and their communication partners develop various strategies to establish agreement about the meaning intended by the children. Such strategies however are rarely described and little is known about the different co-construction strategies used in real life interactions of children and their familiar communication partners (Hörmeyer & Renner, 2013; Solomon-Rice & Soto, 2011).

## **AIM**

The aim of this study is to describe co-construction patterns in interactions involving school-aged children and adolescents with speech and motor impairments who use aided communication and their familiar communication partners, as well as similar interactions of children without disabilities.

## **METHOD**

This study is based on data of an international project based on collaboration of 16 countries: “Becoming an aided communicator (BAC): A multi-site and cross-cultural investigation.” Participants were 96 children and adolescents aged 5 to 15 years who had no intelligible speech production and used aided communication, and 73 children without disabilities (a reference group). Each child was asked to describe without naming ten drawings of common objects (book, boat, bread, apple, chair, balloon, ladder, bicycle, mirror, and ear) to a communication partner. Only the child could see the drawings and they were unknown to the communication partner. The partner’s role was to infer the object name from the child’s description. The child could not name the object rather give sufficient clues for the partner’s inference. For example, if the object was a horse, the child who used aided communication might construct the sentence ANIMAL RIDE, and if the object was an apple a child might indicate FRUIT RED FALL. The children were asked to give as much information they thought the partner needed. The communication partners (parents, teachers, or peers) were asked to wait for the children to provide their hints, before guessing the object or asking more questions. The interactions of twelve children who use AAC from Canada and Germany with three partners each (peer, parent, teacher) in this phase of inference or guessing and co-construction are investigated using conversation analysis, seeking for patterns of co-construction. The hints provided and the co-construction strategies of the dyads with aided communicators and with children using natural speech are compared.

## **RESULTS**

The hints and co-constructive patterns in the interactions of 36 dyads of children who use aided communication and children who use natural speech show both similarities and differences. These will be presented and their implications for aided language interventions, as well as partner training, will be discussed.

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**Evidence Area:** AACcess education

**Content Focus Area:** Research Evidence

## **COCP in the classroom: training and coaching teachers on equal participation in groups**

**Margriet J.M. Heim | Elise Brinkman | Annemiek Veen | Vera Jonker**

In the programme Communicative Development for non-speaking children and their communication partners (COCP; Heim, Veen, & Velthausz, 2010) ten strategies were described that adults can use in order to stimulate communication in children who have Complex Communication Needs (CCN). In COCP in the classroom these ten strategies are used specifically in classroom situations. The goal is to make it possible for students with CCN to take part in group lessons and discussions as far as possible on an equal footing. We developed a DVD with 31 short clips illustrating successful use of the ten strategies by teachers / group leaders and class assistants in small groups (Heim, Veen, Brinkman, & Jonker, 2013). The DVD is accompanied by a booklet with further explanations of the teacher strategies. By using these strategies the teacher/ group leader and class assistants can adapt their style of interaction and language input to the communicative possibilities of the students and give them as much room as possible to take part in the group activities. In addition a half-day instruction workshop was developed followed by two coaching sessions for teachers and class assistants in order to learn to use the teacher strategies. The coaching sessions are based on videos of each teacher/class assistant in interaction with her class.

In order to investigate the effectiveness of the training programme COCP in the classroom we conducted a longitudinal study in seven groups of 6 to 12 pre-schoolers aged 3 to 7. This study was aimed at (1) the application of the strategies by the teachers, (2) the quality of the group interactions, and (3) the level of participation of both the speaking children and the children with CCN. Video observations (8 in each group before, during and after intervention) involved 20 minute sessions of interactive book reading.

In this workshop we will introduce the DVD COCP in the classroom within the framework of COCP, show a few clips and discuss interactively in what ways the teacher manages to reach balanced interactions within the group. Further, we will present and discuss some results and conclusions of the research.

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- Heim, M., M. Veen, E. Brinkman, V. Jonker (2013). COCP in de klas. Goede voorbeelden van partnerstrategieën en gelijkwaardige groepscommunicatie. Amsterdam: COCP-publicaties (to be published in English in 2018 as COCP in the classroom. Good examples of teacher strategies and balanced communication).

**Evidence Area:** AACcess education

**Content Focus Area:** Research Evidence, Professional Practice Evidence

# Collectivism and Individualism: Implications of Cultural Underpinnings for Service Delivery

Stephen Lum | Kathryn Drager

According to Kluckhohn, “culture is to society what memory is to individuals” (as cited in Triandis, 2001, p. 908). Culture, then, is that which has allowed a society to function and survive over a sustained period of time. While individuals are unique and can have their own understanding of the world, they are also tied to a greater cultural framework that provides them with a shared set of values. Not only is it important that clinicians have a solid understanding of their own cultural context, but they also need to appropriately serve those who may come from a different context. One promising first step to understanding cultural variation is to have a fundamental understanding of the dichotomy of collectivism and individualism and how it can influence all aspects of interaction (Triandis, 1990).

## COLLECTIVISM-INDIVIDUALISM DICHOTOMY

Green, Deschamps, and Páez (2005) state that the collectivism-individualism (COL-IND) dichotomy is one of the most popular concepts within cross-cultural psychology. Triandis asserts that it is “the most significant cultural difference among cultures” (1995, p. 907). Although COL-IND represents different views on culture and community, they are held within the same continuum. Every culture contains elements of both collectivism and individualism, but the focus of each culture is where the difference lies. For instance, Western societies are typically identified as being predominantly individualistic, while non-Western societies are often considered to be collectivistic (Green, Deschamps, & Páez, 2005; Triandis, 1990).

## COLLECTIVISM.

There are numerous attempts to define and explain collectivism. Hofstede (1984) provides a clear example by comparing collectivism to wolves and their tendency to remain in packs. Collectivism can be best understood by acknowledging that individuals are “interconnected and embedded in interdependent social relationships,” and this awareness includes the “normative prescriptions and values about the priority to be given to individual and group interests” (Brewer & Chen, 2007, p. 133). Oyserman, Coon, and Kimmelmeier add to this definition by stating that the core element of collectivism is “the assumption that groups bind and mutually obligate individuals” (2002, p. 5). This collection of individuals within a society is the hallmark feature. According to Hofstede, collectivism stresses: a) ‘we’ consciousness; b) collective identity; c) emotional dependence; d) group solidarity; e) sharing; f) duties and obligations; g) need for stable and predetermined friendship; h) group decision; and i) particularism (as cited in Kim & Choi, 1994).

## INDIVIDUALISM.

Individualism refers to how an individual relates to him – or herself as well as the society. Hofstede (1984) compares individualisms to the tiger, due to how it spends most of its life in a solitary existence. Individualism can be understood as a view that people are “separate or autonomous entities” (Brewer & Chen, 2007, p. 133). Within this end of the dichotomy, the focus is on the individual and how he or she views the world, which is ultimately based upon his or her emotions and experiences (Markus & Kitayama, 1991). To add to this understanding are the stressors, as mentioned by Hofstede, which are: a) ‘I’ consciousness; b) autonomy; c) emotional independence; d) individual initiative; e) right to privacy; f) pleasure seeking; g) financial security; h) need for specific friendship; and i) universalism (as cited in Kim & Choi, 1994).

This poster will present information on Collectivism and Individualism, and the differences between the cultural viewpoints of these two ends of the continuum. The implications of this dichotomy on service delivery for individuals who require augmentative and alternative communication will be discussed, as well as implications for

the individual and the larger society. As the global community moves toward increasing blending of cultures, the considerations of these shifts and their impact on service delivery is increasingly important.

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**Evidence Area:** AACcess diversity

**Content Focus Area:** Professional Practice Evidence

## **Communication AACcess across the divide of international adoption and disability; a mother and daughter's reflection**

**Batin Carpenter | Sonja Carpenter**

Together, Sonja and Batin reflect on and present something of their journey of meeting each other from different parts of the world; New Zealand in the Pacific and Thailand in Asia. Sonja worked as a volunteer in the Government Children's Home where Batin grew up. Sonja met her husband Andy (a British OT), also volunteering in Thailand and together they adopted Batin.

The journey of becoming a family in the face of cultural differences, communication challenges and the emotional baggage that comes from living in an Institution has not been easy. Together, Batin and Sonja, reflect on how the use of AAC has helped them overcome those challenges.

Batin was born in Thailand, and after being abandoned at 18 months old, she spent most of her life in a Government children's home, before being adopted at nearly 11 years old by a British/New Zealand couple. Batin is now 31 years old and wants to tell her story about moving from Thailand to Wales and then to New Zealand. Woven into her story is how she is learning to find her voice with Alternative Augmentative Communication (AAC).

Batin has cerebral palsy, is a wheelchair user and has faced not only the challenges of living with a disability, but doing so in a new culture and learning multiple new languages (English – written and spoken, Sign Language and AAC/Minspeak). Batin has co-presented on a variety of topics ('The effects of a weekly voluntary work placement, of a young adult AAC user, on social networks, community participation and public awareness'; 'Connecting in the community through the development of an I-device Club', and 'The Impact of micro-enterprise on communication and social networks of a young adult AAC-user').

Sonja, Batin's mother (and a Speech Pathologist), will also reflect on the highs, lows and ongoing challenges of finding ways to encourage communicative competency across settings (home, community, recreation, voluntary work and with support workers) with an adult AAC user. Together they will look at what helped give them AACcess across the cultural and communication divide.

**Evidence Area:** AACcess the community, AACcess relationships

**Content Focus Area:** Personal Experiences and Preferences

## **Communication Accessible Schools: A Pipe Dream or a Reality?**

**Haylee Parfett**

Australian schools are mandated by law to provide education for all students. “Australian schools do more than just educate students. They prepare them for life – developing communication skills, self-discipline and respect for themselves, their peers and their world” (<https://www.studyinaustralia.gov.au/global/australian-education/schools>). Despite the recognition of the importance of developing communication skills, there is a distinct lack of policy on what this should look like in an Australian perspective, particularly for the Special School sector.

Schools have a responsibility to teach, and as such, their obligation to meet the communication needs of their students goes well beyond basic communication access. It is much more than just “having the means, supports, and opportunities to communicate effectively, meaningfully, accurately, and authentically in order to get equal uncompromised access to goods and services,” as defined by Collier et al. (2012). Communication accessibility in schools extends to teaching all students to learn to communicate more effectively.

“Communication accessibility means that there are people who understand the alternative form, who can scaffold it in the acquisition period, and who are able and willing to communicate in a manner that gives the individual maximal communicative autonomy.” (von Tetzchner & Grove, 2003, p. 27)

There is wide recognition that individuals who use AAC need more than just systems and devices, they need school communities that are accessible to their use of AAC and who will value and prioritise communication autonomy.

There are a number of special school communities in Australia which have embraced AAC and are committed to supporting the learning and communication needs of their students with Complex Communication Needs. In collaboration with internal therapists and external consultants they are attempting to educate their staff and shift attitudes and practices to enable the creation of sustainable communication accessible school environments. For most schools it represents a paradigm shift in thinking, and is dependent on adult behavioural change at a systemic level. For these schools it is uncharted territory. The processes required for creating this change are still mostly unknown, with little guidance or policy in place to support it.

Assessing where these communities are in relation to their knowledge, skills, attitudes and practices is the first part of the challenge. Currently there are no tools designed to specifically evaluate the communication accessibility of a special school or to identify the factors a school must address in order to build a communication accessible environment. Attempts are currently being made to develop resources which help create a shared understanding of the features of communication accessible schools. These are needed to guide both the interventions of therapists and to also support schools to self-evaluate their communication accessibility. Sampson and colleagues in Adelaide is devising a tool to determine the individual skills needed by students within a supportive environment, whilst Porter and Parfett are looking to create a tool to evaluate the entire school system based on the outcomes of focus group discussions at the AGOSCI 2015 National Conference. Draft documents will be presented as one way of diagnosing and evaluating systemic change towards communication access in schools.

This presentation will share experiences and reflections from the perspective of a communication consultant working with eight special schools around Australia in their efforts to create a communication accessible school environment. It will include:

- the importance of creating a shared understanding within special school settings around communication autonomy

- . ideas on how to collect baseline data and track progress on the individual student and school environment
- . observable behaviours seen in communication accessible schools
- . general processes which appear to be leading to systemic change
- . examples of student and community outcomes in key schools across Australia
- . challenges faced by schools wishing to build communication accessible environments

Significant work is needed in this area to determine how to best support schools who are willing to engage in this change process. It has been suggested by AGOSCI (2017) that a national Communication Accessible Schools policy be developed to provide schools with guidelines to ensure that all learners have equal access to effective and authentic communication. It is critical that we continue to campaign and work towards this elusive goal – is it a pipe dream or a reality?

**Evidence Area:** AACcess education

**Content Focus Area:** Professional Practice Evidence



# Communication and Learning Strategies for Individuals with Angelman Syndrome

Linda Burkhart | Mary-Louise Bertram

## **ABSTRACT:**

Individuals with Angelman syndrome (AS) have long been underestimated with regard to their capacity for learning and communication. While many experience severe and complex sensory motor, attention and learning challenges, experience over the past decade has demonstrated that these individuals are much more capable than was believed in the past. Individuals with AS are communicating with a full range of communicative functions using robust augmentative communication systems, participating in curricular activities, learning literacy skills, and contributing to their schools and communities.

This presentation will share a range of strategies that address key challenges, such as; attention issues, sensory processing differences, the need for specific types of repetition for memory and retrieval, issues with anxiety, vision, self-regulation of impulse control, and difficulty getting their body to move as intended (dyspraxia).

Tools and strategies to address each of these key challenges will be explained and demonstrated. What strategies help an individual with AS benefit from an aided-language learning environment using a robust augmentative communication system? How can technology be used to provide child-directed repetition, memory consolidation and learning? How do you help individuals develop self-talk and impulse control and take advantage of a strong social drive? What strategies are successfully supporting students with AS to access the mainstream curriculum and become valued members of the general education classroom and community.

## **LEARNING OUTCOMES:**

Participants will be able to:

Explain characteristic strengths and challenges of individuals with Angelman syndrome and describe how this impacts their abilities to learn and communicate

Discuss appropriate strategies to address communication, attention differences, sensory processing differences and motor challenges in the classroom and the community

Discuss practical strategies for selecting an AAC system, learning what, where and how to model language in an aided form, following the child's lead and training other team members to implement

Discuss practical strategies and tools for supporting a balanced literacy education for individuals with AS of all ages

## **INTERACTIVE COMPONENTS:**

Participants will have the opportunity to view videos and evaluate strategies that are effective in dealing with each of the key learning issues demonstrated in this workshop.

## **REFERENCES:**

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**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community

**Content Focus Area:** Personal Experiences and Preferences

## **Communication at a music festival**

**Hanne Juul Jensen | Emmy Kjellmann**

### **BACKGROUND**

In Denmark, there is a tradition for having an annual music festival for 3 days – arranged especially for people with special needs – called Sølund Festival. As employees at Neurocenter Østerskoven (a training centre for young people with brain injuries) we have attended the festival with a group of our residents. Here we meet a lot of other young people, and many of them has complex communication needs.

We have noticed, that many of them had no way of communicating during the arrangement, and the idea occurred, that maybe it was a good opportunity to introduce AAC in a meaningful way.

### **PREPARING FOR THE FESTIVAL**

Attending the Sølund Festival is an annual climax, which our residents are looking forward to, and wants to talk about, for a long time after.

We always make communication boards especially for the festival, to talk about the artists who are going to play, what we think about them etc. and to plan our program.

Once we are at the festival, it can be very chaotic and difficult to get an overview – and to communicate about what the residents prefer to do. It is our experience, that the communication board increases the participation for our residents – they get more influence on which artists they want to hear, what they want to eat and drink etc.

### **COOPERATION BETWEEN THE SØLUND FESTIVAL AND NEUROCENTER ØSTERSKOVEN.**

We presented the idea of delivering communication boards for the festival committee, and they liked the idea, and supported it financially. 500 communication books with 6 pages in two different sizes where designed at Neurocenter Østerskoven, and printed by the Sølund Festival.

The 6 pages, was a board for each of the 3 days – containing pictures and names of the different artists

Boards for food and drinks, and boards about opinions. On the front page was vocabulary to get in contact with others. For instance, telling your name and ask for others, asking what the other person wanted to hear, asking for a dance and a possibility to tell if you liked the other person.

Special boards for each food – and drink-place, where made, so that the attendees, who were not able to read the labels of choice – could choose from pictures or symbols.

### **DELIVERING COMMUNICATION BOOKS AT THE FESTIVAL**

Once the festival started, we went up to people, and started to talk to them, using the boards – for instance saying “Hello – my name is xxxx”, (pointing at the board) “What is your name” (pointing again) – and continuing the conversation in normal speech, but supported by pointing at the symbols on the board. We mostly took contact to care talkers, and after a while, we told them, that they could get the books for free, if they wanted them.

### **OUTCOME**

When delivering the books, we contacted a lot of people with complex communication needs, who obviously had very limited ways to communicate, and their care-talkers. We had the chance to talk about AAC, and to show which difference it could make in this actual situation.

We experienced very different reactions. Some were very enthusiastic and asked for more boards – and were interested in knowing more about AAC – others were not interested – at least in the beginning – but saw what it could do – after they saw others using the boards.

After a few days, the communication boards were often seen among the audience, and in this way a lot of people saw what AAC can do.

**EVALUATION:**

The idea should be spread to more arrangements and there should be an opportunity to download the communication boards from a web-site before the festival. There could be more subjects to communicate about at a festival – for instance love and sex.

**REFERENCES**

Neurocenter Østerskoven website: [www.oesterskoven.dk](http://www.oesterskoven.dk) (Danish only)

The Sølund Festival website: [www.solundfestivalen.dk](http://www.solundfestivalen.dk)

The TAVS-group website: [www.tavsgruppen.dk](http://www.tavsgruppen.dk) (danish only)

“From experience to communication” – the TAVS-group 2016

Hanne Juul Jensen and Emmy Kjellmann: Presentation at ISAAC Denmark in 2016 and 2017 – “How do we get time for AAC”

Emmy Kjellmann: Previous papers given on international ISAAC conferences

**Evidence Area:** AACcess the community, AACcess culture, AACcess relationships

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

# Communication breakdowns and repair strategies among adolescents who use AAC: Environmental and personal considerations

Orit Hetzroni | Sigal Blum

Communication abilities that adolescents who use augmentative and alternative communication (AAC) develop during teenage years serve them as they grow up. The need to interact with communication partners who have varying understanding of their needs increase over the years, resulting in continuous possibilities for communication breakdowns. From the point of view of the person using AAC, successful interactions are ones in which messages are responded and understood by the communication partner. When the message was not responded nor understood, the interaction is unsuccessful, and considered a communication breakdown.

Communication breakdowns can be manifested by open or closed requests for clarification, wrong responses, or ignore. Clarifications made by the sender are considered repair strategies. These strategies include repetition or various types of modifications of the original message such as addition, reduction, or substitution. The ability to repair communication breakdowns, connected to the communication repertoire of the sender, is based on previous experiences with others, and often limited among individuals who use AAC.

## AIM

The purpose of this study was to comprehend the use of communication repair strategies among adolescents who use AAC. To understand considerations for using repair strategies under different conditions, environmental factors and intrinsic motivation for participation in relation to communication repair strategies, and termination of the interaction were examined. Environmental factors included type of communication breakdown, communication skills and attention of the partner, and user accessibility to the AAC system. The relation between intrinsic motivation for participation in an activity and the use of communication repair strategies and communication terminations were also tested.

## METHOD

Twelve students (15y-21y), who have been using AAC systems for at least 2 years, participated in this study. Participants incorporated graphic and orthographic symbols, using communication books, communication computers, and/or iPads. Participants and their communication partners were videotaped in natural situations in different school activities. Each participant was videotaped in eight situations, of which some were highly motivating, and others were routine activities, throughout the school day. Each situation was videotaped for 15 minutes. All video sessions were transcribed and coded to identify communication breakdowns and repairs.

## RESULTS

Results show that ignore was the most frequently used type communication breakdown. The frequency of modifications as a repair strategy was higher than repetitions. The frequency of non-verbal messages was higher than verbal messages among individuals who use AAC. A relation was found between the type of communication breakdown and the frequency of using modification as a communication repair strategy and of terminating the interaction. Modifications were used more frequently after open and closed requests for clarification. Communication termination occurred more often after communication breakdown of the ignore type.

There was a relation between some of the communication partners' skills and the communication repair strategies and termination. More modifications were used when the communication partner asked for message confirmation, waited for the message to end, and when attending to verbal and nonverbal behaviors of the sender, leading to less communication terminations, excluding use of attending to verbal behaviors. More modifications

were found when the communication partner was fully attentive for participating in the communication interaction, but when the communication partner was not fully attentive, more communication terminations were found. Communication attention and the type of communication breakdown were related, with more ignoring and wrong responses found when the communication partner was not fully attentive, and more open/close requests for clarification when the communication partner was fully available.

Accessibility to the AAC systems and the use of communication repair strategies were related with more modifications found when the AAC system was accessible to AAC user.

#### **CONCLUSIONS**

Results show that type of communication breakdown, communication partner skills and attention, and the type of the original message of the AAC user, are significantly related to the decision whether to repair communication breakdown or terminate interaction. When the communication partner is fully attentive, asking for clarification, and using communication skills, the sender tends to use modifications in order to repair communication breakdowns. These results may be explained by cost and benefit considerations by the AAC user, who analyzes the environment, to determine whether to repair communication breakdown using communication repair strategies. However, when the communication partner is partly available, or ignores the message, the AAC user tends to abandon the interaction, probably because the environment suggests less opportunities to be understood. When the AAC user chooses to send a verbal message, there is no relation between the communication partner behavior and the decision to abandon interaction, maybe because this behavior is usually acceded by the communication partner.

**Evidence Area:** AACcess education

**Content Focus Area:** Research Evidence

## **Communication Is Always An Issue Of Access**

**Georgia Cranko | Andy Smidt**

In this presentation, we explore how communication has a fundamental role in creating any meaningful social change towards accessibility. By looking at the Social Ecological Model, we will explain why communication access is crucial and necessitates a reframing of what true access looks like. From the perspectives of an AAC user and an academic, we will offer our viewpoints and our shared analysis of these issues as they relate to wider literature about societal change.

Although there is currently substantial awareness of communication access (SPA week 2017, Canadian symbol, SCOPE's training and business accreditation process) in this specific sector, by placing it in a broader context, it solidifies why this societal adjustment is so vital. In discussing how to generate communication access at a range of personal and societal levels, we draw upon empirical research, as well as our personal experiences and knowledge. We will link these issues to attitude change theory (Ajzen 1988 and others) and altering health behaviours (Sallis, Owen & Fisher; 2008), and offer a potential scaffold to integrate communication into a more holistic understanding of accessibility. Societal change, however, does not happen overnight and involves a shift at multiple levels to achieve significant and lasting change.

Sallis, J. F., Owen, N., & Fisher, E. B. (2008). *Health Behavior and Health Education: Theory, Research, and Practice*.

Ajzen, I. (1988). *Attitudes, personality, and behavior*. 1988. Milton Keynes: Open University Press Google Scholar.

**Evidence Area:** AACcess the community, AACcess diversity, AACcess relationships

**Content Focus Area:** Personal Experiences and Preferences, Research Methods and Theories

## **Community and Employment Links: A great Future for AAC and Professional Partners.**

**Robert Oakman | Sarah Fleming**

The presentation will explore the challenges that individuals who use AAC devices experience when seeking employment opportunities and accessing the community. From a personal perspective, Robert has experienced these challenges first hand as he uses a Tobii Eye Gaze device to communicate his every day needs. Robert uses this device to explore his passion for presenting by educating people, particularly clinicians, students and support staff about diversity of people's communication needs and ways to communicate effectively with people who communicate differently.

Technological advances have provided individuals who use AAC with more employment and community involvement opportunities. This includes post-secondary educational options, employment, community living, freedom and social independence (Davis, 2005). Although, as these opportunities arise, there are some societal difficulties that impact upon these choices. The lack of knowledge by support personnel and individuals within the local community make it difficult for those people who use AAC to be a part of the community thus the reason to educate (Feinstein, Levine & Lemanowicz, 2003). Our presentation will explore the importance to educate the wider community to increase social acceptance and inclusion for people who use AAC. AAC tools are known to enhance a person's decision making skills, increase quality of life, increase social inclusion and increase independence (Kruger & Berberian, 2015).

People who rely on AAC report that employment provides both the income to act on important personal decisions as well as strong feelings of self-worth from contributing to society (McNaughton & Bryen, 2007). However, individuals with multiple disabilities who rely on AAC devices to communicate experience the lowest level of employment of any other major disability group (Wagner, Newman, Cameto, Garza & Levine, 2005). Rob and I focus on the barriers that exist for people with impairments or disabilities that stop or make it difficult to have full inclusion in society. Throughout the presentation, Robert reflects on the benefits and challenges experienced during his times of employment. This includes not being able to gain his ABN and tax file number, building positive life-long relationships, educating thousands of people and increasing his sense of belonging. Sarah continues to discuss how her own employment as a personal care and support worker has changed her life and has helped shape her future.

Community participation and inclusion are fundamental rights that every citizen is entitled to. "Citizenship means having right, but it also meaning belonging; Belonging in schools and universities, in places of work and places of worship, in politics, art and commerce, belonging in family, community, in a nation in in self" Catherine Frazee, Ontario Chief Human Rights Commissioner. However, many studies reflect the barriers that impede successful communication exchange and interactions for people who aren't aware of AAC within the community (Blackstone & Collier, 2008). People who use AAC report that unfamiliar people in the community do not know how to communicate effectively with them, do not provide sufficient time for them to construct messages (Muller & Soto, 2002), ignore them and talks to the person who is accompanying them and typically underrates the individuals ability (Blackstone, 1999). This is why the core focus of our presentation is to help in the continuity of education for the future generations to come. Robert focuses on simple tips on how to communicate effectively with some who uses AAC and how the use of his AAC device has impacted his community involvement. Sarah will provide an insight in to her professional experiences when assisting Robert within the community and emphasise on the need to education people within the local community.

**Evidence Area:** AACcess the community, AACcess employment

**Content Focus Area:** Personal Experiences and Preferences

## Community-based speech therapy in Early Childhood Education and Care

Taina Olkinuora | Virpi Hämäläinen

Hyvinkää is a small town (~47 000 people) close to Helsinki, Finland. It is the only town in the country to employ a specialised speech therapist solely for community-based intervention. In Hyvinkää, new working methods have been developed in this field over the past ten years. The speech therapist works for the Early Childhood Education and Care (ECEC) organization and is part of the Child developmental and learning support team. The working field includes all of the daycare centers in Hyvinkää, which are nearly thirty in number.

The Finnish National Agency for Education is responsible for the overall planning, guidance and supervision for ECEC in Finland. The most recent National core curriculum for ECEC became a national regulation in October 2016. Municipalities were to design local ECEC curriculums based on the national version by August 1st, 2017. These regulations are strongly based on evidence-based research and their aim is to move towards the goal of life-long learning. Each child has his own individual ECEC plan that takes into account the child's interests, strengths and needs.

Hyvinkää introduced the local ECEC curriculum with an emphasis on equality in the interaction. In this curriculum the child's strengths play a very important role. The main principle is that every child is able to participate and have an active role among their peers. This principle of inclusion guides educators and caregivers in planning and carrying out the daycare activities. The focal concept is that each child is growing, developing and learning in interaction with others and the environment.

The role of the community-based speech therapist is to enable accessible communication for all children. Children with very various needs are included in daycare groups throughout the town, and the community-based speech therapist regularly visits each site as needed. The therapist consults and offers training to the personnel so the Hyvinkää goal of real interaction and communication equality in the child's early years is achieved. Multiprofessional teamwork is essential to succeed in community-based speech therapy. Co-work within the Child's developmental and learning support team ensures that every child's needs are identified.

The amount of children with various needs, including children who use AAC and children learning Finnish as a second language, has increased in recent years. The entire Finnish social welfare and health care system is undergoing a change, while immigration is constantly increasing. This situation is forcing the development of new working methods to address the changing needs in both rehabilitation as well as prevention methods. Community-based speech therapy is an effective way to offer support in everyday life (Merikoski H. 2016).

In Hyvinkää, the community-based speech therapist works closely together with Finnish as a Second Language (FSL) kindergarten teacher. The means used to support second language learning are largely the same as those used to support developing the first language. Equal interaction is enabled for every child by using different AAC devices actively in daycare. The community-based speech therapist trains the daycare personnel by modeling the use of different AAC devices. The needs of the individual and group define the device selected. The most common devices are pictures, communication boards, drawing in the rhythm of speech and key word signing. We have found that especially drawing in the rhythm of speech is a particularly effective way to support second language learners. Moreover, iPads and communication apps such as ChatAble, are used to promote equal participation, learning and interaction. We often recommend the use of multimodal communication.

One of our main concerns is how to ensure that children with challenges in interaction are able to participate in play and have an active role in their groups. The community-based speech therapist and FSL kindergarten teacher



collaborate in guiding small groups that aim to practice AAC skills during play. Furthermore, experiences in working with children-parent groups have also been positive.

In the future, there will be need to develop our services further. We strongly believe in the community-based model and in multimodal interaction in supporting participation, communication and language development. The Hyvinkää model is a unique one but it has certainly proven to be effective in providing positive results in supporting the community.

#### **REFERENCES**

Finnish National Agency for Education (2016); National Core Curriculum for Early Childhood Education and Care Hyvinkää Curriculum for Early Childhood Education and Care. (Accessed 30.9.2017) <http://www.hyvinkaa.fi/global-assets/kasvatus-ja-koulutus/varhaiskasvatus/liitteet/hyvinkaan-vasu.pdf>

Merikoski Hannele 2016: Yhteisöllinen toiminta puheterapiassa. In Kuntoutuminen, Autti-Rämö, I., Salminen, A-L., Rajavaara, M. & Ylinen, A. (Ed.)

**Evidence Area:** AACcess the community

**Content Focus Area:** Personal Experiences and Preferences

# **Compensatory strategies for AAC use from a non-speaker person with autism**

**Timothy Chan**

## **BACKGROUND**

I am on the severe end of the autistic spectrum. Diagnosed at 3 years old, I was very delayed in all aspects, no speech and with few of the skills of that age level. I have lots of movement difficulties, hypersensitivity issues and proneness to overload. I also suffer from high levels of anxiety.

Looking back, I now realize my mind and body work differently. There are two main types of thinking, thinking in language and thinking in pictures. Most people with severe autism have a hard time with language because we are visual thinkers.

## **THINKING IN PICTURES**

I think in pictures. It means that I see the world as motion pictures, complete with sound, smell, taste and touch input. All my experiences are stored in the video library of my memory, which can be replayed with all the attached sensations. However the filing system works on a different basis. The movies in my memory bank are not cataloged according to genre, but by sensations or patterns.

## **LEARNING ABOUT LANGUAGE AND PEOPLE**

Because I had trouble understanding language, people's speech came across noise without meaning. The method I used to figure out the meaning of speech came in 2 stages. First, I was 5 years old when I finally got the notion that the sounds people made stood for things. One day, I suddenly realised that the words of the receptive language drills had to mean the things held out, and also that the same label is the name attached to the object, which would always stay the same. This insight took three months, but helped me see the world in a new way.

The second stage came when I was able to translate language into pictures for meaning. When I was six, Mum started to make books about our activities. She took photos of our daily routines, and wrote up what we did. With these books were word games. The key words, like train, swimming pool, were written on cards which I got to place against the photos. Around seven, I finally started to see the scenes the words represented. With this method of translating language into picture, I began to understand what people were saying, and was able to get meaning out of language.

After this breakthrough, I became more determined to learn how to communicate. I became better able to make sense of people from my understanding of the stories we read. From these stories I was able to see the world from the standpoint of the main characters. These perspectives enabled me to make sense of people's emotions and what they would do to achieve their goals. I started to make up my own stories, with settings, plots and characters. These stories provided a commentary with which to compare what was happening in real life.

## **LEARNING HOW TO COMMUNICATE**

I learned PECS and other methods of AAC during my early years at home and at school. I was taught Partner Assisted Typing (PAT) when I was 9. I have found that PAT suits me best and have adopted this as my main mode of communication. But I still have many challenges. High anxiety level, hypersensitivity and overloading mean I have trouble with typing. My difficulties include initiating movement, hitting adjacent keys and problems with focusing on what to say. These challenges multiply when typing with unfamiliar communication partners.

## **LEARNING TO OVERCOME MY CHALLENGES IN COMMUNICATION**

I have devised some compensatory strategies based on visual thinking to help overcome my challenges.

To achieve better control over my body when I type, I imagine myself at the control panel of a spaceship and visualize the keys to press to run the ship.

I visualize my goals.

I run through what I have to do or say, and do lots of practice.

I use word games for fun.

I make use of inspiring examples of people who have succeeded in achieving their goals despite enormous challenges, for instance, Stephen Hawking.

#### **CONCLUSION**

After years of practice, I am typing with shoulder and back support and working on becoming independent. PAT has enabled me to express myself, to be part of the social conversation and to relate to all kinds of people. I have been able to complete mainstream high school and study at University. I am also able to mentor and advocate for other students who use AAC. I gave the first TED Talk by a non-speaking person with autism in December 2013.

I would like to share my experiences and help other people without speech to find their voice.

**Evidence Area:** AACcess language and literacy, AACcess the community, AACcess diversity

**Content Focus Area:** Personal Experiences and Preferences

## **Complex Communication Needs, Switch Access, Vision Challenges, and Literacy Learning**

**Linda Burkhart**

### **ABSTRACT**

Individuals who face severe physical challenges, complex communication needs and vision impairment, present extreme challenges for teachers and therapists when it comes to teaching literacy skills.

Many of these individuals do not have enough visual abilities to discriminate letters, or the motor and tactile skills to use braille. Their ability to develop literacy skills will depend a great deal on the ability to communicate the thoughts and ideas in their minds, hone listening comprehension skills and learn to write. Their path to accessing the world is mainly auditory. They will need to use their auditory channel to monitor their environment, take in information, process, and think as well as access language, social interaction, literacy and writing. All of these tasks compete for space in the individual's working memory.

What do teachers and therapist need to consider, when most of the individual's literacy skills will have to be taught through auditory channels and accessed mainly through auditory or auditory-plus-visual scanning? What helps these individuals sort out what they need to focus on and listen to? How will they be able to have control to go back over what they may have missed, when their auditory channel may need to shift to other tasks during a literacy activity? How do these children develop anchors in their minds for letter names and sounds? When individuals have some vision, how do you continue to work on visual reading at an earlier level, while addressing listening comprehension at a more sophisticated level? What are the best ways to model writing and scribe for these individuals to assist with auditory processing, associating key words, letter names, letter sounds, word attack skills and comprehension? How can the individual have quick access phrases and words that she can be use to take responsibility for directing reading assistants, requesting re-reading, explanation, thinking time, and other forms of assistance.

This presentation will attempt to answer these questions with a smorgasbord of teaching ideas and strategies. The Four Block Method, developed by Patricia Cunningham (1996), will be used as a framework for describing adaptations and enhancements that are tailored to the unique needs of these individuals.

### **OUTCOMES**

Participants will be able to:

Explain the challenges with teaching literacy skills to individuals who have complex communication needs, vision challenges and severe physical disabilities.

List examples of adaptations for each of the Four Block areas of teaching literacy for individuals with complex communication needs, vision challenges and severe physical disabilities.

Describe features of technology and materials adaptations for literacy learning to enhance feedback and provide control to the individual user.

### **INTERACTIVE COMPONENTS**

Demonstration and simulation will be used to help participants feel and understand specific challenges and why certain features of tools and strategies are critical for learning literacy for individuals with severe physical and visual challenges, along with Complex Communication needs.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Personal Experiences and Preferences

# Confidence and a Willingness to Communicate: Lessons from a Systematic Review of Second Language Acquisition

Alyson Spitzley | John McCarthy

## INTRODUCTION

Psychosocial factors such as motivation, resilience, attitude, and confidence have an important impact on the communicative competence of people who use augmentative and alternative communication (AAC) (Light & McNaughton, 2014). The original communicative competence model for individuals who use AAC relied heavily on second language acquisition research (Light, 1989). Similarly, second language acquisition was used as an example when the communicative competence model was revisited in recent years, focusing on the psychosocial aspects of communication and addressing confidence as a possible mediating factor in the overall effectiveness of communication via multiple modalities (Light & McNaughton, 2014). Researchers in second language acquisition have conceptualized a situational model of willingness to communicate and its supporting variables, including multiple variations of confidence (MacIntyre, Clement, Dornyei, and Noels, 1998). In the last twenty years, this model has been referenced and expanded upon by experts in second language acquisition. While the importance of confidence in the communication competence of people who use AAC may be theoretically established, minimal research has been done to describe the mediation process involving confidence and communication for people with minimally functional speech.

## AIM

The aim of this systematic review is to synthesize research on the role of confidence in second language acquisition and to explore implications for the attainment of communicative competence for people requiring AAC. Specifically, this presentation will synthesize information in the following areas:

1. The operationalization and measurement of willingness to communicate and confidence
2. The results of studies to change confidence or willingness to communicate
3. The relative strengths and limitations of the evidence
4. The implications for individuals with complex communication needs.

## METHOD

To address the aims of this project and gain a comprehensive search of the literature, a systematic review was initiated. A prior review of methods and results of anxiety and language learning studies performed by Peter D. MacIntyre and Robert C. Gardner (1991) is being used as a model for this analysis in addition to following the PRISMA protocol. Search terms are currently being piloted in an effort to refine search strategies. Initial working keywords include Second Language Acquisition, Confidence, and Communication. Search databases for this review include PubMed, JSTOR, CINAHL, and the following EBSCO databases: PsycINFO, Academic Search Complete, Medline, and ERIC.

Following the completion of an initial yield, articles will be refined based on a set of exclusion and inclusion criteria. To be included in this review, studies must 1) utilize a descriptive or experimental design, 2) have participants who are acquiring a second language, 3) have confidence as a dependent variable (evidenced by the mention of willingness to communicate, confidence, anxiety, etc.), 4) include measure(s) of confidence, 5) be published in a peer reviewed journal, and 6) be translated or published in English. A title and abstract review will be conducted to obtain a final yield of studies addressing confidence and willingness to communicate in relation to second language acquisition. Data from literature will be coded into, but not limited to: type of design, measures of confidence, methods of intervention, and outcomes.

## **RESULTS**

Analysis is ongoing and will result in a final yield of studies from the inclusion and exclusion criteria. Synthesis of the systematic review will be discussed further, focusing on the overall results of the final yield and identified studies addressing second language acquisition, willingness to communicate, and confidence. An overview of measurements of confidence, interventions to increase willingness to communicate and confidence, the results of efforts to change these variables, and the strengths and limitations of these studies will be discussed during the presentation.

## **CONCLUSION**

From the final collection of studies, conclusions will be drawn in an effort to understand the constructs of confidence and willingness to communicate in relation to second language acquisition. This information will be integrated with current theoretical knowledge on confidence for people who use AAC. From here, implications for people who use AAC and directions for future research will be discussed particularly as they relate to measuring and increasing confidence for people with complex communication needs.

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**Evidence Area:** AACcess relationships

**Content Focus Area:** Research Evidence

## Connected through Communication

**Nicole Tsourlenes | Jennifer Tsourlenes**

Nicole will present her memories of what it was like for her growing up using Alternative Augmentative Communication (AAC). Nicole's sister Jennifer will present with her, sharing her perspective about what it was like growing up with a sister who uses AAC.

**FROM NICOLE'S PERSPECTIVE:**

I started using AAC before I was one and don't remember not being able to communicate. I started with a communication book and later a Chat Box and Dynavox. I don't remember learning to use AAC, I have always used it.

My sister and I want to share with you what it was like for us growing up with my complex communication needs and how AAC has enhanced my life.

Being a photographer, I use my Dynavox and my Dynabeam to access Photoshop to edit my photos, I have many shortcuts programmed on my Photoshop pages which allow me do everything I need to. Trying to direct models isn't easy, sometimes I have to turn the volume on my Dynavox up very loud. I can also access social media to stay in touch with my family and friends but also to develop my photography business.

**FROM JENNIFER'S PERSPECTIVE:**

Communication has always been strongly valued in our family. The attitudes I have developed about communication were formed from a young age because I was only five when my twin sisters were born. Our conversations were more structured and we were always reminded to be patient when it would take longer for Nicole to respond. We would take it in turns to speak and model the use of her communication book, this was the norm in our family life. When Nicole received her first Dynavox our family experienced a new style of conversation. Nicole was able to express herself independently, add to conversations and interject at any time. Nicole has never experienced a day in her life where she couldn't express her wants, feelings or thoughts.

**Evidence Area:** AACcess relationships

**Content Focus Area:** Personal Experiences and Preferences



## **Conrad's Adventures**

### **Conrad Yinfoo**

“Consider for a minute you are inside a body that doesn’t do anything on command. And your arms and legs are connected to some different computer brain that speaks different languages that are never the same as yours. Your body moves but not in a coordinated cooperative way, instead each part wriggles and waves randomly and wildly. Your mouth opens and closes a lot but speech doesn’t come out and your thoughts have to stay inside. Everything you want and need is dependent on somebody seeing or thinking about you and helping you. Everywhere you go you are watching and waiting for someone to notice and remember you are near and want to be included. That is what my body is like and my life every day all day. I don’t want you to think poor Conrad, I’m just telling you my story. “ I will be talking about my life as a Yr 12 student ready to leave school and roll into the real world.

**Evidence Area:** AACcess education

**Content Focus Area:** Personal Experiences and Preferences

# Construct Validity of the Family Impact of Assistive Technology Scale for Augmentative and Alternative Communication

Amie Kron | Virginia Wright | Shauna Kingsnorth | Steve Ryan

## BACKGROUND

Augmentative and alternative communication (AAC) clinicians who take a family-centered service approach recognize that parents and other primary caregivers have a strong impact on the reception, implementation, and maintenance of AAC systems for children with complex communication needs (Mandak et al., 2017). This contemporary approach calls for the use of health measurement scales that can reliably assess child and family functioning and changes associated with the introduction of AAC interventions in 'real-world' environments (Henderson, Skelton, & Rosenbaum, 2008). The Family Impact of Assistive Technology Scale for AAC (FIATS-AAC) is a multi-dimensional, parent-report questionnaire designed to measure the effectiveness of AAC interventions on levels of participation and other aspects of everyday life in children and their families (Delarosa et al., 2012). The measure has evidence supporting its reliability and validity. However, further empirical support is needed to assess its validity as a measure of child functioning.

## AIM

The primary aim of this study was to evaluate the convergent construct validity of the FIATS-AAC when compared to the Participation and Environment Measure for Children and Youth (PEM-CY) and the Child Health Questionnaire – Parent Form 28 (CHQ-PF28). The secondary aim was to determine the level of agreement between the functional status of children described by parents and their total/subscale scores on the FIATS-AAC.

## METHOD

Three hundred and forty-six parents of children who received AAC services at the authors' rehabilitation hospital were invited to complete an anonymous survey including the FIATS-AAC, the community participation scale of the PEM-CY, and the CHQ-PF28. Parents were eligible if they had a child (6-12 years old) who currently used an aided AAC system and had at least 12 weeks of experience using their device. Subscale scores on the FIATS-AAC were compared to the frequency and intensity of involvement in up to ten different community activities in the 'community' portion of the PEM-CY, and the Physical and Psychosocial summary scores on the CHQ-PF28. Pearson's correlations were used to estimate the associations. A subset of parents also participated in a 1-hour face-to-face interview to explore the concordance of parent narratives and their FIATS-AAC subscale scores. A quadratic weighted kappa statistic was used to evaluate the level of agreement between these subscale scores and the valence of interview narratives assigned by a researcher who was unaware of parents' ratings.

## RESULTS

Forty-seven parents (13.2% response rate) completed the survey. Most parents (87.2%) were mothers and the majority of the children were male. The most common-reported diagnoses were developmental delay and autism spectrum disorder. Electronic speech devices and picture/letter boards were commonly used. No significant associations were found between the FIATS-AAC total score and the community participation levels of the PEM-CY. However, moderate, significant correlations ( $0.32 < r < 0.40$ ,  $p < 0.05$ ) were found for four of the seven child-related subscales of the FIATS-AAC. Only one of the six family-related subscales showed a moderate, significant correlation ( $r = 0.35$ ,  $p < 0.05$ ). Low-to-moderate, significant associations ( $0.31 < r < 0.54$ ,  $p < 0.05$ ) were found between the FIATS-AAC total score and CHQ-PF28 summary scores. Ten out of the thirteen FIATS-AAC subscale scores showed low-to-moderate, significant correlations ( $0.34 < r < 0.59$ ,  $p < 0.05$ ) with the CHQ-PF28 summary scores. Six parent took part in interviews. Fair agreement was found between the valences and FIATS-AAC subscale scores. (Weighted kappa = 0.39 (95% CI 0.22, 0.56)).

## **CONCLUSION**

The results suggest that the FIATS-AAC is not tapping into constructs related to community participation as measured by the PEM-CY. However, exploratory analyses provide emerging support for the construct validity for the child-related subscales of the FIATS-AAC. Less convergence was shown for family-related dimensions as hypothesized. The low-to-moderate associations between the FIATS-AAC and CHQ-PF28 Summary Scores suggest that the FIATS-AAC is tapping into constructs related to health-related quality of life as measured by the CHQ-PF28. Several sources of error may have accounted for the fair level of agreement achieved from the valence analysis.

Further validity studies should be conducted to assess whether the subscales of the FIATS-AAC similarly align with levels of child participation in school and home settings. Additional psychometric studies should be conducted to strengthen its validity as a functional outcome measure for both younger and older children who use AAC. This study adds support for the use of the FIATS-AAC as a measurement scale for child – and family-centered clinical and research applications.

## **REFERENCES**

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**Evidence Area:** AACcess the community, AACcess diversity, AACcess relationships

**Content Focus Area:** Research Evidence

## **Context-specific vocabulary instruction: Implementation of Unity's masking tool**

**Merryn Gibson | Benjamin Bond**

Choosing the most appropriate Augmentative and Alternative Communication (AAC) options for an individual is a complex and multifaceted process. As identified by Beukelman & Mirenda (2013), chosen AAC systems need to support communication for the present, while preparing to meet an individual's future communication needs. With this in mind, many of those prescribing speech-generating devices (SGDs) with symbol-based vocabularies understand the value of robust communication systems with access to extensive single-word vocabularies.

Ongoing research and clinical practice in AAC intervention highlight the importance of:

Aided language stimulation and modeling

Appropriate levels of prompting

Providing natural consequences for communication

Teaching a range of pragmatic functions

Generalising word meanings across contexts

Supporting development of operational and strategic competence (Light, 1989)

Implementing these strategies with an individual who has a new SGD poses a significant challenge – which words do you start with? An SGD with thousands of symbols will not be immediately familiar to all communication partners, which can make teaching & modelling appropriate vocabulary a challenging task.

This presentation will discuss one means of simplifying this task; teaching vocabulary by activity, routine or context. Some SGDs offer vocabulary presented in context-specific pages, with the intention of making these words easier to access in highly motivating activities. Aside from the advantages of giving the person who uses AAC quick access to words with relevant & motivating natural consequences, this can make aided language stimulation and modeling much easier for the communication partner. Binger & Kent-Walsh (2012) discuss the benefits of beginning partner instruction in one or two specific contexts, so the communication partner and person using AAC can observe positive changes made in a small period of time.

The presenters will discuss how, through the early stages of intervention, context-specific pages may support the individual to communicate effectively in very specific contexts. However, with ongoing use, common issues begin to surface. Vocabulary allocated to a specific context may become limiting, requiring the addition of new pages or navigation back and forth between activity pages. Generalisable 'core' words are programmed in multiple locations due to their relevance to a range of contexts, and continuing to expand vocabulary in this manner can result in a navigation maze.

An alternative is to start with an extensive pre-planned language system, teaching each single word with a consistent and unique location, combined with a tool that allows for easy masking and unmasking of existing vocabulary. This allows teaching of a small number of activity specific words, positioned in their final location, without the need to rearrange the system as language grows.

This presentation will introduce attendees to the Vocabulary Builder tool in the Unity language system. The presenters will demonstrate how Vocabulary Builder allows introduction of new words in a structured manner, where the availability of core words is not limited by what is added to a specific activity page. Language across the vocabulary is either unmasked one word at a time or is introduced using pre-defined language sequence sets

tailored to a range of activities. Vocabulary Builder can be expanded as rapidly as required, or quickly turned on & off to allow access to the full vocabulary.

The presenters will share examples and ideas for implementation of core & fringe vocabulary in specific activities and contexts, including how to generate additional low-tech tools to support communication partners. Attendees will walk away with practical ideas for targeting activity specific vocabulary, and an understanding of how to operate Vocabulary Builder in the Unity language system.

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**Evidence Area:** AACcess emerging technologies, AACcess language and literacy

**Content Focus Area:** Professional Practice Evidence

# Conversations using Augmentative and Alternative Communication: More than just 'talk'.

Jane Remington-Gurney | Jayne Clapton

## AIMS

The disability literature has to date focused the research lens on conversational needs and skills of the person with disability. This study focused attention not on the person with disability but the person with whom they interact in conversation. The aim was to use transcription and coding to help identify conversation strategies that these individuals used in their interactions.

## METHOD

This qualitative study had three stages. The poster addresses phase two, where audio-visually recorded conversations were transcribed and coded from semi naturalistic conversations. The conversations were between six individuals with either Rett syndrome, Down syndrome or cerebral palsy. Initially notations were sought from several sources including conversation analysis, but as the study evolved it became necessary to develop novel notations that represented more than the exchange of 'talk'. In particular to reflect visually non verbal behaviours such as eye movements.

## RESULTS

A tool for enabling a layered approach to transcription and analysis was drafted and known as Conversation Strategies & Systems Analysis (CSSA). Application of this tool may have appeal to non linguists. Its application needs to be investigated further. However, in this study it was useful in the identification of strategies and styles of conversation exhibited by communication assistants. Further, it was identified as having potential in identifying the interaction systems that communication assistants resourced e.g. their own human agency and that of the person with disability, language, culture and the environment. There are therefore potential implications for application in the field of communication partner training.

## CONCLUSION

Conversation is more than an exchange of 'talk'. The literature suggests a valid need for communication partners to be trained in their role as integral components of an AAC system. CSSA has the potential to secure a means to identify interaction hotspots where training can be directed.

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**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Research Evidence

## Conversations without speech: Strategies, systems and styles of conversation used by adult communication assistants.

Jane Remington-Gurney

### AIMS

The disability literature has to date focussed the research lens on the needs and skills of people with disability. This paper however, reports on the findings of a PhD study that focussed attention on communication assistants. For the purpose of the research, a communication assistant was defined as an adult with some AAC knowledge and skill.

### METHOD

The qualitative study with descriptive statistics used a three phase methodology to gather perceptions and observations of conversation where AAC may be used. Phase one, a survey, informed the research with demographic information regarding communication assistants in Queensland. In phase 2 six dyadic conversations between communication assistants and someone with Rett syndrome, Down syndrome or cerebral palsy were recorded, transcribed and analysed. Notation was drawn from the discipline of conversation analysis but extended to include notations that represented more than the exchange of 'talk'. Phase three provided participants with an opportunity to respond in their own words to the question 'what makes having a conversation with users of AAC, easy or tricky'.

### RESULTS

The study demonstrated that in AAC transcription, notations were needed to represent spoken and unspoken words. The layering approach to transcription of spoken and non spoken words enabled a glossary of seventy strategies to be identified and linked to five interaction systems. In addition seven styles of conversation were identified that may be peculiar not only to particular genotypes but also to human agency features of the communication assistants. The metaphor of dance was used in the research documentation because there are many similarities between dance and conversation, for example, in the presence of movement to convey meaning, a grammar (sequential movement), organisational structure, lead roles and connectivity between agents. The metaphor also facilitated reflection that whilst anyone can learn dance steps, but not everyone can truly dance.

### CONCLUSION

There are implications from this research to inform discussion regarding the use of the terms communication partner/assistant/coach. Although the basic human right to interact using communication approaches of choice is stressed in the literature, this study exposes the need for opportunities to engage in society with conversation. Consequently there are implications to policy and programs such as the NDIS that seek efficient, and effective, and sustainable service delivery.

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**Evidence Area:** AACcess the community

**Content Focus Area:** Research Evidence

# Core vocabulary and its applicability for atypical populations

**Stijn Deckers**

## **INTRODUCTION**

Many studies have shown that the (language) development of individuals with intellectual disabilities closely resembles the (language) development of typically developing peers. The person with an intellectual disability acquires language at a slower pace, but follows the same sequence in developmental milestones (Dykens & Hodapp, 2001). A developmental approach to vocabulary selection, such as core vocabulary, in which the language on the AAC system closely reflects the language of typically developing peers, may thus be encouraged. In the field of AAC, core vocabulary is most often defined as a small set of approximately 20-50 words for young children up to 200 – 400 words for adults, changing little over time, used consistently within environments and between communication partners (Baker, Hill, & Devylder, 2000). Core vocabulary may entail up to 80% of all words used within communicative contexts. Most effective communication levels can be reached, when core vocabulary is combined with fringe vocabulary. With these fringe or content words, an individual is able to reflect on his/her own activities, interests, environments and their personal style (Stuart, Beukelman, & King, 1997). In clinical practice the discussion related to the selection and use of core vocabulary with students who are severely cognitively/multiply impaired is highly relevant and of the following question is asked: 'Is core vocabulary the same for individuals from atypical populations?'

Also, we know that vocabulary development in typically developing children can be explained by several predictors (see Taylor, Christensen, Lawrence, Mitrou, & Zubrick, 2013 for a comprehensive overview), such as gender, age of the child, socio-economic status (SES), being read aloud to, and the amount of siblings in the family. However, in most core vocabulary studies (in typically developing children), these variables are not accounted for. We established several core vocabulary lists in order to compare lists for boys vs girls, low vs high SES, low vs high frequency of being read aloud to, and no vs one or multiple siblings. The second question that will be addressed during this presentation will be: 'is core vocabulary the same for these groups of individuals?'

## **PURPOSE**

This presentation discusses the concept of core vocabulary and its relevance in vocabulary selection for AAC practice. A secondary purpose is to show whether core vocabulary is comparable between typically and atypically developing individuals and whether influencing variables of language development influence core vocabulary as well.

## **METHODS**

First, a review of existing research articles that are based on language sampling will be presented, in order to investigate whether core vocabulary is comparable between typically and atypically developing individuals. Furthermore, language samples have been collected in typically developing children between 2 and 5 years old. Also, language samples of young children with Down Syndrome with a developmental age below 3 years have been collected in different settings (e.g., play and lunch settings at home and therapy settings) and with several communication partners. Core vocabulary has been determined and will be compared.

## **RESULTS**

The review resulted in several research articles describing spoken (output) and written language samples of (1) typically developing individuals of different age groups; i.e., toddlers, preschoolers, school-aged children, adults, elderly; (2) second language learners; (3) individuals with physical disabilities (children and adults); and (4) children and adults with intellectual disabilities. Included among the participants of these studies were individuals who were monolingual, bilingual, those diagnosed with primary language impairment, learning a second-language

and/or using AAC. Spontaneous language and written samples and narratives of these individuals were collected in various settings and with various communication partners. A large overlap was found between core vocabulary lists of these typically or atypically developing individuals. Lists in different languages will be shown.

For typically developing children between 2 and 5 years of age, core vocabulary lists were compared for groups based on gender, age, SES, reading and the number of siblings. The results of these studies will be presented.

#### **CONCLUSIONS**

Based on these results it can be stated that the definition of core vocabulary holds true for both typical and atypical populations in various contexts, with various communication partners, over various topics, and in various modalities of language use. Core vocabulary lists are highly comparable between typically and atypically developing individuals. Core vocabulary studies and results are thus of high importance for all AAC users, regardless of physical or intellectual disabilities.

**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence

## **Creating accessibility for people with communication difficulties within Victoria Police services**

**Denise West | Georgia Burn | Barbara Solarsh | Katie Lyon | Hilary Johnson**

### **BACKGROUND**

People who use AAC are at a disadvantage in the legal system as victims of crime, witnesses, suspects, persons in custody or people in need of assistance (Bornman et. al., 2011, Bornman et. al., 2016). In 2014 the Victorian Equal Opportunity and Human Rights Commission (VEOHRC) published the Beyond Doubt report which found “people with disabilities in Victoria are routinely denied [access to justice and safety] because police and other parts of our criminal justice system are ill-equipped to meet their needs” due to a lack of police skill, knowledge and appropriate attitudes towards individuals with disabilities (VEOHRC, 2014, p.5).

The report issued a recommendation for Victoria Police to “gain and maintain communication access accreditation according to the advice of Scope” (p.14). This accreditation would support Victoria Police staff to create communication accessible environments, in which staff “are respectful and responsive to individuals with communication difficulties and [where] strategies and resources are available to support successful communication” (Johnson et. al., 2013).

In 2017, Scope Australia was successful in gaining a National Disability Insurance Scheme (NDIS) Information, Linkages and Capacity Building (ILC) National Readiness grant, with the aim of partnering with Victoria Police to achieve this recommendation by piloting a communication access strategy at one 24-hour police station and evaluating the outcomes in alignment with NDIS ILC Outcomes.

### **AIM**

The aim of this project is to improve access for community members who experience communication disability to Victoria Police services. This aim is aligned to the NDIA ILC Outcome: ‘people with disability use and benefit from the same mainstream services as everyone else’ (NDIA, 2016).

This project aims to improve communication access at one Victoria Police 24-hour pilot site through:

1. Increasing customer satisfaction of people with communication disability ,
2. Increasing the skills, knowledge and attitudes of Victoria Police staff.

This collaborative and exploratory project will also aim to culminate with the award of the Communication Access Symbol at the 24-hour pilot site.

### **RESEARCH DESIGN**

A pre – and post-intervention mixed-methods design will be used. Quantitative descriptive data and qualitative data will be collected to evaluate the impact of the intervention strategy.

### **METHOD**

Pre and post-intervention data collection:

- Surveys

Pre – and post-intervention staff surveys will be circulated to all Victoria Police staff involved in the pilot.

Questions will be designed to determine the skills, knowledge and attitudes of Victoria Police staff when interacting with people who experience communication disability.

- Interviews

A series of interviews with people who experience communication disabilities will be conducted to extend the research findings from the Beyond Doubt report to inform the intervention strategy.

- Customer evaluation

A series of pre-intervention customer evaluations and post-intervention communication access assessments will be completed by people with lived experience of communication disability to directly measure the customer experience.

Intervention strategy:

- Focus groups

Victoria Police staff and other relevant stakeholders including people with communication disability will be consulted regarding the survey outcomes and information gathered from interviews to determine the intervention strategy.

- Resource development

Communication resources will be developed to support interactions between Victoria Police and people who experience communication disability.

- Training

Training of Victoria Police staff on the use of communication resources and effective communication strategies will occur.

## RESULTS

Results described in this paper will include:

- . Pre-intervention survey results which will describe the self-perceived knowledge, skill and attitude of Victoria Police staff members when interacting with people who experience communication disability,
- . Interview findings with people who experience communication disability, including recommendations regarding the intervention strategy
- . Adopted intervention strategy, which will include findings from the focus groups, identified communication resources and staff training requirements.

## CONCLUSION

Barriers and learnings from the method will be presented. The findings will be considered for applicability across Victoria Police.

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**Evidence Area:** AACcess the community, AACcess justice

**Content Focus Area:** Research Evidence

## **Creating momentum for a communication access world movement.**

**Barbara Solarsh | Hilary Johnson | Meredith Allan | Denise West | Georgia Burn | Katie Lyon**

There are a growing number of approaches to enable communities to be welcoming and inclusive for people who use Augmentative and Alternative Communication (AAC) (Collier et al, 2012; Scottish Government, 2011; Solarsh and Johnson, 2017).

This workshop highlights communication access as a human right and a vehicle for social inclusion. The ability to socially interact and participate in community life are essential components of social inclusion (McConkey & Collins, 2010; Simplican et al., 2015). There is a growing body of evidence identifying features for effective communication between people with communication support needs and community members/service providers. These features include a skilled listener who can conduct a respectful interaction, communication resources to enhance face-to-face interactions, accessible information and effective signage and wayfinding.

The workshop will explore ways in which speech pathologists internationally, are expanding their scope of practice to address communication access barriers in mainstream and community settings. It will examine both stand-alone communication accessible projects, and national and international strategies.

Six case studies from Australia, USA and the United Kingdom, addressing environmental communication barriers will be analysed. The how, where and why of communication access will be examined. The analysis will identify key strategies for successful sustainable outcomes. It will examine what the projects aimed to achieve and what standards (if any) were addressed.

The workshop will provide a forum for discussion in regard to:

- i. Strategies for creating communication accessible environments
- ii. Features of communication access which may be the basis for national/international standards
- iii. National (Australia, Scotland, Britain, Canada) and international (The International Communication Project – ICP) initiatives
- iv. Establishing a world movement for communication access

Communication access is at the start of its journey and has a strong role model in the achievements of physical access proponents. The physical access movement was led by a united front of disability movements and architects who provided physical access standards to underpin a now widely recognised symbol. We have a similar need for a model for communication access moving forward. People who use AAC are recognising the need for a symbol and SLPs are developing the underpinning standards.

The National Disability Insurance Scheme in Australia, states there is a need for “reasonable and necessary supports”, for people to fully participate in society. Hartley Keen (2016) has referred to the ‘mainstreaming of communication methods’ to address the communication support needs of the broadest number of people. Speech pathologists with individuals who have communication support needs, have a role to unpack what those supports might be and promote community awareness of these issues. In addition we have a role to embed solutions in practice and policies. Participation can be enhanced when communication access is embraced as an integral part of an inclusive community.

### **LEARNING OUTCOMES:**

At the conclusion of this workshop, participants will have

- i. an understanding of communication access as an instrument for creating social inclusion.
- ii. knowledge of key strategies on how to create communication access
- iii. an awareness of components of communication access standards,
- iv. identified strategies for the establishment of an international community of practice for communication access, and the roles and functions of such a group.

**INTERACTIVE COMPONENTS:**

Small groups will analyse six case studies of communication access initiatives in relation to (i) Strategies used to implement the project, and (ii) Communication access features addressed in each project, Participants will contribute to a facilitated discussion to establish the requirements for an international community of practice for communication access, it's roles and functions and the role that ISAAC could play. Finally participants will be invited to participate in a 'start a movement' activity.

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**Evidence Area:** AACcess the community

**Content Focus Area:** Research Evidence, Professional Practice Evidence, Personal Experiences and Preferences,

# Creating New Zealand voices: Donor perspectives of the voice banking process

Michelle Westley | Dean Sutherland | Tim Bunnell

## BACKGROUND

Voice banking is a technology-driven process which enables the creation of personalised voices for use with speech generating devices (SGD). Typically, voice banking is an option for people with degenerative conditions such as Motor Neurone Disease where loss of speech will occur over time (Creer, Cunningham, Green, & Yamagishi, 2013). Voice banking supports the preservation of personality and identity and may increase acceptability of SGD (Ball, Beukelman, & Pattee, 2004). Little is known about the perspectives of people who voice bank. Adults or children who are unable to record their own voices, have a limited choice of voices to use with SGD. Most voice options are American, British, or Australian accented and are not personalised to individuals nor to New Zealand linguistic culture. There are no voice options for people who communicate in Te Reo Māori (an official and native language of New Zealand).

## AIMS

Alongside creating a suite of New Zealand accented voices, the two primary aims were: (a) what alterations are required to make ModelTalker (Bunnell, Lilley, and McGrath, 2017) suitable for New Zealanders and (b) what are the experiences of healthy voice donors?

## METHODS

Ten healthy voice donors (5 male, 5 female) aged 9 to 65 years, including two speakers of Te Reo completed the ModelTalker process. The 1600 phrases were recorded across multiple recording sessions in a sound-proof booth. An online questionnaire was involved adapted Likert-based scales and open ended questions focused on participant experiences with voice banking, complexity and time measure, features of ModelTalker and recommendations for other people and environments.

## RESULTS

Voice donors ranged from 4 hours to 10.5 hours (mean = 6.3 hours) complete the voice banking. Most participants opted to mute the model American-accented voice as they found it influenced pronunciation. The volume and speed dials were helpful and previews of the synthesised voices were motivating. The ModelTalker custom inventory was utilised to include 20 Te Reo words recorded by all voice donors and 65 additional words by the Te Reo speakers.

## CONCLUSION

Voice donors had positive experiences and would recommend other people to voice bank. The child voice donors took longer and frequently needed to re-record sentences. Future directions include recruiting clinical populations who use voice banking to see differences in procedure and perspectives that may exist. A full Te Reo phonemic dictionary is required to allow complete Te Reo voices for New Zealanders.

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**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Research Evidence

**SUBMISSION ID 1331**

Platform (20 minutes)

## **Dancing with the Elephants in the Room – Thriving the challenges we can't ignore**

**Zhade Thompson | Lana Jones**

Our presentation is an open, respectful, and sometimes humorous investigation of some of the enormous challenges that inform our lives, and how we can thrive them, not just survive them. How can we respond when people say hurtful things, ask impertinent questions, or don't know how to communicate with us. How can we educate respectfully, and openly about some of the challenges of living with complex disabilities in a world where many people seem to think that if someone's voice, or legs, or eyes work differently all of them is disabled. . . Zhade lives with a complex disability, and has many years of learning how to master situations that can lead one to laugh or cry. Lana has lived many of those years with Zhade and they have learned together. Most of the time, Lana and Zhade choose to laugh and dance with the elephants rather than be trampled by them. This presentation would be about that life celebration that is our lives.

**Evidence Area:** AACcess the community, AACcess diversity, AACcess relationships

**Content Focus Area:** Personal Experiences and Preferences

## Decision-making to Promote Communicative Competence Among Individuals Who Use AAC: A Survey of AAC Experts

Virginia Walker | Sarah Douglas | Melinda Snodgrass | Yun-Ching Chung

The emergence of communicative competence for individuals who use AAC is a complex process that requires the development of a number of skills (i.e., linguistic competence, operational competence, social competence, strategic competence) and is influenced by both psychosocial factors (i.e., motivation, attitude, confidence, resilience) and environmental supports (Light & McNaughton, 2014). To help individuals who use AAC develop communicative competence, a combined intervention approach is necessary to ensure that both the individuals learning AAC and their communication partners develop the skills necessary to achieve this goal (McNaughton & Light, 1989). Within the field, however, there appears to be few decision-making guidelines on how an AAC team might move an individual toward communicative competence, particularly when the learner relies on prelinguistic communication forms (i.e., no generative words in any mode; Snell et al., 2010) and/or has a language disorder (Baxter, Enderby, Evans, & Judge, 2012; Schlosser & Raghavendra, 2004; Snell et al., 2010). Over the years, despite some recommendations that have emerged regarding AAC assessment and device selection (Dietz, Quach, Lund, McKelvey, 2012) and efforts to identify evidence-based strategies and practices for AAC implementation (e.g., Calculator & Black, 2009; Schlosser & Sigafoos, 2006; Snell et al., 2006), limited evidence exists that fully informs the complex process of AAC decision-making. This process should lead practitioners to instruction that matches the individual's current skills, long-term goals, the demands of the AAC system, and address the myriad of additional factors that influence progress toward communicative competence.

To understand the factors that inform AAC instruction and to develop guidelines for AAC decision-making, we conducted an online open-ended survey of experts in the AAC field. Specifically, we sought to gain insight as to the best approaches to take when making AAC intervention decisions with different individuals who use AAC, especially those with prelinguistic communicative skills and severe disabilities.

A multi-wave snowball design was used to gather perceptions of AAC experts through an online survey. Data collection included recruitment of current and past editors, and current editors of the journal *Augmentative and Alternative Communication*, the organization representative members and co-authors of the National Joint Committee for the Communication Needs of Persons with Severe Disabilities (NJC), and the American Speech Language Hearing Association AAC Special Interest Group leadership. Each respondent was asked to nominate other experts in the field of AAC. Nominees were sent an invitation to participate in subsequent rounds of survey data collection and also asked to nominate other experts in the field. After completing demographic information, respondents were asked to review three vignettes of school-aged children and, for each, describe: (a) the additional assessment information they would want before making instructional decisions, (b) the communication skills they would target for the child in the next six months and a rationale for that decision, and (c) the instructional strategies they would use to teach those skills and a rationale for their selection. Respondents had the opportunity to add additional comments about each vignette.

Responses will be compiled and qualitatively analyzed at three levels to identify the ways and extent to which experts make different decisions across individuals learning to use AAC (i.e., analysis within respondent across vignettes) and ways and extent to which consensus exists across experts about instructional decision-making for an individual (i.e., across respondents within a vignette) and across individuals (i.e., across respondents across vignettes).

We will present the results from the study, including an explanation of the areas of consensus and divergence around instructional decision-making, the assessment information that experts identified as important to the

process, and how this process is best conducted. Finally, we will discuss the implications of these findings for both practice and future research.

**Evidence Area:** AACcess education

**Content Focus Area:** Research Evidence

## **Developing a novel system to support language acquisition in children with CCN: An ethnographic study**

**Christopher Norrie | Annalu Waller | Jianguo Zhang**

### **INTRODUCTION**

Communication aids designed for use by young children are typically based on a word phrase retrieval system using a grid-based symbol access paradigm. What has become clear, however, is that such systems have significant usability shortfalls for young children with complex communication needs (CCN). These systems may be failing these emergent communicators by hindering their capacity to acquire vocabulary during a critical developmental phase, and to their lifelong detriment (Light & Drager, 2007).

Moreover, user-centred design (UCD) has often been neglected with this user group due to the challenges that they present – a factor that may have exacerbated AAC device abandonment.

Informed by prior research unveiled during a literature review, the authors recognise that early intervention (EI) is key to achieving optimal outcomes for children with CCN (Odom et al, 2003) – and the adults they will eventually become.

### **AIM**

The aim of this doctoral research is two-fold. First, to investigate a system to facilitate more natural and timely vocabulary acquisition in children with CCN. Computer vision technology (CV) combined with a child-friendly interface will be the basis for the envisaged system with the first author currently exploring the potential of Densecap (Johnson et al, 2016). It is hypothesized that CV automation harnessed in this way may enable and enhance EI, with positive implications for vocabulary acquisition. A secondary aim of this study is to apply and explore UCD approaches in developing the technical tool described.

### **METHOD**

The focus of this presentation is upon the first phase of the research involving an ethnographic investigation – ethically approved – involving the collection and analysis of data reflecting current practices within a host special education school. Specifically, the study involved:

- (i. Identifying vocabulary acquisition strategies currently in use;
- (ii. Mixed methods of participant observation, field notes, and interviews with staff undertaken over a six-week period in 2017;
- (iii. Participants included: 175 pupils, 30 teachers, three speech and language therapists (SLTs), and a number of support staff, recruited within the host school;
- (iv. Vulnerable group(s) with a diverse range of cognitive, developmental and/or physical disabilities, presenting several ethical and logistical challenges for the methodology.

In this paper, the results of the ethnographic analysis of this data, including a variety of strategies adopted to mitigate potential disruption to the data collection phase, will be presented.

### **RESULTS**

As a contemporaneous project mid-way through active data collection at time of writing, the literature review and early ethnographic observations (over 12 days) and interviews (n = 6) reveal:

- . The variety of assessment tools in use at the host school (e.g. Routes for Learning, PVCS, Derbyshire Language Scheme).

- . A range of low and high tech AAC tools, access methods and strategies (e.g. Objects of Reference, PECS, Makaton, Canaan Barrie; and single switches, VOCAs, Eye Gaze, auditory scanning).
- . Several intervention strategies, including: systematic instruction and contingent reinforcement (Ganz et al, 2014); certificates of participation as a tangible incentive (Menzies, 2013); use of singing, colours, storytelling, tactile play to enhance engagement/reinforce learning.
- . Common themes emerging in interviews with SLTs and teachers in relation to data collection and UCD within the school setting.
- . Practical solutions for the curation of research data and artefacts in a relatively chaotic or “hostile” environment potentially affecting sensitive electronic recording equipment and paper documents vulnerable to accidental damage.

## **CONCLUSION**

This ethnographic study explores the feasibility of conducting UCD involving young children with CCN at school. Close consultation with research partners and teachers yielded ways to address barriers to understanding children’s views and experiences of interacting with a nascent AAC system. These methodological insights will inform future research into the development of a technical tool supporting EI and vocabulary development.

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**Evidence Area:** AACcess emerging technologies, AACcess language and literacy

**Content Focus Area:** Research Evidence, Research Methods and Theories

## **Developing communication and literacy through AAC for students with multiple disabilities including CVI and CCN**

**Amanda Hall | Kate Lonne | Steph Ingram**

The school in focus of this presentation is a purpose built Education Queensland facility for students with disabilities who require a highly individualised curriculum. Many of the students attending this school have multiple disabilities and specialised health requirements which impact their ability to engage with the curriculum. Additionally, the majority of the students have Complex Communication Needs (CCN).

In 2013, special schools within a Metropolitan cluster joined together to undertake professional development in the Four Blocks approach to teaching literacy. What followed was a journey of discovery of how communication and the development of literacy could look for students who traditionally may not have had such opportunities. This journey has, and continues to challenge the expectations and beliefs of staff, students and families, and the impact this has on literacy and communication development. Donellan (1984) states that “the least dangerous assumption when working with students with significant disabilities is to assume that they are competent and able to learn, because to do otherwise would result in harm such as fewer educational opportunities, inferior literacy instruction, a segregated education and fewer choices as an adult”. The underlying belief that all students are ‘competent and able to learn’ underpins the schools whole school approach to literacy and communication.

This presentation explores how this journey towards communication and literacy development has unfolded for a group of students with multiple disabilities, including Cortical Vision Impairment (CVI), profound physical and health needs, and Complex Communication Needs (CCN). It has begun with the prioritisation of communication for all students. The school communication Plan states that “...communication underpins all areas of curriculum and daily life, and that all students have the capacity and the right to communicate, and to be engaged in genuine opportunities to learn to communicate...” This belief informed (and continues to inform) the planning and practices of the teaching and therapy teams working with these students.

The narrative of this presentation is supported by video, photos, and artefacts to illustrate how the following instructional approaches and interventions have supported (and continue to support) the students’ communication and literacy development:

- . Establishment of individualised AAC systems for the students, with consideration of the strengths and challenges for each student (including selection of a system/device, access methods, teaching movements for communication, environmental and contextual considerations)
- . Providing a language rich environment with a focus on communication and language development across all school contexts and the processes involved in designing, implementing and modelling a whole language system to promote autonomous communication
- . Developing shared beliefs and understanding amongst educators, assistants, therapists and families/carers about the capabilities of the students to communicate and the language acquisition required for learning and everyday life
- . Incorporation of the Balanced Literacy Approach, with a specific focus on how Emergent Literacy practices have enhanced the communication development of the students
- . Utilising Instructional Coaches in the areas of AAC (PODD) and Emergent Literacy to provide support and training to staff, family members and the wider community of which the students are a part of.

This case study, whilst touching briefly on the whole-school approach to literacy and communication which has been incorporated by the school, will focus on Corey, Hannah and Zoey and their journey towards becoming competent communicators. It is an honest, reflective insight into the challenges, triumphs, and the learning undertaken by these incredible students as well as the staff and families who support them as we move towards providing a multimodal language environment and authentic communication opportunities for all students.

**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Professional Practice Evidence



## Developing communication culture through Intensive Interaction in school environment

Kaisa Martikainen | Katja Burakoff

Intensive Interaction is developed to meet the learning needs of children and adults who are still at early stages of communication, cognitive and social development. It is a process that aims to enable communication and sociable interactivity (Firth 2012a). Intensive Interaction involves two people trying to find common ways of communicating, even without any words or symbols. It is a social process collaboratively undertaken by someone with a social or communicative impairment and a more experienced communication partner (Firth 2012b).

The approach focuses on developing the Fundamentals of Communication – the communication concepts that precede symbolic communication. This requires a sensitive communication partner who uses a particular interactive style which is based on the natural model of communication learning (Nind & Hewett 2005).

The quality of relationships is fundamental to any learning environment – especially in schools where pupils have complex communication and social needs. Focusing on strengthening the Fundamentals of Communication should be the priority in teaching these children. Intensive Interaction gives tools how to establish these skills in an interactive way. In Finland this method is still quite unknown at the moment.

Technology and Communication Center Tikoteekki of the Finnish Association on Intellectual and Developmental Disabilities implements and disseminates Intensive Interaction in Finland and co-operates with British Intensive Interaction Institute. Solakallio school is one of the biggest special schools for children aged 5 – 17 years with ASD and learning disabilities in Helsinki area. The school wanted to work together with Tikoteekki in creating good practices for more child-centered interaction.

We started a three year project in 2016. The project aims at enhancing staff competence in responsiveness and skills in Intensive Interaction and developing video mentoring practices in school environment. We combine basic training in Intensive Interaction combined with methods of active support on-site: modeling, coaching, mentoring and video-based observation and provision of feedback. Managerial and senior staff involvement in the delivery and ownership of the project is essential. The project is planned and developed together with them.

In our presentation we'll first define shortly Intensive Interaction and it's principles and benefits for people with complex communication needs and their communication partners. Then we'll shortly describe the outlines of our three year Intensive Interaction project.

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**Evidence Area:** AACcess education, AACcess the community

**Content Focus Area:** Professional Practice Evidence

## **Developing Early Communication Skills: An Evidence-based Approach**

**Bethany Diener**

The stage of early/beginning communication often passes quickly for typically developing children and with those around them barely aware of the influencing internal and external factors. Youngsters begin to combine words, produce a variety of communication functions, and take turns in interactions seemingly without effort on their part or that of the adults around them. These skills are expected and a “wait and see” approach is often applied when they are slow to develop or are not developing. As a result, a significant amount of time can be lost for intervention and these children may spend many years trying to catch up regarding communication and language skills or may not catch up at all. Research from those such as Drs. Janice Light and Kathryn Drager support early use of augmentative-alternative communication (AAC) for children with diagnoses which may result in communication impairment, those at risk for communication impairment, and those demonstrating delays in communication development.

Implementation of AAC for early/beginning communicators typically brings to mind choice-making, teaching yes/no responses, and facilitating symbol-object/activity representation through requesting paradigms. While these approaches teach important skills, they are not the only skills needed for an individual to become an active and creative communicator semantically, syntactically, and pragmatically. This session will share an evidence-based approach focused on developing early/beginning communication skills, facilitating continued development, and building skilled and empowered communication partners. Characteristics of early/beginning communicators will be discussed as well myths and research around AAC intervention for them. Visual scenes (low and high tech) and Pathways (free from Tobii Dynavox) will be introduced as tools to carry out the approach.

Research on adult learning suggests that adults want to know why they should learn something with assurance that it will be useful. Then, they need to use the skills themselves. Keeping this in mind, Pathways introduces the benefit of visual scenes then their use through demonstration followed immediately by hands on use. Opportunities for expanding use by the augmented communicator and evidence-based communication partner strategies are presented by building on previous learning to facilitate confidence and empowerment.

Confidence and empowerment for the adults supporting early/beginning communicators may not seem important but experience tells us that these individuals are often hesitant to make changes to AAC tools, add new communication/language skills, or address needs; they often wait for someone who knows more to tell them what to do. As a result, children may not progress as much as they are able thus increasing the existing gap in communication skills between themselves and typically developing children. Pathways offers support for adults to identify how a child is developing or goals for development (Observation Checklist). Suggestions for modifying scenes and their own interactions are then provided. Examples will be discussed in the context of case studies during the session and research supporting the approach will be reviewed.

### **LEARNING OBJECTIVES:**

Participants will be able to:

- Describe four communication partner strategies beneficial in facilitating skills in early/beginning communicators.
- Summarize three research findings that refute the myth that the wait and see approach is best for children at risk for or experiencing communication impairment.
- Determine two suggestions from the Observation Checklist to apply in the context of one case study.

**INTERACTIVE COMPONENTS:**

Participants will be encouraged to share challenges they experience in addressing the communication needs of the emergent communicators as well as tools and techniques they have found useful. Participants will work in groups to identify characteristics of good scenes.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Professional Practice Evidence

## **Developing romantic and sexual relationships: Exploring the lived experiences of people with complex communication needs**

**Darryl Sellwood | Pammi Raghavendra | Ruth Walker | Paul Jewell**

This research investigates the lived experiences of people with complex communication needs in developing romantic and sexual relationships. The United Nations Convention on the Rights of Persons With Disabilities (2013) asserts people with disabilities have equal rights to others to participate in social relationships and acknowledges the additional barriers they face. Often the disability sector focuses on daily living skills and employment outcomes, neglecting sexuality and intimacy needs (Valvano et al., 2014). Research acknowledges that people with congenital disabilities need a whole of life approach to exploring sexuality and intimate relationships (Wiegerink, Roebroek, Bender, Stam, & Cohen-Kettenis, 2011). Augmentative and Alternative Communication (AAC) literature discusses many of the identified issues, yet has a strong focus on sexual abuse protection (Collier, McGhie-Richmond, Odette, & Pyne, 2006; Light & McNaughton, 2015), and also calls for improved sex education and ongoing relationship support (Collier et al., 2006). A recent systematic review ascertained that little is known about the lived experiences of people with complex communication needs in developing romantic or sexual relationships (Sellwood, Raghavendra, & Jewell, 2017).

### **AIM**

Hence, this research asks:

What are the lived experiences of people with complex communication needs in developing romantic or sexual relationships?

What are the barriers and facilitators to developing romantic or sexual relationships for people with complex communication needs?

### **METHOD**

This research deliberately sought lived experiences and perspectives in an area that is seldom discussed openly, and uses a Critical Hermeneutics phenomenological approach to provide a deeper understanding of experiences. The methodology used is in-depth interviews. Following ethics approval, recruitment was conducted internationally, through social media and listservs, the snowball method using e-mail, and direct approach. The inclusion criteria were that participants: had to be 21 or older; have had a physical and communication disability since childhood; and use AAC. The interviews began with demographic questions then explored participants' social life and romantic or sexual experiences. These questions were based on the International Classification of Functioning, Disability and Health (ICF). Interview transcripts were analysed using NVivo, a qualitative research application.

### **RESULTS**

Nine participants, aged from 21 to 70+, were interviewed. Their AAC strategies included dedicated AAC devices, mainstream technology and unaided strategies. The six female and three male participants discussed a total of 21 experiences of relationships. Analysis of these experiences identified an approximately equal number of barriers and facilitators which impacted on the relationships. Some, such as the role of communication devices, was identified as both a barrier and a facilitator. Three themes emerged: personal attributes; interpersonal communication; and the power of others.

### **CONCLUSION**

The research suggests that people with complex communication needs can develop romantic and sexual relationships. Yet, the main factors that can impact relationships are attitudes of others (e.g., family members, friends,

support staff, potential partners and strangers), their own attitudes and the ability to communicate when being intimate. The findings offer new insights into the lives of adults with complex communication needs. These could have implications for professionals supporting people with complex communication needs to enhance intimate relationships.

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**Evidence Area:** AACcess diversity, AACcess culture, AACcess relationships, AACcess social media

**Content Focus Area:** Research Evidence

# Development and evaluation of a message banking application for Amyotrophic Lateral Sclerosis: a human-centered design

**Giordana Donvito | Irene Malberti | Susanna Pozzi | Gaia Gragnano | Elena Carraro | Christian Lunetta | Gabriella Rossi | Valeria Sansone**

## **BACKGROUND**

Amyotrophic Lateral Sclerosis (ALS) is characterised by progressive weakness and loss of function of skeletal muscles also impairing respiratory muscles, swallowing and speech abilities. Communication vulnerability may occur in specific transitory situations or as part of a permanent loss of function. Communication needs change in relation to phenotype, onset, cognitive status. In recent years, different tools have been proposed to overcome speech and communicative impairment based on different strategies including the use of tablet or PC with software for alternative and augmentative communication (AAC). AAC intervention has the potential to meet the needs of palliative care and can improve quality of life in ALS by assisting during decision making, optimising function and allowing for opportunities for personal growth (Bongioanni, 2012). However, even if software for ACC can be tailored to the needs of communication and to the skills of patients, their standard synthetic voice sets boundaries and limits to the personalization of the instrument giving the user a metallic and impersonal tone of their voice.

## **AIM**

In this presentation, we wish to:

- 1) to describe a specific mobile app based on message banking strategies developed to implement already existing technologies of augmentative and alternative communication
- 2) to realise a movie with an ALS patient to raise awareness and promote message banking activity specifically with the use of the designed app

## **METHODS**

The app, conceived and developed thanks to the collaboration of a specialized software Company, was created taking into consideration some specific features and aims:

- to promote the access to message banking easily with different mobile operation systems
- to create a simple and useful tool for ALS patients offering a simple and immediate interface
  - . to support people in the choice of personal phrases offering some well-defined categories with different colours easy to recognize
  - . to allow the patients to replay and implement the recorded phrases everywhere and in a few times
  - . to save and archive the messages in a database (voice bank) on a cloud system. The App can be downloaded from different app stores. The recorded messages can be loaded on different communication devices to give to the patients the possibility to continue communicating with their own voice

## **PATIENTS' RECRUITMENT**

In order to evaluate use and utility of the app and to realize the movie, the multidisciplinary team of NeMO Clinical Center defined a protocol for patient's recruitment. A neurological and neuropsychological screening were performed to define a cognitive framework of the patient and to exclude cognitive deficits or psychological disturbances. In addition, a psychological interview aimed to understand the familiar and affective context of the patient was conducted.

Then, the multidisciplinary team met the patients to present the application and to ask their participation to the movie.

### **THE TESTIMONY MOVIE SPOT OF A PATIENT**

The project of the App My Voice was presented in a movie spot made by a famous Advertising Agency in the World, Universal McCANN, which narrated the story of the selected patient who was diagnosed with ALS three years ago. The movie spot entering in short lists in two categories at Cannes Lions International Film Festival and gaining a reach media of over 1,000,000 view impressions on Internet with hundred of thousands of sharing.

### **CONCLUSION**

NeMo developed a project that we believe will make a significant contribution in uplifting not only the community of patients with ALS and their relatives but also all patients with speech vulnerability.

Message banking, is an intervention strategy that requires little learning and can facilitate more effective communication for persons with speech disability (Costello, 2014). The person with speech disability records whole messages using in his/her own natural voice and stores these electronically for later use. Keeping one's own voice even in the most advanced stages of illness allows patients to preserve their identity and personality and to continue to share their emotions with their family and social network.

### **DECLARATION OF INTEREST**

The authors disclose they have no financial or other interest in objects or entities mentioned in this work.

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**Evidence Area:** AACcess emerging technologies, AACcess the community, AACcess culture

**Content Focus Area:** Professional Practice Evidence

# Development of Augmentative Alternative Communication System using Necklace Switch and EMG Sensor

GyuChang Lee | SeongJun Lee | GeomJu Lee | DongGeon Lee | SeungHyeon Pyo

## 1. BACKGROUND

The AAC (Augmentative Alternative Communication) refers to an approach that supplements, improves and supports communication of the disabled people with speech and language disorders, or that substitutes communication with other methods instead of speaking [1]. Since users of these AAC systems are diverse in terms of types and degrees of the disability, they need to be supported according to the disability type and degree of a user of the AAC system [2]. In the present study, the electromyographic (EMG) sensor in a way that an electric signal is received from a necklace switch in a type of mechanical input using the existing touch switch and muscle of human was developed, and the feasibility test using it was conducted.

## 2. AIMS

The objective of this study was to develop the Augmentative Alternative Communication System using a necklace switch and EMG sensor, and perform a feasibility tests using Augmentative Alternative Communication System using a necklace switch and EMG sensor.

## 3. METHOD

In the present study, a necklace switch and a bio signal-based EMG sensor were developed. When the disabled people who have difficulties in moving their hands use the existing touch switch, they have used it mainly by fixing the switch on a holder of a wheelchair or a desk. However, in this study, a necklace integrated switch which is wearable was designed and developed so that the disabled people who have difficulties in moving their hands could use the switch more easily. The necklace switch is identical to the sensor interface processing unit of the EMG sensor, and a sensor signal is inputted as GPIO and processed.

The EMG sensor consists of the electromyographic signal processing unit and the sensor interface (sending keyboard signals) processing unit. The EMG signal is processed in the stages of Signal Acquisition, Amplification, Filtering, Rectification and Smoothing through electrodes, and the processing process is intended all to be realized through an analog circuit. After the sensor interface processing unit judges ON/OFF of a switch at a microprocessor about the inputted electromyographic signal, it is converted and created into a keyboard signal and transmitted to a smart device with Bluetooth communication.

The above systems were developed so that all could be compatible in both iOS and Android of a smart device, and a universal Bluetooth HID was used so that it could support easy use (switch control) of both iOS and Android considering accessibility of a user.

The feasibility test of the augmentative alternative communication system using a necklace switch and EMG sensor was conducted on 5 healthy adults and 5 disabled persons with speech and language disorders (2 hemiplegic stroke survivors and 3 cerebral palsy children). After making the participants use an augmentative alternative communication program (Smart AAC ver. 1.02, Samsung co. Gyeonggi-do, KR) by using the augmentative alternative communication system using a necklace switch and EMG sensor, they were requested to respond according to Likert scale for usability. In addition, opinions about inconvenience and things to be improved in regard to the augmentative alternative communication system using a necklace switch and EMG sensor were collected through an interview.

## 4. RESULTS

In the results of the feasibility test for healthy adults, it was found that the average score of the augmentative



alternative communication system using a necklace switch was 4.04 points out of 5 points, and the average score of the augmentative alternative communication system using EMG sensor was 3.64 points. In the results of the feasibility test for the disabled people with speech and language disorders, it was found that the average score of the augmentative alternative communication system using a necklace switch was 3.26 points, and the average score of the augmentative alternative communication system using EMG sensor was 3.01 points. In the interviews about inconvenience and things to be improved, they talked about inconvenience that it was not touched well since a phenomenon that the switch was moved occurred when touching a necklace switch, and it was found that they felt inconvenience in the EMG sensor about the method of setting and that it took much time for setting

#### **5. CONCLUSION**

The usability of the augmentative alternative communication system using a necklace switch and EMG sensor is not perfect yet to the disabled people, but the potential could be confirmed that it could be an efficient augmentative alternative communication system to the disabled people depending on a type and a degree of disability such as a difficulty in moving hands etc. In the future, a few limitations will be needed to be improved and developed.

**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Research Evidence

## Development of Web-based Augmentative and Alternative Communication

Kyung-Im Han | Myung-Chul Jung

Augmentative and alternative communication (AAC) was introduced in South Korea (Korea) in the early 1990's, yet it continues to be lacking in the educational field (Han, 1993, 1998). Recent surveys indicate that the number of students who have AAC needs in Korea has increased over the last 10 years. But a recent study (Han & Han, 2013) found that only 58 % of students with AAC needs in Korean special schools received any form of AAC intervention. One of the reason why lots of students needs AAC didn't take AAC intervention was many Korean teachers have no idea about AAC. According to a study (Han & Jung, 2014), Korean special education teachers had lots of difficulties relation to vocabulary selection for AAC intervention and complicated navigation of AAC aids. In another research (Han, Kim, Kown, Jung, & Sin, 2014), special education teachers expressed difficulties relation to selection of appropriate AAC aids for individual student, and the lack of information about AAC intervention strategies. Lots of Korean teachers wanted to get information about AAC easily from internet.

The purpose of this study was to develop a web-based AAC intervention guide program for teachers and survey the satisfaction of teachers on the program. In order to decide which areas would be included in the web-based AAC intervention guide program, researchers performed focus group interview with 7 special education teachers with from 8 years to 20 years career and requested evaluation on the pre-version of the web-based AAC intervention guide program for teachers to 6 AAC professionals. After developing formal version program, 308 special education teachers participated in order to survey satisfaction on the web-based AAC intervention guide program for teachers. The satisfaction questionnaire was composed to 4 areas including physical abilities, vocabulary/symbol recognition, information for intervention, and technique for symbol selection. Participants responded about satisfaction via web-based survey.

The web-based AAC intervention guide program was composed to 7 areas including mobility and posture of student, technique for symbol selection, literacy ability, symbol recognition ability, core and fringe vocabulary knowledge, communicator level, and AAC intervention strategies. First, in the area of mobility and posture of student, lots of assistive technology aids for stable posture and mobility were introduced with photos, using method and purchase method. Second, in the area of technique for symbol selection, users of this program got lots of information about skill and related aids for direct selection and various scanning method including partner assisted scanning, low-column scanning, linear scanning, circular scanning and group-item scanning. Third, in the area of literacy ability, various vocabulary display methods according to literacy ability were introduced with photos and videos. Fourth, in the area of symbol recognition ability, visual identification and visual discrimination of several symbols were introduced. Fifth, in the area of core and fringe vocabulary knowledge, lots of vocabulary list for students need AAC were introduced. Sixth, in the area of communicator level, various AAC aids were introduced with photos and videos relation to emergent communicator, context-dependent communicator, and independent communicator. Seventh, in the area of AAC strategies, various strategies were introduced relation to script strategies, prompt system, milieu teaching, and narrative intervention with photos and videos. The web-based AAC intervention guide program was developed using HTML5 (Hyper Text Markup Language 5) in order to be used via computer as well as any mobile systems including IOS and Android.

The satisfaction of 308 special education teachers about the web-based AAC intervention guide program was high. Overall, younger and lower career teachers' satisfaction was higher. About the physical ability area of the program, the satisfaction of kindergarten and elementary school teachers and teachers who were teaching students with physical and severe disabilities and intellectual disabilities was high. Relation to vocabulary/symbol

recognition and information for intervention areas of the program, the satisfaction of younger and lower career teachers and kindergarten and elementary school teachers was high. Relation to technique for symbol selection area, younger teachers' satisfaction was high but there were no statistical differences about career, school grad, and gender of teachers.

From these results, we recognized younger teachers had preference about web access but older teachers had difficulties about web access in Korea. In the future, it is need to develop the program for Korean older teachers to use simply. About this guide program, middle and high school teacher's satisfaction was not high. This means this program had not many information for older students. In the future, it is need to add practical information for older students need AAC.

**Evidence Area:** AACcess emerging technologies, AACcess education

**Content Focus Area:** Research Evidence

## **Disability Justice Plan – the South Australia Journey**

**Margie Charlesworth**

Submission Focus: Historically speaking if anyone had an intellectual or cognitive disability, a mental illness or a communication issue as a manifestation of their disability, there was the automatic assumption that they were an unreliable and non-credible witness.

This presentation will explore the South Australian journey to access to justice for people living with disabilities which began in 2009. This was when our then, Premier, requested that the Social Inclusion Board develop a long-term strategy to better support people living with disabilities. A key outcome of this was the “Strong Voices” report, which was a blueprint to enhance the life and claim the rights of people with disabilities in South Australia. Recommendation 19 of the report, called for a comprehensive change to the way that individuals with disabilities, whether, they be victim, witness or defendant, gain access to the justice system. There were three main objectives to this. The first was that there be adequate resources committed to prioritise investigation, and timely prosecution of crimes against people with disabilities. Second, that there be more efforts afforded to the prosecution where a person with disability is the alleged victim. Thirdly, an increased way of supporting vulnerable witnesses – particularly children.

This presentation explores the six-year progression towards the implementation of the South Australian disability justice plan. This began with a 90-day project, supported by change South Australia. This project was a collaborative effort between the South Australian courts administration authority, the South Australian Police, the Department of Public Prosecutions, the Department for Education and Child Development, as well as community members, such as myself.

One key objective of the 90-day project was to develop guidelines that would better enable vulnerable victims, witnesses, and defendants in giving evidence. It was anticipated that the introduction of these guidelines and in conjunction with training, would assist in breaking down some of the misconceptions about people with communication disabilities that had been upheld by the justice system. In February 2015, the Disability Justice Plan Action group, held its inaugural meeting.

Under the guidance of the South Australian Law Society, we created new legislation such as the Statutes Amendment (Vulnerable Witnesses) Act 2015 which was introduced to parliament in 2015 and became into force in July 2016. This new law now entitles anyone with either cognitive or communication disabilities services from the newly formed Communication Partner Service. This is a service consisting of volunteers who are trained to facilitate communication between vulnerable victims, witnesses and defendants, with complex communication needs, both, in and out of court. The Communication Partner Service is a significant achievement under the disability justice plan, because previously, people with complex communication needs were denied the opportunity to have their voice heard within the justice system.

This presentation will include a hint of a personal perspective, of someone living with a strong Cerebral Palsy Accent, as well as having personal experience of being accessing the justice system, and being a tireless advocate for the South Australian Disability Justice Plan. This advocacy has involved developing legislation and as well as speaking using AAC to address various audiences through the working progression of the South Australian Disability Justice Plan.

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**Evidence Area:** AACcess justice

**Content Focus Area:** Personal Experiences and Preferences

# Dynamic Trends in AAC Service Delivery in Pediatric Acute Care: A Retrospective Review

Rachel Santiago | Michelle Howard | John Costello

## BACKGROUND

Addressing communication vulnerability has been established as a vital aspect in patient care across the age span and recovery continuum. However, patient data for augmentative and alternative (AAC) assessment and intervention in pediatric acute care has not been closely analyzed. Though current literature has supported the critical need for pediatric patients to communicate effectively with their loved ones and providers during a hospital admission and possible strategies to address these needs (Costello, Patak, and Pritchard, 2010), further research is needed to quantify and qualify the patients referred for communication enhancement interventions, types of assessment and intervention strategies, and further information derived from actual patient data. Additionally, the vast majority of published research focusing on communication vulnerable patients consists of adult populations and more commonly, patients without baseline communication impairments. Pediatric patients with complex communication needs, whether baseline or acute in nature, tend to have more dynamic needs due to developing language, literacy, and speech and language skills. Patient data derived from dedicated AAC service delivery in a pediatric inpatient hospital may yield recommendations and considerations for speech-language pathologists, medical professionals, and hospitals institutions across the globe regarding service delivery in the acute care setting.

## AIM

To analyze trends in AAC service delivery in patients referred for augmentative and alternative communication consultation in the pediatric intensive care and acute care setting.

## METHOD

An IRB-approved retrospective review was conducted of patients at a tertiary referral center, who were followed by a speech-language pathologist in the Inpatient Augmentative Communication Program between December, 2015 and May, 2016. Patient data was gathered via retrospective review of electronic medical records by inpatient speech-language pathologists and billing data. Data was analyzed to identify trends in patient variables, assessment recommendations, and intervention recommendations.

## RESULTS

A total of 168 unique patients were seen by a single speech-language pathologist between December 2015 and May 2016 at Boston Children's Hospital inpatient units. Ages of patients ranged from 1 month to 32 years, with an average age of 11.42 years. Ninety-five patients (65%) had some degree of baseline speech, language, or communication impairment at the time of admission. Patients seen were admitted to acute care for a wide variety of reasons across varied inpatient units with the most prevalent need being related to respiratory issues and the most frequent units being intensive or intermediate care. The average number of days from admission to consult order placement was 8.86 days with a median of 4 days. A wide range of unaided and aided AAC strategies were recommended at the assessment encounter and across intervention visits, with low-tech picture-communication tools being the most recommended and implemented strategy. During assessment encounters, 72 patients (42.9%) required some type of supported access method while 65 patients (38.7%) utilized supported access strategies on follow up visits. Of the 112 patients who received follow-up intervention (67% of patients), the mean number of encounters was 3.84 sessions, not including the initial evaluation encounter and 65 patients (58%) were identified having new or modified AAC and/or access needs following the initial encounter.

## **CONCLUSION**

Speech-language pathologists need to be prepared to work with children and young adults across hospital units, at varying phases of recovery, and with both typically developing speech, language, and communication skills and those with baseline speech, language, and communication impairments. This includes familiarity with augmentative and alternative communication tools and strategies ranging from no-tech to high-tech systems in order to adequately support access to personal systems as well as newly recommended strategies for short term use. Results of data analysis revealed a higher prevalence of lower-tech recommendations, suggesting that while the availability of high-tech systems is critical especially on follow-up encounters, access to low-tech solutions is an essential component to a patient's full communication system, particularly during initial encounters. Data also supports the need for a variety of assistive technologies and access options for patients with varied physical and sensory needs both during assessment and intervention encounters. Given that over half of patients required modification or creation of new AAC and/or access strategies following the initial encounter, ongoing consultation by a qualified clinician is essential to the dynamic and changing communication needs throughout the recovery continuum.

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**Evidence Area:** AACcess emerging technologies, AACcess the community

**Content Focus Area:** Research Evidence

## **Early Development of Emotional Competence Tool for Children using AAC: Its Application in Different Communities**

**Ji Young Na | Gabriela Alejandra Rangel Rodríguez | Birgitte Brandt**

This workshop will provide a space to discuss and analyze the importance of raising awareness about and assessing the development of emotional competence in children with complex communication needs (CCN). The Early Development of Emotional Competence (EDEC) is an interview tool that can be used with parents and professionals. In 2012, Blackstone, Wilkinson, & Thistle presented it as a way for AAC specialists, family members and teams to understand and assist children with CCN to talk about their emotions and develop emotional competencies. The EDEC has subsequently been used in different linguistic and cultural communities. It is now adapted and has been tested for use in different languages, following a specific translation process.

Emotional competence is a set of cognitive, behavioral, and regulatory skills oriented to emotions that a person needs to have in order to cope with the challenges of a changing environment (Saarni, 2011). The development of emotional competence has a correlation with the development of communicative competences (Roben, Cole & Armstrong, 2013). People with CCN require access to language that enables them to develop linguistic, communicative and emotional abilities (Blackstone and Wilkins, 2009). AAC systems should, therefore, be designed in ways that support this development over time. The EDEC was intended to raise awareness about the relationship between language and emotional competence, while ensuring that a child's communication interventions include access to language and, if possible, literacy that allows him/her to discuss emotions in ways that are consistent with the values and goals of the family (Na, Wilkinson, and Liang, 2017, in press). This tool provides relevant information that supports decision making for the intervention and design of AAC systems (Na and Wilkinson, 2016), reflecting the linguistic and cultural contexts of each person.

This workshop will illustrate the basics of the EDEC tool and its practical potential in assessment, as well as in decision-making for subsequent clinical interventions like implications for design of AAC systems, emphasizing its usefulness in a diversity of cultural and linguistic contexts. It will introduce the progress and final translations of the EDEC tool in its Korean, Danish and Spanish versions as well as present findings obtained in pilot applications.

### **LEARNING OUTCOMES**

Participants will be able to:

1. Discuss the importance of promoting emotional competence through the use of AAC systems from the early stages of development.
2. Analyze the significance of assessing and providing culturally appropriate access in interventions while promoting emotional competence development in people with CCN.
3. Obtain access to a tool that assesses the early development of emotional competence in people with CCN in English, Korean, Danish and Spanish.

### **INTERACTIVE COMPONENTS**

Pilot data from different cultural-linguistic backgrounds will be presented.

Participants will be able to practice analyzing the presented pilot data and will discuss among small groups the possible interventions (adapted to specific cultural context) to promote the development of the emotional competence of children with complex communication needs through AAC.

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**Evidence Area:** AACcess language and literacy, AACcess education, AACcess relationships

**Content Focus Area:** Research Evidence, Professional Practice Evidence

## Educating students with complex communication needs for a more independent future.

Samantha White | Kate Eddy

Title: I Can Communicate, I Can Participate: Educating students with complex communication needs for a more independent future

Kate Eddy, adjustED – Adjusted Learning Solutions

Samantha White, Speech Pathologist

This presentation will outline the journey of Glenroy Specialist School (students have physical or multiple disabilities and complex health needs) wanting to find ways to include all students at all times in the curriculum. Our goal was to provide students real access to the same learning as their more physically able peers, by ensuring their own access methods to communication and technology were understood and met.

Our poster will detail how a school wide communication project led to the creation of an aided language environment that provides consistent language modelling and an expectation that all children can communicate. This began with the development of a whole school multi-level communication book that contained frequently used vocabulary within the school. Intense professional development was also provided to teach staff how to implement aided language stimulation using this system. Whilst there were concerns that this book was not a robust language system, the school leadership team made the decision that starting with something simple and easy to use would not overwhelm staff, as we needed to obtain staff buy in with consistent modelling of language. As a whole this project was well received by staff who soon realised that they required more language to enable modelling of everything they say across their day. This led to the introduction of individual low tech Pragmatic Organisational Dynamic Display (PODD) (Gayle Porter) communication books for students as well as group classroom PODD books.

The communication project resulted in staff seeing students become more active participants and viewing communication, the curriculum and technology as interrelated rather than as standalone aspects of learning. We began to see the need for a strategy that could ensure students progression towards more independent communication and access to their environment to enable a more independent future. After attending Linda Burkhart's Multi-Modal Communication and Learning Strategies for Children who face Significant Challenges training, we began to look at how to implement Burkhart's Stepping Stones to Access for students who have limited ability to use direct selection with their hands. This was an area where staff required development and support to enable these students to access communication and their learning.

The initial focus was on shifting long held beliefs that students do "switching" as an activity, as opposed to seeing it as a way to access communication, learning and life. A number of whole school trainings were conducted including both hands on, small group and one to one trainings. This was done collaboratively by education staff including a technology coach and school based therapists. Multidisciplinary teams including teachers, speech pathologists and occupational therapists worked together to conduct assessments, develop technology profiles and implement work on students' access across all curriculum areas.

Positive results, learnings and future considerations will be further explored in the poster.

**Evidence Area:** AACcess emerging technologies, AACcess language and literacy, AACcess education, AACcess relationships

**Content Focus Area:** Professional Practice Evidence

## **Effect of frequency of AiLgS on receptive vocabulary acquisition in children with CCN and ID**

**Zakiyya Laher | Shakila Dada**

The main aim of the study is to compare the effect of Aided Language Stimulation (AiLgS) with a frequency of 40% and 70% respectively on the receptive vocabulary acquisition of children with complex communication needs (CCN) and intellectual disability during a craft activity and procedural discourse activity.

### **SUB AIMS:**

- i. To determine the effect of 40% of AiLgS on the acquisition of target receptive vocabulary items of children with CCN and intellectual disability within a craft activity.
- ii. To determine the effect of 70% of AiLgS on the acquisition of target receptive vocabulary items of children with CCN and intellectual disability within a procedural discourse activity.
- iii. To compare the efficiency of 70% and 40% of AiLgS on the acquisition of target receptive vocabulary items of children with CCNFS and intellectual disability within a craft and procedural discourse activity.

### **INTRODUCTION**

Language acquisition in children who require Augmentative and Alternative Communication (AAC) is influenced by the structural characteristics of the target language, the way the child processes this input and the input provided to the child during the acquisition process (Smith & Grove, 2003). The ability to understand spoken language provides evidence that symbolic functioning has been achieved (Romski & Sevcik, 2003). Receptive vocabulary acquisition aids this process and language development. The rate and quality of input children who use AAC receive is essential to their development (Romski et al., 2003). AiLgS is one type of aided augmented input strategy first defined and reported by Goossens' (1989). AiLgS involves the facilitator pointing to a picture symbol on a facilitator communication board and providing ongoing verbal language stimulation (Goossens', 1989).

Dada (2004) described the nature and frequency of an AiLgS provided for three weeks involving four children with CCN. AiLgS was provided at a frequency of 76% to 92%, for target vocabulary, and resulted in specific vocabulary acquisition (Dada, 2004). This study plans on expanding the Dada (2004) study by varying the population group and the intervention dosage level.

### **METHOD**

A single subject adapted alternating treatment design (AATD; Wolery, Gast & Hammond, 2010) will be used to compare two interventions. Intervention A will provide 40% AiLgS during a craft activity and Intervention B will provide 70% AiLgS during a procedural discourse activity. The study will consist of six participants, specifically assigned into Group 1 and Group 2 in order to provide AiLgS intervention in a group format. Data will be collected and analysed at an individual level with each participants acting as their own control.

The study will consist of three phases: baseline, intervention and maintenance. During the baseline phase no intervention will occur, probes will be conducted for the eight target vocabulary items and a control set of vocabulary (Wolery et al., 2010). During intervention, Intervention A and Intervention B will be implemented on group 1 and 2 in a systematically alternating fashion, with a break of at least one hour between sessions, to minimise multi-treatment effects (Wolery et al., 2010). If group 1 received intervention A first on a particular day then group 2 will receive intervention A first on the following day. Probes will be conducted before each intervention session, as per the baseline probes. A teaching criterion of eight days will be set with a learning criterion of 79% (19/24) correct identification of target words in all probe conditions, over two consecutive probes will be used (Schlosser, 2003). After five days of withdrawal of intervention three maintenance probes will be conducted across conditions.

The probe test, consisting of the target and control set of vocabulary, will be used in the baseline, before each intervention session and during the maintenance probe. Probes will use auditory stimuli to object matching, visual stimuli to object matching and auditory and visual stimuli to object matching.

#### **RESULTS**

Results of the main study will be collected during November 2017 and early 2018. It is envisaged that the results of the study will be presented using visual analysis. In addition basis statistical analysis of single subjects will be included . Descriptive data gathered from the parent and teacher questionnaire and participant descriptions will be represented in text and tables. The data gathered from baseline, intervention and maintenance probes will be analysed and presented graphically. The percentage of correct responses per intervention will be calculated and depicted per participant and per session. Statistical analysis will be conducted using statistical strategies for single subject designs.

#### **CONCLUSION**

The results of the study will be highlighted. Brief clinical and research implications will be discussed.

#### **DECLARATION OF INTEREST**

The authors disclose that they have no financial or other interests in objects or entities mentioned in this paper.

#### **FUNDING**

The study is funded by the National research Foundation (TTK 150708124127) as well as the postgraduate bursary from the Andrew Mellon Foundation. The paper does not represent the views of the funders.

**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence

# Effective Questions while Showing Photographs Aimed at Augmenting Storytelling of Residents in Nursing Homes

Haruka Kanetsuku | Tetsuya Hirotoomi | Sachiko Hara

Life story work is conducted with older adults exhibiting neurocognitive disorders because it is effective for maintaining conversational ability and prompting interpersonal relationships. A variety of contents have been used as a stimulus to augment their storytelling (e.g., Fried-Oken et al., 2012). However, the efficacy of questions adopted by care staff while presenting these contents has not been a major focus. This poster presents the findings of an analysis of peer conversations between nursing home residents with neurocognitive disorders and their care staff while showing photographs on a touchscreen.

## AIM

The aims of this research were, specifically,

- (1) to test the relationships between the presence or absence of specific types of questions and success or failure in eliciting life stories, and
- (2) to mine frequent sequential patterns of care staff utterances including the specific types of questions in successful cases.

## METHOD

### Participants

Nine residents between the ages of 83 and 98 with neurocognitive disorders and six care staff from a nursing home participated. The average Mini Mental State Examination score of the residents was 12.89 (SD=6.67). A communication peer was selected for each resident on the basis of the staff member's assignment as a care giver. Their conversations were in their native language (Japanese).

### Equipment

A technology probe is an instrument with limited functionality that is deployed to find out about the unknown and hopefully return with useful or interesting data (Hutchinson et al., 2003). Our probe is capable of the functions of browsing thumbnails of photographs, showing a selected photograph in a larger size, logging interactions, and recording speech.

### Data collection

Each dyad used our probe and engaged in approximately 5 minutes of unstructured conversations twice a week over a period of 5 weeks. During conversations, each dyad sat shoulder-to-shoulder to share a touchscreen. The conversations took place in the resident's room without researchers. One data collection days, the residents' cognitive conditions were insufficient to recognize photographs. Consequently, we collected audio recordings of a total of 53 conversations. By using the log data of our probe, we extracted 194 photo segments from the transcribed audio recordings about the enlarged photographs and utterances regarding them.

### Analyzing transcripts

First, we classified each photo segment into those with which residents did (success) or did not (failure) tell their life stories. Second, we coded each sentence using emergent coding. The final coding scheme contained 30 codes. Third, we examined the relationship between the presence or absence of two codes representing care staff utterances and success or failure by using the chi-squared test. The codes that we focused on were (a) questions about things or events themselves depicted in each photograph, and (b) questions about things or events associated with but not directly depicted in each photograph. Finally, we mined frequent sequential patterns including codes with significant differences using the cSPADE algorithm in R.

## **RESULT**

We obtained 109 successful photo segments and 85 failures. A significant interaction was found for (b) by the chi-squared test ( $\chi^2(1)=33.036, p<0.01$ ), but not for (a) ( $p>0.05$ ). Life stories were more likely to be elicited with (b) (69%) than without (b) (24%). The frequent sequential patterns of successful elicitation began with (a), (c) and/or (d), and progressed to (b), and afterwards, (b), (c), (d) and/or (e), where (c) represents an in-depth question about each resident's utterances, (d) represents a repetition or recapitulation of each resident's utterances, and (e) represents utterances expressing what the care staff member thought or felt.

## **CONCLUSION**

Our findings suggest that eliciting life stories from residents while showing a photograph can be more successful by asking questions about things or events associated with the photograph rather than only asking questions about things or events directly depicted in it. The frequent sequential patterns showed that the former questions were asked to explore possible life stories and obtain focus on specific topics. Our future work is to develop communication aids to support the asking of such questions for sharing life stories.

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**Evidence Area:** AACcess emerging technologies, AACcess relationships

**Content Focus Area:** Research Evidence

## Effectiveness of a communication app developed for people with aphasia

Mineko Booka | Tetsuya Hirotohi | Miyabi Sakai | Fuko Kitamura

Aphasia is a language disorder caused by lesions in the speech areas of the cerebrum. The disorder causes some form of impairment to all four communication modalities of speaking, listening, reading, and writing. People with moderate to severe aphasia therefore tend to use augmentative and alternative communication (AAC), such as drawing and gestures. Mobile applications (apps) for individuals with aphasia are one type of AAC tool recently being developed in the U.S. and Europe (MacCallum et al., 2014). However, there are currently no published studies that fundamentally assess the suitability and practicality of these apps.

In this study, we sought to address this lack of research by developing a hierarchical communication app for individuals with aphasia, and then analyzing its effectiveness by comparing the ability of people with aphasia to communicate when using the app and when not using it. Furthermore, we assessed the effect of advice provided to their conversation partners by a speech therapist (ST).

### **METHOD**

We developed the new app using the tablet-based SClick app. SClick has a hierarchical structure divided into seven top-level categories and three of them have a further subcategory level. The single screen contains six symbols. We modified the app's system and design to suit the specific needs of individuals with aphasia, and ran the app on a tablet device (docomo AQUOS PAD SH-08E).

The study population consisted of 8 individuals with aphasia. Each aphasic subject attempted to communicate the task words to a family member who was a main conversation partner in their daily life. Each task word was shown on a photo card. There were 16 task words, all of which were tested in each of three sessions. Subjects communicated without using the app in the first session and while using the app in the second session. The last session was conducted after a ST (the author) advised the family members on effective use of the app.

### **RESULTS**

Before the speech therapist advised the family members, only one case achieved a higher rate of correct responses when using the app-integrated means of communication than when using the current means of communication. However, after the advice to family members, 3 cases had more correct responses. Conversely, 2 cases had fewer correct responses after the advice.

We therefore analyzed the correct response rate for the first – and second-level categories and which means of communication was more effective in achieving correct responses. The 3 cases with more correct responses after receiving the advice from the ST had a correct response rate of at least 85% for first-level categories. Also, the aphasic subjects used multiple AACs such as drawing, gestures, and the app in addition to verbal communication. Moreover, family members tended to use the app to support their inferences of the task words described using other means. On the other hand, the 2 cases who had fewer correct responses after receiving advice from the ST achieved correct response rates of 80% and 100% for first-level categories but only 17% and 67% for second-level ones. These family members also encouraged the use of drawing, gestures, and the app in addition to verbal communication but tended mainly to use the app.

### **DISCUSSION**

This study suggests that the app can be used as an effective support tool for people with aphasia. This highlights the need for their communication partners to understand the individual's symptoms, and the need for skills to properly use the app. In other words, the communication partners should have the skill not only to encourage

people with aphasia to use the app but also to use other means of communication that people with aphasia currently use.

This finding is consistent with Garrett (2013)'s assertion that a means of communication that utilizes residual skills is indeed "multimodal." Expert assistance from a speech therapist based on the communication skills of each individual with aphasia can be effective in enabling communication partners to acquire these communication skills. The app's hardware also needs to be improved to eliminate operational errors through consultation with rehabilitation engineers.

Future research is needed to develop methods for evaluating the suitability of the app for each individual with aphasia, and to establish methods for advising communication partners on how to use the app. We also plan to develop a scrollable version of the app and compare it with the current hierarchical version.

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**Evidence Area:** AACcess emerging technologies, AACcess the community, AACcess social media

**Content Focus Area:** Research Evidence, Professional Practice Evidence



## Effects of Embedding Core Vocabulary in Emergent Literacy Instructional Routines

Penelope Hatch | Lori Geist | Karen Erickson

This session will provide detailed information about five early language and literacy instructional routines: shared reading, predictable chart writing, alphabet/phonological awareness, independent reading, and independent writing. The focus will be on the teaching and use of core vocabulary within the routines to engage beginning communicators with significant cognitive disabilities and increase their literacy and communication abilities. The presenters will share descriptive data from an ongoing study that is specific to teacher behaviors (e.g., modeling core vocabulary symbols and attributing meaning to communication attempts) and how these behaviors vary across routines. Descriptive data will also be shared regarding student use of symbolic and non-symbolic means of communication to initiate and respond across routines. Access to free resources to support planning and implementing the routines as well as student communication supports will be provided.

### BACKGROUND AND RATIONALE

There has been a call in recent years to provide students with significant cognitive disabilities and complex communication needs (CCN) with increased access to quality, comprehensive literacy instruction (e.g., Erickson, 2017). One of the greatest challenges in meeting this call is ensuring that all students have access to the instruction and supports they require to participate and interact during this instruction. Project Core has addressed this challenge by identifying common instructional routines in early language and literacy and creating professional development, planning supports, and self-reflection/observation tools to support educators in implementing the routines. Importantly, all of the supports specifically address the integration of symbolic communication instruction throughout.

Project Core is a Stepping Up Technology Implementation grant from the United States Department of Education, Office of Special Education Programs (H# H327S140017). The primary purpose of Project Core is to create an implementation program that will help educators (e.g., general and special education teachers, teaching assistants) teach symbolic communication to students with significant cognitive disabilities who are beginning communicators. Project Core uses a prioritized set of 36 core words called the Universal Core vocabulary and includes a full-range of implementation supports that help educators teach and use the Universal Core vocabulary throughout the day. Specifically, the Project Core implementation program includes professional development modules (14 at this time), coaching resources, teaching materials and planning guides, student communication supports (i.e., downloadable versions of the Universal Core vocabulary in multiple formats), and self-reflection and observation checklists.

The Project Core research team is now investigating the impact of these professional development and instructional resources on teacher practice and student communication. During the 2017-18 school year, special education teachers and students with significant cognitive disabilities in at least 20 classrooms across four schools are participating in an investigation of the impact of the Project Core implementation approach. The early language and literacy routines are one aspect of the implementation approach and the focus of the current proposal.

### OUTLINE OF CONTENT

The proposed session will be organized around the five early language and literacy routines (i.e., shared reading, predictable chart writing, alphabet/phonological awareness, independent reading, independent writing). The evidence-base for each will be discussed and then specific ways to teach symbolic communication within the routine will be highlighted. The focus will be on the use of the Universal Core vocabulary during the instructional routines, but presenters will also include information about integrating other comprehensive approaches to aided

AAC. Data gathered in more than 20 classrooms currently implementing the Project Core approach will be used to describe the ways that educators model aided AAC, attribute meaning to student symbolic and non-symbolic communication efforts, and support students in communicating in increasingly complex ways. Data will also be used to describe student symbolic and non-symbolic initiations and responses across the routines.

**LEARNING OUTCOMES:**

After completing this session, participants will be able to:

1. List at list 3 early language and literacy routines that can support students with significant cognitive disabilities in learning symbolic communication.
2. Describe 3 ways that aided AAC, specifically core vocabulary, can be embedded in early language and literacy routines.
3. Access and use instructional planning supports and self-reflection/observation tools to implement early language and literacy routines while teaching symbolic communication.

**INTERACTIVE COMPONENTS**

Participants will observe video of teachers engaging in the instructional routines and complete self-reflection and observation forms based on that teacher's lesson.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Research Evidence, Professional Practice Evidence

## **Eight Months with Universal Core: How a Teacher-Led Approach Changed One Self-Contained Classroom**

**Lisa Erwin-Davidson**

### **BACKGROUND & RATIONALE**

School-age children who present with significant cognitive disabilities (SCD) and complex communication needs (CCN) often face significant challenges when it comes to learning academic curricula. In short, two specific problems exist, (1) there are school-aged children with SCD who have no way to express themselves symbolically, which may mask untapped learning and communication potential, and (2) there are too many teachers who have no way to address student communication needs for standards-based instruction.

It was hypothesized that infusing a core communication vocabulary approach into the existing daily activities of students in a self-contained classroom would support the emergence of symbolic communication.

### **AIM**

This researcher aims to describe what happened in one purposefully sampled self-contained classroom serving seven students, ages 6-10, with significant cognitive disabilities and complex communication needs when a teacher implemented a core vocabulary-based communication approach over eight months.

The research questions are as follows:

1. What happens in a naturalistic context when there is a prolonged and systematic effort to try to address the problem of no symbolic communication among this population of children?
2. How does change in student communication occur upon the introduction of the Universal Core?
3. What is the interplay between students, instructional staff and context within a classroom unit?

### **METHOD**

This study employed an approach to analysis that was iterative, inductive and exploratory within a natural setting. To lend credence and validity to the study, data sources were triangulated and analyzed from (a) 20 sets of participant observation field notes taken by five different researchers, (b) semi-structured interviews and informal conversations, (c) classroom artifacts such as photos, sketches, sample student work, and (d) teacher-constructed products from professional development sessions. Both hand-coding and software analysis (using ATLAS.ti for Mac) was conducted to identify codes, categories and concepts. A researcher-developed content analysis of the pre-post intervention semi-structured interviews was utilized to extract and identify key sentiments that helped support evidence of teacher, student, and related service provider thought and action change over time.

### **RESULTS**

Baseline testing indicated the seven students within this one elementary classroom all presented at intentional, but pre-symbolic or emerging symbolic communication levels. At the conclusion of the study, results indicated that the infusion of the Universal Core into the existing daily classroom activities supported these students' emergence of symbolic communication. This diverse group of learners learned to use and understand a small set of conceptually-based vocabulary across most classroom contexts and for different purposes. They began to use this predictable, useful, and mutually referenced set of words as a common platform of communication. There was an increase in student engagement, improved teacher-student attunement, more frequent attributions of communicative meaning to behavior, and improved group cohesiveness. The students began to attend more frequently to their potential communication partners during group lessons with evidence of eavesdropping on their classmates across the group space. The teacher and her teaching assistant also became more natural in their ability to model and use core.

## **CONCLUSION**

This in-depth analysis revealed a co-development of communication, instructional, and contextual components that indicated a positive shift in the students' engagement in communication. This immersive approach with a teacher-focus on communication implementation also resulted in the SLP's feeling a shared sense of accountability toward students' communication and learning success. Finally, the students in this classroom were given more reasons to communicate as the teacher realized how to share this common form of graphically represented language more naturally across contexts. These results add to a growing evidence-base suggesting that providing access to an evidence-based, flexible, and broadly applicable core vocabulary allows students with significant cognitive disabilities to improve communicative competence and symbolic communication.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Research Evidence, Professional Practice Evidence

# Employment of persons with disability in low and middle income countries: A scoping review

Refilwe Morwane | Shakila Dada J | uan Bornman

## BACKGROUND

Persons with disabilities globally continue to face discrimination and high level of unemployment. Within the broad sphere of disability, persons with complex communication needs (CCN) are particularly vulnerable and are less likely to be employed (Lindsay, 2011). It is estimated that persons with disabilities comprise of 15% of the total population worldwide (World Bank & WHO, 2011). It is however, important to note that approximately 80% of persons with disability live in low and middle income (LAMI) countries such as South Africa. Disability in LAMI countries has been linked to extreme poverty (Groce et al., 2011; Mitra, Posarac, & Vick, 2013). This is in part due to inadequate education which in turn leads to limited employment opportunities (Abidi & Sharma, 2014).

The United Nation's Convention on the Rights of Persons with Disabilities (CRPD) recognises inequalities that exist globally for persons with disabilities. Article 27 that specifically addresses work and employment, clearly states that state parties should work towards creating amongst other things, equal opportunities for employment, focus on career advancement, prohibit discrimination, respect disability rights and provide access and reasonable accommodation where needed (Harpur, 2012). The CRPD has been ratified by most LAMI countries indicating a commitment to improving the lives of those with disabilities. The domestication of the CRPD in these countries has led to the establishment of country specific laws and policies to promote full participation of persons with disabilities. However, despite the establishment of these laws and guidelines, employment of persons with disability as promulgated by the implementation of these laws, remain challenging.

There is limited information available from the literature on the employment status of persons with disabilities in LAMI countries. However Mitra et al. (2013) indicated an enormous gap in employment of persons with disabilities as compared to their counterparts with no disability in various LAMI countries. It is therefore important in light of the CRPD to gain a deeper understanding on what intervention strategies has been implemented to realise the goals as outlined in Article 27 of the CRPD. Crucial information on the experiences of persons with disabilities with seeking and attaining employment is needed, as well as information pertaining to what type of jobs they are likely to be employed in, what specific skills they need to present with, if disability type plays a role in finding employment, and specifically what the influence of a presenting with a CCN is on finding and securing employment. The International Classification of function has emphasised that disability should not solely be defined by impairment and other limitations imposed by the condition but should rather be defined in light of contextual factors. Information on how disability is defined and understood by different states in LAMI countries could also be of great importance.

## PURPOSE

The aim of this scoping review is to describe: i) the current status of employment of persons with disability in LAMI countries; ii) barriers to employment experienced by this population as well as iii) facilitators to finding and attaining employment in LAMI countries. The literature accessible from the past decade will be considered. Initially the purpose of this scoping review focussed on persons with CCN, but an initial literature search indicated a paucity of published studies, and therefore the search terms were expanded to not only focus on persons with CCN, but on persons with disability.

## METHODS

A Boolean search of electronic databases spanning two decades (2002-2017) with specific search terms related to disability and employment in LAMI countries are used. Both qualitative and Quantitative studies are included.

Whole texts that meet specific criteria are scrutinized for relevant information using a data extraction protocol. Quality appraisal of all included papers are undertaken using the McMaster tool.

#### **RESULTS**

Results will be described according to the four phased PRISMA model. Data will be synthesised qualitatively using narrative summaries, and will be the main focus of this presentation.

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**Evidence Area:** AACcess employment

**Content Focus Area:** Research Evidence

## **Empowering Communication Partners: Practical Ideas to Support Individuals with Complex Communication Needs**

**Joni Nygard | Jill Tullman**

The foundations of Augmentative Alternative Communication (AAC) today are embedded within research. The Participation Model by Beukelman & Mirenda (1988) identified that the purpose of an AAC assessment and intervention is to facilitate meaningful communication and participation in daily life activities. Essentially the model includes ongoing assessment and intervention for participation. Just as relevant today, if not more so, this remains an appropriate model for creating and implementing successful communication opportunities for individuals with complex communication needs.

Blackstone and Hunt-Berg in their 2012 updated version of *Social Networks: A communication Inventory for Individuals with Complex Communication Needs and their Communication Partners* highlight the key role that communication partners play during the interaction process. Acknowledging the multi-modal nature of communication and recognizing the interaction patterns are likely to vary across situations and people during a person's lifetime.

AAC is now considered mainstream. It is common practice for families of young children to download AAC applications to iDevices, for children to come to school with their own iDevices with one or many AAC applications on them. Instead of looking at this as a daunting task, we can and should be looking at this as an exciting time. AAC is being given to kids at earlier and earlier ages. We, as SLPs, are no longer 'gate keepers'. Rather, we are now responsible for implementing and supporting AAC applications and/or speech generating devices (SGDs) to support individuals. As SLPs, we know how to teach language, and we must share those strategies with the communication partners who are in the child's day to day interactions. We know that children learn best when engaged in activities they enjoy, and their communication partners (often parents, siblings, teachers, paraeducators) are naturally reinforced when children with complex communication needs begin communicating. Empowering communication partners is critical to success when supporting individuals who have complex communication needs and rely on AAC strategies, techniques, applications, and devices.

We will begin to delve into practical ideas and strategies that can easily be used within routines and with classrooms with individuals of all ability levels and across ages. For the youngest learners, parent-child interactions can easily be enhanced by use of technology, and for school-aged learners, the importance of embedding communication opportunities and technology within the curriculum to help attain the common core state standards at each grade level. For young adults, it is important in their lives to become even more multi-modal in their use of AAC tools and strategies.

Our 'bag of tricks' and practical ideas and strategies are really quite typical if you think about it as language development versus AAC intervention. Within this presentation, we will discuss how a range of no tech, low tech and high tech AAC tools and strategies are easily introduced and embedded into daily routines. Highlighted techniques will include but not be limited to repetition of story-lines, labeling, commenting, expanding and extending utterances, and modeling within language rich environments. Additional partner specific strategies include 'tell me more' concepts and the use of peer mentors. Key videos will demonstrate these tools and strategies in real-life situations.

While this continues to be an unsettling and ever-changing time in the field of AAC, it is an incredibly exciting time. We must remember and continue our quest to provide successful interactive AAC services, regardless of the tools we choose to use. To support individuals with complex communication needs (CCN) in achieving communicative competence (Light & McNaughton, 2014), we must continue to support language development, and provide ongoing opportunities for all to communicate and participate fully in their day to day lives.

We need to empower our teams: our families, peers, general education teachers, special education teachers, and paraprofessionals alike to understand language development and its importance in helping children with CCN. We must all understand and embrace that language develops in meaningful interactions and natural environments. Individuals with CCN must have access to language and to vocabulary that is motivating, meaningful, age-appropriate and allows them to communicate, interact, and participate fully in their environments.

Now more than ever professionals of all ages must adhere to best practices when supporting individuals who have CCN to use AAC technologies to communicate and participate throughout their days, across environments with familiar and less familiar communication partners. We must support, educate and work closely together with families, schools, transition teams, other therapists, and individuals in the community to assist and support individuals in communicating and actively participating to the best of their abilities.

**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences,



## **Empowering educators in AAC – Identifying, planning and implementing communication change within special education settings.**

**Janelle Sampson | Sarah McKenzie**

Educators in special education settings have a multitude of considerations when creating curriculum plans for their students. The diverse make-up of a special education class makes the task of integrating individual communication needs into all aspects of the school day a daunting task. Additional time requirements for activities such as daily care, mealtimes, sensory breaks and position changes also mean that educators are constantly stretched to prioritise learning time in their classrooms. Therapy interventions and goals, even when carefully integrated by the allied health professional, also impose an additional load on educators to juggle the logistics and priorities of the family, the curriculum, varied teams of service providers, and others.

For an AAC professional, the process of working in schools brings the challenge of transferring individual goals into strategies that can reasonably be expected in a group situation and alongside competing learning areas. In many instances, this balance is difficult to achieve and varied levels of skill and experience of the educator and AAC professional add to the complexity. The educator can feel overwhelmed by the multitude of expectations placed on them, while the therapist attempts to provide a consultative approach that suits a group situation but will also support change in the individual student's communicative development.

Recently in Australia, there has been a significant and positive shift in the awareness and ownership of AAC supports within special education settings. Many schools are developing school-wide communication plans and acquiring consultation support from AAC professionals to develop the knowledge, skills and attitudes of their staff. This has led to a more sustainable approach to communication support than the old model where individual therapists provide consultation to individual teachers.

The Rubric of Communicative Competence (ROCC) was developed to give school staff ownership and understanding of their students' communication progress. With reference to 10 overarching goals that lead to communicative competence, The ROCC helps to measure and compare progress of an individual, class and whole school grouping. It also helps educators set their own smaller goals, develop strategies, and measure whether these strategies are actually making change for their students. Class teachers can view trends in their group data and plan areas for classroom focus, while school leadership can create strategic directions based on whole school data. Using the tool can help to reduce the temptation to switch to the latest shiny ball strategy or to prioritise strategies recommended by visiting therapists. Educators are encouraged to discuss their findings with therapists and work collaboratively rather than feeling they must just follow recommendations.

The training provided to complete the ROCC looks at the big picture, as well as the smaller steps required to achieve communicative competence. This can lead to a focus on specific areas such as initiation of communication, access to communication systems at all times, or increasing length or complexity of message. The AAC professional can support in selection of goals, or suggest strategies that specifically address the area educators choose to target. In this way, the educators take ownership of their actions and the therapist can target the right strategies for the right students.

In this presentation, we will discuss how the ROCC has been used within a special education setting, and has formed a basis to implement change in the classroom with AAC at the forefront. It has given educators a chance to understand the communication process in more detail, and set achievable goals with the overall aim being that their students become autonomous communicators. We will provide examples of how classroom practice was

modified to integrate subject specific vocabulary and recorded in lesson and unit plans based on the Teaching for Effective Learning Framework (TFEL). The lesson plan template also outlines how the individual students could be expected to use their AAC system within specific activities, and how these goals and expectations are shared with support staff. Lesson plans are either specific to an activity, or listed as something that will be implemented across the day within all subject areas. This has provided students with access to curriculum and their rights as students to say what they want to say.

With the use of the ROCC, educators are empowered to set goals for their students and support the direction of allied health services. With this collaborative model, education staff – who are usually much greater agents of change than consultant therapists – are supported to be active in the AAC process rather than having it “done to” them.

**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

## **Empowering teenagers who use AAC through peer support and mentorship**

**Melissa Riepsamen | Melinda Smith | Jacob Matthew**

Learning to communicate using AAC requires the teaching and learning of a number of skills including linguistics, operation of the system and social competence. Often times much of our intervention focuses on developing competence with linguistics (language, syntax, grammar) and an individual's ability to operate their systems (electronic and non-electronic). Developing social competencies is often an area of intervention that can be difficult to navigate. Teaching individual's the strategies to appropriately engage and interact with a range of partners in a range of environments is vital for the long term outcome of developing independence. Teaching users of AAC to be resilient in a world where potential partners don't readily know how to interact with the person using AAC and with complex physical needs can be challenging.

At CPEC we have a group of teenagers using AAC all with complex physical and/or sensory motor challenges that regularly meet for a 'chat group'. This group is facilitated by speech pathologists, and a mentor and role model that are also users of AAC. Meeting with like individuals including two adults provides these teenagers with a support network and safe place to discuss the challenges they regularly face, practice the strategies they need and to celebrate the wins. The mentor and role model are able to share their own learning experiences, ideas and help to develop resilience from a unique perspective that the speech pathologists cannot. It is very different for a speaking able bodied individual to say "keep going, I know it's hard, but keep going" than it is for a person in the same unique situation as them to say the same message. The mentor and role model really do know as they live it!

The group meets regularly to discuss, problem solve and practice a range of real life situations that are regularly encountered. These include interacting with staff at restaurants and stores to engaging in 'small talk' or conversations with people you don't know very well. The mentor and role model share their own experiences out in the community and show the teenagers how they communicate in the wider community.

In this paper we will discuss the strategies we use to develop these social competencies and resilience, to successfully engage in the wider community as well as with your peers, friends and family members. We will discuss the importance of being a part of group with others that are similar and discuss the importance of having a mentor and role model as facilitators in the group.

**Evidence Area:** AACcess the community, AACcess relationships

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

## **Enabling AACcess in Singapore!**

**Sarah M Yong | Sim Mariam Mohd | Deborah Xinyi Yong**

Singapore is a country in the South East Asian region with a multi-cultural and multi-lingual population of 5.07 million. Technology is significantly prevalent in this city state. Singapore was ranked first in the world in networked readiness based on the Networked Readiness Index (Estopace, 2016).

In the last few years, Augmentative and Alternative Communication (AAC) has been gaining momentum in schools, hospitals and other organisations in the disability and special education needs sectors. Most have expressed increased interest in incorporating AAC into their programmes. However, AAC still remains at an emerging stage.

The Specialised Assistive Technology Centre (SATC) is leading the way in increasing adoption and utilisation of AAC. The purpose of this presentation is to share the work of the SATC and to reflect on the unique challenges and opportunities for AAC integration into the social fabric of Singapore society.

The SATC implements a four-pronged approach in our endeavour to advance the AAC scene in Singapore –

### **ADOPTING AN INTERDISCIPLINARY CLINICAL SERVICE MODEL**

The SATC has a team that comprises therapists, educational technologists, digital accessibility specialists and engineers. This interdisciplinary composition facilitates the prescription and implementation of AAC for the person with complex communication needs (CCN) from multiple perspectives (American Speech-Language-Hearing Association, 2017). The team works together with the person with CCN and their caregivers, teachers, employers and other significant stakeholders to ensure holistic integration of AAC into the individual's natural setting.

### **HARNESSING MAINSTREAM TECHNOLOGY**

With its technological advancements, Singapore is in a unique position to harness technology to meet the needs of individuals with CCN who require AAC. In its Enabling Masterplans, the Singapore government has encouraged the leveraging of technologies for individuals with disabilities, to ensure that they are included in Singapore's Smart Nation initiative (National Council of Social Service, 2016).

Accessibility specialists and therapists work together to see how components of mainstream technology can be harnessed to meet the needs of our clients. The combination of individuals with technical and clinical knowledge facilitates technology recommendations that are relevant and useful.

### **BUILDING CAPACITY AND CAPABILITY**

In order for greater AAC adoption, capabilities need to be built in the community. SATC works with educational institutions, hospitals and other Non-Profit Organisations to train professionals and caregivers who work and interact with individuals who use AAC. AAC is incorporated into course modules from several disciplines of higher learning such as Master of Science (Speech and Language Pathology), Diploma in Occupational Therapy and Bachelor of Engineering (Biomedical Engineering).

### **PROMOTING COLLABORATIONS AND INTERNATIONAL RELATIONS**

SATC realises that AAC access that leads to success (AACcess) within the community cannot be achieved by one organisation alone. Hence, it strives to build collaborations with other significant stakeholders, such as the professional association for Speech and Language Therapists in Singapore, special schools and international organisations e.g. ISAAC. We also realise that AAC advocates in Singapore must unite in our efforts, and have therefore been instrumental in forming an AAC Special Interest Group.

## **CHALLENGES**

We need to address the false impression that individuals with CCN do not have a voice and the capability to access mainstream curriculum. These individuals need to be empowered with a voice to express themselves and have opportunities to maximise potential, pursue dreams, advocate and lead.

Another challenge is the lack of local statistical and clinically-based evidence in AAC research. This makes it difficult to justify the value of AAC intervention and policy changes involving AAC. Other considerations include lack of AAC awareness and difficulties arising from the use of multiple languages.

## **OPPORTUNITIES**

The increased interest in AAC and the recent governmental push for the use of technology for individuals with disabilities present excellent opportunities for advancement of AAC in Singapore.

## **CONCLUSION**

While SATC attempts to play a significant role in the advancement of AAC, we realise that it is part of a much larger ecosystem. AACcess can only be achieved through connections and collaborations both locally and internationally. SATC should also draw on insights, perspectives and knowledge of other emerging nations who face similar challenges. Individuals, organisations and relevant stakeholders—each bringing their unique perspectives, knowledge and expertise—must come together in this journey of making AACcess in Singapore a reality.

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**Evidence Area:** AACcess the community, AACcess the world: Developing nations in AAC

**Content Focus Area:** Professional Practice Evidence

## **Engaging with AAC in Fiji**

**Gwendalyn Webb | Terri Walker | Cecilia Yee**

Disability in Fiji has only recently been acknowledged; in 2004 the Pacific Disability Forum was formed with its purpose to promote and facilitate regional cooperation for persons with disability in the Pacific (Pacific Disability Forum, 2012). Recently there has been some progress in developing awareness and services available for people with communication disability (Hopf & McLeod, 2015). This paper will describe the introduction of AAC in two sites in Fiji; an early intervention (EI) context and a special school. Initially the staff and students at the sites were using Fijian Sign Language and very few other forms of AAC. The support from volunteer, international speech pathologists has facilitated a gradual progression towards use of multi-modal AAC systems.

The presenters will discuss factors that supported the introduction of AAC in these contexts. Challenges that need to be considered will also be presented. Some of the factors that will be discussed include the development and maintenance of trusting relationships with the community, as well as the building of capacity in locals, so that AAC becomes a tool that belongs to everyone, and is sustainable without the presence of international visiting professionals (such as speech pathologists). The presentation will also include descriptions of specific strategies that the speech pathologists used to encourage the uptake of AAC in these settings (Hoy et al., 2010).

The processes described in this paper that were utilised to introduce and establish the use of AAC in these settings are relevant across other majority-world contexts. It is hoped that the information presented in this paper will support others who are endeavouring to implement / introduce AAC in diverse international contexts.

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**Content Focus Area:** Professional Practice Evidence

## Enhancing communication within vocational tasks for adolescents with ASD using AAC video visual scene displays

Tara O'Neill | Salena Babb | Jessica Gormley | Janice Light | David McNaughton

Fewer than 5% of individuals with complex communication needs (CCN) are employed (McNaughton & Bryen, 2002). This finding may be related to the lack of effective alternative and augmentative (AAC) supports to meet the demands of real-world settings. Visual scene displays (VSDs) capture meaningful events in an integrated scene (e.g., photograph), with language concepts embedded as hotspots within the scene (Light & McNaughton, 2012); however, current technology supports the integration of only static VSDs. Light, McNaughton, and Jakobs (2014) proposed videos with integrated VSDs (Video-VSDs) to facilitate participation and communication within daily activities. Video-VSDs may more effectively support communication than static VSDs because Video-VSDs capture the spatial and temporal contexts of communication opportunities preserving the dynamic relationships and engagement cues found in real-world interactions. Furthermore, automatic pausing of videos at key segues mark an opportunity for communication and provide vocabulary to fulfill communication demands. Video-VSDs capture dynamic routines within the learner's life (e.g., vocational activities) and sequentially lead the learner through the activities, promoting independence.

### AIM:

These studies evaluated the effects of Video-VSDs using a tablet-based app (i.e., EasyVSD) on (a) the percentage of steps completed and (b) the communicative opportunities fulfilled by high school students with autism spectrum disorder (ASD) within vocational and community activities.

### METHOD:

Study 1 (O'Neill, Light, & McNaughton, 2017): The effects of EasyVSD on participation in three real-world contexts (i.e., print shop, public transportation, and paper shredding job) were tested in a case study of a 16-year-old female with ASD and CCN (Lena). Task analyses were used to identify the steps to complete the tasks and communicative opportunities (Cooper, 1987). Brief video segments of Lena were captured and added to EasyVSD to represent each step in the task. Each video was programmed with hotspots. When viewed, videos automatically paused at each hotspot to highlight the communicative opportunity. Lena's completion of target steps without the use of EasyVSD (baseline) were compared to steps completed correctly with EasyVSD (intervention).

Study 2: A multiple-probe across behaviors design (Richards, Taylor, & Rosemary, 2014) was used to explore the effects of the EasyVSD app on participation and communication within vocational activities in a library setting with a 17-year-old male with ASD and no functional speech (James). Procedures replicated task analysis, video capture, and hotspot programming procedures of Study One; however, a researcher, rather than student, served as a video model.

### RESULTS:

Results indicated rapid performance changes upon introduction of the app. Lena increased from: (a) 15% during baseline to 75% independent performance by the third intervention session in the print shop, (b) 22% during baseline to 100% by the eighth intervention session on public transportation, and (c) 10% during baseline to 100% by the fifth intervention session for paper shredding. Lena, her mother, her job coaches, and her classroom teacher reported being satisfied with the intervention. James increased from: (a) 8% during baseline to 100% by the fourth intervention session for checking books in, (b) from 5% during baseline to 90% by the first intervention session for putting books away, and (c) from 15% during baseline to 86% by the second intervention session for using an Ellison Press.

**CONCLUSION:**

Results provide preliminary evidence that videos with integrated VSDs may serve as an effective means to maximize independent participation and communication for individuals with CCN and ASD in real world contexts. Ultimately, this assistive technology could reduce dependence on aides (e.g., job coaches, paraprofessionals) and create increased opportunities for employment and independent participation in meaningful community activities.

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**Evidence Area:** AACcess education, AACcess the community, AACcess employment

**Content Focus Area:** Research Evidence



# **Ethical Challenges in using Autoethnography as a Method**

**Meredith Allan | Susan Balandin | Patsie Frawley**

## **INTRODUCTION**

Social identity is formed by interacting with others (Burke & Stets, 2009). Positive inputs are accepted and negative inputs are rejected. Social groups and relationships are formed by interacting and finding a similar match to the individual's personal identity.

People who use augmentative and alternative communication (AAC) have an immediate stigma attached to them when interacting with others. Through autoethnography I will explore how an adult with life-long disabilities who uses AAC understands their identity.

Autoethnography is a method of research that involves describing and analyzing personal experiences in order to understand cultural experiences. Autoethnography is no different from any other research method, in that it must comply with the prescribed ethical standards. However in Australia, autoethnography is not yet covered by the National Statement. Consequently, it was important to be vigilant in considering the ethical implications of this project and to ensure all ethical issues were managed appropriately.

## **PARTICIPANTS**

Autoethnography is primarily concerned with an individual's study of themselves. In this study other participants will be involved primarily to reflect on key experiences and provide their perspective to the researcher's own perspective.

An informed consent form was embedded into the autoethnographic design for this project which some of those characters appeared in the study needed to sign. Although pseudonyms were used, and care was taken to frame certain events and situations in a vague way, some people could possibly be identified due to their relationship with me. Close friends and family were sent consent forms, as they already knew they would be characters in the stories that made up my research. Those who agreed to participate were be sent the stories in which they appeared. This gave them the opportunity to agree to the story, make changes to the story or withdraw their consent to the story being told. Taking this approach put the project at some risk of losing data but ensured that ethically the views and input of participants were respected.

It is not possible to get approval from every person who have interacted with me in my life, and many people appeared in my project who I was unable to contact.

Clandinin and Connelly asked, who owns a story? (Clandinin & Connelly, 2000, p. 176)

Ultimately it is the responsibility of the researcher to shape data in line with ethical and moral considerations (Goodwin, Pope, Mort, & Smith, 2003, p. 569).

## **PITFALLS OF AUTOETHNOGRAPHY**

Thinking a story belongs only to the story's author is a mistake often made by those who choose the research method of autoethnography. It is important to get memories verified because different people have different perceptions of the same experience. It all depends from what angle they are viewing it.

## **DISCUSSION**

Disability is a powerful identity (Shakespeare, 1996). A person who uses AAC has a dual marker of their disability, they cannot hide it. People who use AAC have to break through what some might perceive to be an ever persistent stigma in order to get their identity across and to maintain their self-esteem. We have yet to understand how the use of AAC may impact on the identity of those using AAC. In this study autoethnography is used in order to help understand identity formation in Adults with life-long disabilities who use AAC.

## **CONCLUSION**

Every care must be taken to protect the participants from harm. Even though pseudonyms are used, the participants may be recognisable because of their relationship to you. Details of stories may have to be left out or changed, eg. town or state. Researchers must acknowledge the privileged position they hold, and do their utmost to live by the “Do No Harm” standard (Muncey, 2010, p. 106).

The memory is fallible. How an individual remember story is likely to be different too how another person remembers it. Consequently it is important as a researcher to attempt to have the memory verified. There are many different ways to understand a story.

Burke, P. J., & Stets, J. E. (2009). *Identity theory*. New York: Oxford University Press.

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**Evidence Area:** AACcess culture

**Content Focus Area:** Research Methods and Theories

## Evaluation of Project Core Professional Development Modules: Usage Data and Participant Reported Value

Lori Geist | Penelope Hatch | Karen Erickson

Teachers and other classroom staff have the potential to increase the frequency of daily communication learning opportunities for students with significant cognitive disabilities and complex communication needs, if they possess the knowledge, skills, and resources required to implement well-defined communication interventions. The presentation will report on one aspect of a larger study called Project Core, a project funded through a Stepping Up Technology Implementation grant from the United States Department of Education, Office of Special Education Programs (H# H327S140017). The research aim of the Project is two-fold. First, to apply the principles of implementation science (Fixen, Blasé, Metz, & Van Dyke, 2013) to systematically design, develop and disseminate an accessible implementation program to schools serving students with significant cognitive disabilities and complex communication needs, and second, to evaluate the effectiveness of the implementation program for improving teaching practices and student outcomes. The Project Core implementation program includes professional development (PD) modules (14 at this time), coaching resources, teaching materials and planning guides, student communication supports, and self-reflection and observation checklists.

The facilitated versions of the PD modules provide detailed facilitator guides with scripted presenter notes, pre-recorded video content, and structured activities. There are also online/on-demand versions of each training with video content and structured activities to support independent study or review. The PD module topics/titles currently available in the two formats include the following:

1. Project Core: An Overview
2. Assessing Communication Abilities
3. Core Vocabulary: A Universal Solution
4. Beginning Communicators
5. Symbols: Myths and Misconceptions
6. Teaching and Modeling the Universal Core
7. Supporting Individual Access to the Universal Core
8. Embedding Communication Throughout the Day
9. Incorporating the Universal Core Vocabulary into Instructional Routines
10. Shared Reading: An Instructional Routine that Promotes Communication.
11. Predictable Chart Writing: Emphasizing Core Vocabulary
12. Alphabet Knowledge and Phonological Awareness
13. Independent Reading
14. Independent Writing

In order for PD to be effective, it must be aligned with educators' goals and needs (Desimone, 2009; Leko & Brownell, 2009). In Project Core, we actively investigate the alignment of the PD modules through data gathered via pretest/post-test assessments intended to demonstrate that participants learned the content and optional evaluation questions intended to assess the perceived quality and relevance of the module. The evaluation questions use a 5-point Likert-type scale for each of the following statements:

1. The module addressed content that is important for professionals working with students with significant cognitive disabilities.
2. The module presented me with new ideas to improve my work with students with significant cognitive disabilities.
3. I intend to apply what I learned in the module to my professional practice.
4. Completing this module was worth my time and effort.

The focus of this research presentation will be on initial evaluation of the PD modules in both the facilitated and self-directed formats. The current set of online PD modules have been accessed online more than 5,500 times and it is estimated that by the time of the 2018 conference this number will increase dramatically. Data on the facilitated version is limited to the adult participants in Project Core. Currently there are 25 educators participating, and that number will increase to at least 35 by the end of 2017.

During the proposed session, the presenters will discuss methods for evaluating professional development, report on usage data for each module, and report on evaluation data noting implications related to market demand and perceived quality and relevance. Additionally, data on the types of professionals currently using the online modules (e.g., speech-language pathologists, special educators, occupational therapists, etc) and where they are from (modules are being used around the globe) will be presented. Finally, preliminary analysis of pretest/posttest assessments will be discussed. The presenters will discuss how the PD evaluation data is being used to inform continued iterative development of the Project Core implementation model.

**LEARNING OUTCOMES:**

1. Participants will list at least 5 professional development modules/topics available through Project Core.
2. Participants will describe the components of the Project Core professional development modules.
3. Participants will identify the 3 topics (PD modules) in greatest demand (based on frequency of use data).

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Research Evidence, Professional Practice Evidence

# Evaluation of two methods for graphically representing emotional content in functional phrases.

Hyeju Han | John McCarthy

Many people who use AAC continue to have difficulty discriminating among visual representations of emotional concepts and expressing different degree of emotions. Methods to represent emotional content in messages remain limited and personalization of voices remains in its infancy in terms of wide scale availability (Pullin et al., 2017). Emotional content is not something to be discretely encoded word by word (Hennig & Pullin, 2016) and finding ways to encode emotional content to complement the benefits of utterance based communication has the potential to greatly improve the social capabilities of AAC systems. There is a lack of options for AAC users to make emotional distinctions in their messages beyond basic declarative vs. interrogatives.

Typography can enrich visual communication features of written language. For individuals with functional literacy skills orthography can be a powerful tool for message representation and composition in AAC displays. Finding ways to encode emotional content within orthographic displays is an important need. Previous studies reported that typographic features (e.g., color, position) can express voice quality and linguistic features (e.g., pitch, loudness) (Waller, 1987). Based on previous research, typography can be considered a useful tool to convey information of emotion in communication.

Previous research reported that a specific emotional state has particular acoustic features (Scherer, 1974). For example, high pitch was related to anger, and happiness, whereas low pitch was related to sadness and boredom. Acoustic features can be represented by changes in typographic features, however there do not exist any conventions for doing so.

## AIM

The aims of this study were 1) to compare the accuracy between Self-Assessment Manikin (SAM) (Lang, 1980) set and stylized text with typographic features, 2) to examine user's preferences for two methods for given situations, and 3) to examine user feedback relative to ease of use of different representations.

## METHOD

Forty native speakers of English (age ranged from 18 to 32 years) with normal hearing and vision participated in this study. There were three tasks in a Within Subjects design: a manikin task, a typography task, and an application task with feedback task. In the first two tasks, one of the manikins or the stylized texts was randomly selected as a target and highlighted on the computer screen. Five recordings with different emotional content were presented. Participants were asked to choose which of the recordings best matches the highlighted manikin or typographic representation. In the application task, the researcher asked participants which of methods they would use to express the phrase with their emotion in the given situation. A general linear model was used to discover differences across subscales of emotion. Descriptive analysis was used to analyze survey answers.

## RESULTS

Participants matched a manikin or a stylized text to a voice with 80% accuracy on average (range of score: 45 – 73 in the manikin task, 36 – 73 in the typography task). There was no significant difference in the accuracy between two methods. In the survey, most of participants reported that they can match two graphic representations to voices with specific emotional states. Also, they reported that they can speculate how a phrase might sound like based on graphic representations. 80% of participants preferred the manikin cue to the typography cue. Differences among emotion subscales and detailed qualitative data will be discussed in the presentation.

## **CONCLUSION**

This study introduced new methods to represent emotions with functional phrases. The results indicated a preference and potential advantage for manikins vs. stylized text. With simple instruction, participants showed high accuracy in both tasks. The manikin set is easy to visualize emotional state. Also, it can be used regardless age, culture, and educational background. Typography representation allows users to customize their messages depending on emotional states. Based on the findings, future study should examine whether these methods can be applied to AAC systems through more task questions and in wide range of age.

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**Evidence Area:** AACcess emerging technologies, AACcess language and literacy

**Content Focus Area:** Research Evidence

## Experiences in implementation of AAC in children with Autism Spectrum Disorder in Croatia

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Autism Spectrum Disorder (ASD) encompasses a wide range of social communication deficits, and restricted and repetitive patterns of behaviour, interests, or activities. It is also characterized as a heterogeneous group in the domain of language, with difficulties in language comprehension and/or language production. Consequently, all individuals with ASD should be considered as potential candidates for augmentative and alternative communication (AAC, Wegner, 2012).

AAC use has been shown to have positive effects for people with ASD in different developmental areas, including social interaction, communication skills (Cafiero, 2001), language comprehension and language production (Millar, 2009).

Thanks to established cooperation between education, research, development and innovation sectors in Croatia, different AAC approaches have been used with individuals with ASD. In the recent decade, the technology made its breakthrough in clinical and family settings of young children with ASD (and other developmental difficulties). Combination of high-tech and low-tech strategies in enhancing communication and language skills, as well as organization of predictable environment with clear expectations for child showed to be effective. Most of the principles and strategies used in AAC settings are incorporated in evidence-based intervention, supported by the results of scientific research (social stories, video modeling, social communication intervention, schedules, support language expression, etc.; National Autism Center, 2015). The experiences from the Center for Rehabilitation at the Faculty of Education and Rehabilitation Sciences will be elaborated and shared through poster presentation.

Despite theoretical and empirical basis of positive effects of AAC for persons with ASD, implementation of AAC in services for children with ASD is still emerging in Croatia. Existing barriers refer to the lack of knowledge among professionals that will be discussed. These barriers are numerous: 1) AAC is used primarily for replacing speech, and not for enhancing the understanding of the language, 2) AAC stands for requesting, neglecting other communication functions, 3) communication partner rarely uses the AAC system to provide an input and a model for use in a meaningful context, 4) the focus is on the use of a device rather than on the communication, 5) insufficient understanding of the multimodal approach, 6) myths among families and society about AAC (ie. fear that AAC will impede speech development), and 7) limitations in practical requirements (lack of collaborative team effort and inadequate work organization in providing time and labour intensive AAC interventions).

Keywords: Augmentative and Alternation Communication, Autism Spectrum Disorder

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**Evidence Area:** AACcess education

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences



## **Experiences with Augmentative and Alternative Communication in Mainland China**

**Shula Friedrich Shilon | Xiuyin Fu | Minzhe Xi**

Augmentative and Alternative Communication (AAC) is gaining some momentum in many new countries in the world. However, the success of intervention with Augmentative and Alternative Communication implies a need for cultural and societal adaptation of ways and means. An understanding of human development, health and function needs to include the entire ecological system, including not only the individual but also successive levels of the social system, ranging from the immediate dyadic interactions between the individual and partners (e.g. with family members, friends, teachers at school, or colleagues at work), to the connections between these (e.g., between the child's teachers and his parents, or between service providers and family), and to the larger social system that impacts the individual (e.g., transportation, school districts, neighborhoods), and finally to the broad cultural values, politics, customs, and laws of society (Bronfenbrenner, 1979, 2005).

In the AAC field, the participation model described by Beukelman and Mirenda (2013) captures many key aspects of this type of socioecological model with an emphasis on both the intrinsic characteristics of the complex communication needs of individuals using AAC and the environmental supports and the opportunity barriers within the social system.

This presentation describes experiences related to introducing AAC in mainland China to Chinese children within an age range of 2 to 12 years, including challenges related to using American graphic communication systems and communication strategies typical of Western societies with Mandarin-speaking professionals and parents, as well as constructive collaboration and problem solving with engaged professionals and parents:

1. Modification of symbols according to Chinese culture
  - a. Symbols for common Chinese traditions like Spring Festival, Mid-Autumn Festival
  - b. Symbols for common Chinese differences like the different words for in close family members (e.g. brother: A symbol for "DID" younger brother and "GEGE" for elderly brother)
  - c. The image of some symbols may be adapted to make them more transparent and easy to understand by communication partners in the different areas in China, such as SUMMER, AUTUMN that are different for each area in China,
2. Challenges related to language development and acquisition of AAC accordingly. There is a need for multi-disciplinary collaboration among researchers and practitioners.
3. Traditional conversations among parents and children in China, e.g., dialogues between parents and young children are mainly interrogative – the parent asks a question and the child responds with one word.
4. Narratives and children's literature: It is not common to read children stories, although there are many legends in traditional Chinese literature, they are referred to adults. It is a new idea for teachers that they can use children's stories to support language development.
5. Some challenges related to AAC
  - a) A lack of Chinese evaluation and assessment tools for language development.
  - b) A lack of speech and language therapists who speak Mandarin.
  - c) A lack of communication among professional from different areas in Mainland China who teach AAC.
  - d) A lack of professionals in speech and language in China makes it necessary to educate ordinary teachers about typical language development and AAC development and intervention.

6. There is a need for more family work to engage parents and grandparents: Attitudes, team work, guidance of practice
7. The participation model is used to make Chinese parents and professionals aware that AAC should be used in all everyday settings, not only in preschool or school.

The experiences may have implication for strategies for introducing AAC in new countries.

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**Evidence Area:** AACcess education, AACcess the community, AACcess culture, AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence, Professional Practice Evidence, Personal Experiences and Preferences

## **Exploring easyChat, a new vocabulary for everyone!**

**Mark Street**

easyChat is a robust set of AAC vocabularies and computer/phone access for individuals with complex communication needs. It can be accessed by: direct touch selection, keyguards, touchguides, switches, HeadPointing and Eye Gaze.

The easyChat family of vocabularies is available on Liberator's Accent devices and offers an extensive set of core and UK and Australian topic-based vocabulary pages that are fully customisable and intuitive, utilising the popular SymbolStix icons as well as other symbol sets.

easyChat was developed in the UK with input from a large team of practicing AAC professionals to meet not only the communication needs of individuals who use AAC devices, but also the needs of those supporting them. easyChat's launch in September 2015 quickly enabled individuals to transition from app-based and low-tech communication solutions to dedicated devices supported by a UK-based company offering technical and clinical support. Since its introduction, easyChat has grown and evolved following feedback from SLTs, teaching staff and families.

The easyChat vocabularies are organised in an easy and intuitive way with the most common words arranged by parts of speech on the home page with extended interest, daily life and lesson-based vocabulary on topic pages. The home pages enable quick access to the most frequently used words (Marvin, C., Beukelman, D., Bilyeu, D. (1994). "Vocabulary-Use Patterns in Preschool Children: Effects of Context and Time Sampling." AAC, Vol. 10, No. 4). easyChat boasts innovative setup and programming supports that are intuitive and easy to use program which uses the popular SymbolStix icon set. easyChat is easy to teach, easy to use and easy to support. Complete communication made easy!

easyChat was launched last year at Communication Matters 2016 in the UK and since then it has undergone vocabulary and feature changes based on customer and client feedback.

**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Professional Practice Evidence

## **Exploring graphical representation of pain-related vocabulary as preferred by children without disabilities**

**Nina Gerber | Ensa Johnson**

Exploring graphical representation of pain-related vocabulary as preferred by children without disabilities

Children should be equipped with adequate pain vocabulary to help others' understanding of their condition and respond appropriately (Johnson, Bornman & Tönsing, 2016). However, in some instances children without disabilities may become communication vulnerable as they are able to comprehend their pain but are unable to express it verbally (Costello, Patak, & Pritchard 2010). Communication vulnerability may be due to temporary medical conditions (e.g., pulmonary disease, voice disorders) or procedures (e.g., intubations and tracheotomies) leading to poor speech intelligibility or expressive verbal communication (Costello, et al., 2010). Using graphical representations (e.g., line drawing symbols) to represent pain vocabulary on an augmentative and alternative (AAC) system will enable children to self-report their pain – the gold standard of gaining information regarding pain (Costello, et al., 2010; Herr, Coyne, McCaffery, Manworren & Merkel, 2011).

This study did not explore linguistic functionality of the graphical representation of pain words as children without disability are most likely not familiar with formal symbol sets as they do not present with permanent expressive communication difficulty. Instead the focus was on symbol iconicity (how well the symbols represented specific pain words). The purpose of this study was to explore children without disability's preferences towards graphic representation of pain words (comparing PCS™ and Bildstöd), based on the pain fringe vocabulary identified by Johnson and colleagues (2016) and ensuring that voices of children are heard in the research (Nilsson et al., 2013).

### **AIM**

In this presentation, we aim to explore the perspectives of children without disability regarding the following sub-aims relating to graphic representation of pain related vocabulary:

1. What symbols from PCS™ and Bildstöd symbol sets could be allocated to pain-related words?
2. Which graphical representations when comparing PCS™ and Bildstöd symbol sets are preferred by children without disabilities to represent pain-related words?
3. What factors influence children without disabilities' preferences between PCS™ and Bildstöd symbol sets?

### **METHOD**

The study made use of a descriptive, quantitative design with purposive, convenience sampling. Data was collected by means of an electronic questionnaire facilitated by the researcher in individual contact sessions. Initially a subgroup of children assisted to select potential symbols for inclusion in the final electronic questionnaire, specifically when more than one symbol was available to present one pain word in a single symbol set, as well as exploring different colour variations of a single pain word. After the finalization of the questionnaire, children were asked to indicate which symbol they preferred to represent each pain word. One PCS™ symbol and one Bildstöd symbol were displayed in random order for each pain word on a tablet. The participants were also asked why they preferred the specific symbol. The findings were recorded in a Microsoft Excel spreadsheet and analyzed quantitatively by means of descriptive and inferential statistics.

### **RESULTS**

Findings revealed children's preferences towards graphical representation of pain vocabulary, comparing two symbol sets. Possible reasons for their preferences, considering the impact of culture/ethnicity, gender, age (6-8 years versus 8-10 years) as well as preferences per individual pain word were also determined. This study is the

first step to develop or suggest an AAC pain communication board for children without disability who are communication vulnerable patients to communicate their pain and guide clinicians accordingly.

#### **CONCLUSION**

Choosing the most suitable symbols for pain-related words to include in AAC systems is one of the most important steps to improve effectiveness of the graphical representation. This study identified children without disability's preferences of symbols for pain-related words, comparing two symbol sets. Recommendations for future research as well as clinical implications of this study for communication vulnerable children with or without disability will be also be discussed during the presentation.

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**Evidence Area:** AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence

## **Exploring high-tech AAC for Adults with Literacy**

**Mark Street**

We will be exploring the range of dedicated communication devices and their vocabularies specifically developed for those individuals (adults and children) with acquired conditions such as a traumatic brain injury, MND or Stroke. We will also be demonstrating the choice of access options including eyegaze, headpointing and switches, and how an individual can transition from one to the next with no vocabulary relearning as a condition deteriorates.

This will be an opportunity to see the following functionality in action:

Communication – including spelling, quick messages and notebook/writing functions

Computer Access – pages to access the internal computer and any external computer or laptop.

Remote Controls – for TV, DVD, VCR, CD Player, and on/off switches for lights, computer and radio

Accessories – including camera, phone, reminders and calculator

**Evidence Area:** AACcess emerging technologies, AACcess language and literacy, AACcess education

**Content Focus Area:** Professional Practice Evidence

## Exploring pragmatic reasoning in children who have physical disabilities and use aided communication.

**Beata Batorowicz | Lisa Van Osch | Kait Robbins | Nadine Thomas | Jennifer Van Dorp |  
Melanie Campos | Gregor Renner | Stephen von Tetzchner**

Pragmatic reasoning is implied in the use of language for different purposes and necessary for efficient communication within a particular context (Frank & Goodman, 2012; Getty & Summy, 2006). Pragmatic abilities are thus important for children to develop socially and interact with adults and peers (Fujiki, Brinton, & Clarke, 2002). Knowledge about the development of pragmatic reasoning in children with motor and communication impairments who use aided communication is important for supporting the children's communication as they otherwise may be hindered in their participation within the family, with peers, in educational environments and in the community at large (Light & McNaughton, 2012). However, research into the pragmatic abilities of children who use aided communication is limited. The present study aims to explore the pragmatic reasoning of school-aged children who have physical disabilities and use communication aids.

### **METHOD**

Participants were 19 Canadian and German children and adolescents aged 5-15 years who had severe motor and speech impairments and used aided communication, and a reference group of same aged children using natural speech. The material consisted of short cartoons with action sequences, where the last missing utterance needed to be indicated on the last empty box of the cartoon. The participants were asked to provide this last utterance, which would reflect the event in the cartoon. The utterance was indicated to the researcher. There were in total six cartoons of increasing complexity. The children first completed a training cartoon to ensure that they understood instructions; this cartoon was not included in the analysis. The utterances suggested by children were analyzed with regard to content and length. In addition, response mode, number of key strokes, and production time were registered. All responses were coded independently by two authors into five categories, for which detailed description was developed: (1) precise, (2) too specific, (3) too general, (4) irrelevant and, (5) no answer. The agreement between two authors assigning categories was 100%.

### **RESULTS (PRELIMINARY)**

Of the children using aided communication, 48.6% suggested a precise utterance, 1.4% provided too specific and 30.6% too general utterances, and 19.4% of responses were irrelevant. The responses of children using natural speech were all relevant, 88.3 % were precise, 5% too specific, 5% too general, and in 1.7% cases children did not give an answer. The average time to provide a response for a cartoon by children who used aided communication was 64.3 seconds and for the children with typical development 6.9 seconds. The specific examples within each category, as well as how children who used different communication aids constructed their utterances will be discussed. The results give insights into the pragmatics of aided language and provision of aided language intervention.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence



## **Exploring the ability of bilingual children to map graphic symbols onto words in two languages**

**Kerstin Tönsing | Shakila Dada**

Many children who require AAC come from multilingual backgrounds. Extrapolating from best practice guidelines for children with language impairment from bilingual backgrounds (Jordaan, 2008), AAC intervention should also support all languages that the child is exposed to (Soto & Yu, 2014). At present, little guidance exists regarding how to design graphic symbol-based AAC systems that allow children to express themselves in more than one language. The learning demands of such systems are also poorly understood (Soto & Yu, 2014).

In order to use a graphic symbol-based system effectively, one needs to map graphic symbols onto the concepts they represent (Mineo Mollica, 2003). When one has a good understanding of spoken language, it may be possible (and desirable) that this process is mediated through spoken language: that is, symbols are mapped onto spoken words.

Words in two languages that share a great number of common conceptual representations (i.e., those words commonly regarded as 'directly translatable' between languages) could theoretically be represented by the same graphic symbol. Learning demands may be reduced if receptively bilingual children could 'translate' the graphic symbol-word associations learnt in one language to their other language.

### **AIMS**

The aims of the study were:

1. To determine whether bilingual, typically developing children aged 4-5 years translate selected PCS symbol-word associations learnt in one language to another language;
2. To explore whether age influences this ability.

### **METHOD**

A non-experimental descriptive design was used in this study. Bilingual children (who developed language skills in English and Afrikaans before age 3) with age-equivalent receptive vocabulary scores in English and Afrikaans were recruited. Only children who did not know the words associated with the symbols used in the study in Afrikaans or English were included. Children also had to understand the words represented by the symbols in both English and Afrikaans.

Nine PCS symbols representing adverbs and adjectives were chosen for the study. An expert panel (AAC service providers) evaluated the iconicity of the symbols using the four-point Likert scale developed by Alant, Zheng, Harty, and Lloyd (2013) and rated them as translucent (i.e., their referents were not guessable but a logical relationship between symbol and referent became apparent once the referent was known). The Afrikaans and English words represented by the symbols are direct translations of each other, but they are not cross-linguistic cognates (i.e., they do not share phonological features).

In the first phase, participants were taught the association between the English words and the PCS symbols in three teaching sessions. During each session, symbols were presented one at a time. The researcher gave explanations of symbol-word associations, mands, models and corrective feedback. Teaching was conducted on three consecutive days. Each item was taught twice. Participants' learning was assessed on the fourth day, when they were asked to label each of the symbols taught in English.

In the second phase, participants' ability to provide the gloss of the PCS symbols in Afrikaans was assessed. They were shown each PCS symbol and asked to label it in Afrikaans.

### **PRELIMINARY FINDINGS**

Preliminary findings suggest that most 4-5-year-old bilingual children are able to spontaneously translate the gloss of symbols from one language to another, with older children performing slightly better in this task. The implications of these findings for bilingual AAC systems will be discussed.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence

## Extending and narrowing – developing various ways in utilizing graphic symbols

**Kirsi Neuvonen | Kaisa Launonen | Martine Smith | Stephen von Tetzchner**

Children who use aided communication, such as graphic symbols, must learn to use their communication devices in various ways to express their intentions and thoughts. This developmental path is marked by an asymmetry in modality of language input and output (Light, 1997), and emerging aided communicators may experience challenges in developing metacognitive interactional skills, especially strategies for communicating their thoughts with limited expressive resources (Jagoe & Smith, 2016). The limited number of vocabulary items available or known within communication devices may compel aided communicators to rely on their communication partners to infer or guess the intended meanings behind their aided utterances, but may also lead to creative and unusual ways of constructing graphic utterances (von Tetzchner, 2015).

### **AIM**

Relatively little is known about the self-made or untaught strategies that children who use aided communication may utilize to relay what they want to say. This case study describes patterns in how children using aided communication adjust their ways of constructing graphic utterances in order to reflect specific intentions in conversations with communication partners.

### **METHOD**

The present study is a part of an international project addressing aided language development and communicative problem solving in children and adolescents using aided communication (von Tetzchner, in press). The present multi-case study uses qualitative analysis in describing patterns of graphic utterance construction. The participants were three Finnish children, aged 8–10 years, who used graphic symbols as their main means of communication. All three children were diagnosed with severe motor impairment (GMFCS levels IV-V) and had fewer than ten intelligible words. According to their teachers, the children did not show evidence of developmental delays. The task involved event description to a person who had no knowledge of the event, a common communicative situation in all human societies. The children viewed events in short videos and their task was to describe the event to familiar adult communication partners who had not seen the videos. All conversations were videotaped and transcribed taking into account the use of graphic symbols, unaided modes and vocalizing. The aided utterances were analyzed searching for sequences where the children used occasion-specific or referring concepts in order to describe potentially ambiguous events. Relevance theory notions of 'ad hoc' concepts and lexical narrowing and broadening (Carston, 2002) were used as analytical tools.

### **RESULTS**

These children used a variety of occasion-specific strategies, such as using their graphic symbols differently than indicated by the gloss to describe their intentions in the particular interaction context. The strategies included expanding or narrowing the meanings of the graphic symbols, as well as referring to objects, not to indicate the object but to use it as a symbol for a particular meaning. The challenge of balancing the accuracy of the message and occasion-specific needs, such as being effective and enhancing the fluency of the conversation emerges as a central theme in these choices. However, difficulties may arise from the potential contradictions between the construction of the aided communicator and the expectations and interpretations of the interaction partner with regard to the meanings of the graphic symbols.

### **CONCLUSION**

It is necessary to know what untaught or self-made strategies young aided communicators may use to make themselves understood, the various ways they use graphic symbols and communication devices to convey

intentions and thoughts. The diverse ways the children use graphic symbols and refer to mutually manifest objects may also shed light on the creative and generative processes underlying aided language development. Furthermore, this knowledge is important for communication partners as they engage in co-construction of meaning in conversations with aided communicators.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence

## Eye communicate with mainstream technology: A case study of a young girl with Rett Syndrome

Deborah Xinyi Yong | Sarah M Yong | Keng Hock Teh

Rett Syndrome is an X-linked neurodevelopmental disorder that affects predominantly girls in early childhood (Didden et al., 2010). Generally, individuals with Rett Syndrome have severe limitations in verbal communication and motor ability but have strong eye tracking abilities which result in prescription of eye gaze systems for Alternative and Augmentative Communication (AAC) (Cass et al., 2003; Urbanowicz et al, 2016). These systems are often expensive which may affect the uptake of the system in the Rett Syndrome community.

### AIM

The purpose of this case study is to document the clinical management for a 4 year old girl with Rett Syndrome in Singapore. This includes specifically, emphasis on (i) the AAC team approach in assessment and intervention, (ii) application of mainstream and affordable technology with open-source software for eye gaze tracking to enhance communication and independent recreation, and (iii) the future of eye gaze AAC system usage in Singapore, an emerging country in AAC.

### METHOD

This case study focuses on Emma, a 4 year old girl with Rett Syndrome. She was referred by her caregivers for an AAC assessment. She was minimally verbal and presented with inconsistent head movements and involuntary hand movements. However, she was able to move her eyes voluntarily. As a result, eye gaze was chosen as her access method.

The AAC team comprised of speech-language therapists, occupational therapists, assistive technology specialists, caregivers, teachers and the individual herself.

Assessment tools included (i) the SETT (Student, Environments, Tasks and Tools) framework by Joy Zabala, (ii) the Augmentative & Alternative Communication Profile – A continuum of learning by Tracy Kovach, and (iii) baseline video recording.

The technology used comprised a mainstream eye tracker for gaming which was connected to a laptop. An open-source AAC software was also personalized to include core vocabulary and incorporate Emma's wants and needs.

Intervention strategies included the following: (i) collaborative team discussions, (ii) caregiver training, (iii) aided language stimulation, and (iv) home and school visits to increase generalization of communication skills.

### RESULTS/CONCLUSION

This case study suggests the efficacy of the team approach in supporting the application of mainstream technology in AAC for a young child in an emerging AAC country.

As the selection and application of the AAC system entails input from more than one discipline, the use of a team approach is essential (McNairn & Shiolen, 2000). Additionally, this team approach in assessment and intervention which brings together different stakeholders could serve as a model to be replicated across Singapore.

The integration of a mainstream eye tracker for gaming and open-source software was initiated by Emma's caregivers. The readily available system, along with input from the AAC team facilitated immediate carry-over at home and eventually, at school. Basic communication goals such as turn taking, participation in routines and choice making were also taught successfully. However, limitations included the following: (i) lack of technical support and user training for the technology, and (ii) restricted range of communication software compatible with the hardware. Nevertheless, the future of eye tracking in mainstream computing devices is promising as Microsoft's Eye Control for Windows 10 (a beta eye-tracking feature) is now available for testers (Statt, 2017).

Application of mainstream technology in eye gaze communication has not been widely documented in Southeast Asia. This system could potentially serve as an abridged system to a more robust and expensive eye gaze system, if it meets the individual's needs. Further research in this field can support communities that lack funds or resources to implement such systems and to enable communication success in all areas.

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**Evidence Area:** AACcess emerging technologies, AACcess education, AACcess the community, AACcess relationships, AACcess the world: Developing nations in AAC

**Content Focus Area:** Professional Practice Evidence

## **Eye-gaze for communication: High and Low-Tech Innovations in Research and Ethical Translation into Practice (1)**

**Michael Clarke | Jenefer Sargent | Tom Griffiths | Katie Price | Bronwyn Hemsley | Rosie Cooper | Laura McLaughlin | Gurveen Panesar | Iolanda Gill | John Swettenham**

### **OVERALL DESCRIPTION**

For many children with severe motor disabilities who have little or no functional speech, the use of controlled eye gaze behaviours could be a primary method for communication and access to AAC. For instance, by shifting gaze between an adult and an object the child can use deliberate looking behaviours to direct the adult to that object. Gaze fixations and shifts can also be used as a response method in assessment, and a means to access low-tech AAC. Importantly also, use of controlled gaze behaviours can enable access to eye-control technologies which represent a rapidly growing area of AAC. Children with severe physical disabilities are particularly vulnerable to problems with aspects of the visual system that may affect the use of eye gaze. Clinical and research experience suggests that problems with controlled use of gaze are often overlooked or unrecognised.

This research seminar will therefore discuss: (i) potential of new tools to describe gaze behaviours, (ii) critical issues in the observation of eye gaze behaviours in the context of child assessment, (iii) differentiation of eye gaze and cognitive skills relevant to AAC use, particularly eye-control technology, (iv) wider implications for research and service provision across the lifespan. Our overall aim is that together the seminar participants will share and develop an in-depth understanding of relevant theoretical frameworks in this area of AAC, theoretically robust approaches to the assessment of eye gaze for communication, priorities for further research and its translation to evidence-based practice in this emergent field of AAC.

### **SESSION 1: LED BY MIKE CLARKE – LAYING THE FOUNDATIONS**

Functional vision has been defined as “how the child functions in vision related activities” (e.g. Colenbrander 2010). For children with severe cerebral palsy affecting their whole body who have unintelligible speech, the use of functional vision is a primary method for communication. In this session we will discuss the concept of functional vision as it relates to the International Classification of Functioning, Disability and Health (ICF). Within the context of AAC, core functional vision skills include the ability to fix gaze, disengage and transfer gaze between objects, and transfer gaze between objects and people. We will examine the occurrence of these skills within a (typical) developmental framework, including as early indicators of emerging social cognition in children. We will also present new tools that assess functional vision for communication. These include: (i) a functional gaze control assessment, (ii) a functional vision screening, and (iii) an eye-pointing classification scale. Using video, live demonstrations and workshop strategies we will engage with delegates to share experiences and insights.

## **Eye-gaze for communication: High and Low-Tech Innovations in Research and Ethical Translation into Practice (2)**

**Michael Clarke | Jenefer Sargent | Tom Griffiths | Katie Price | Bronwyn Hemsley | Rosie Cooper | Laura McLaughlin | Gurveen Panesar | Iolanda Gill | John Swettenham**

For many children with severe motor disabilities who have little or no functional speech, the use of controlled eye gaze behaviours could be a primary method for communication and access to AAC. For instance, by shifting gaze between an adult and an object the child can use deliberate looking behaviours to direct the adult to that object. Gaze fixations and shifts can also be used as a response method in assessment, and a means to access low-tech AAC. Importantly also, use of controlled gaze behaviours can enable access to eye-control technologies which represent a rapidly growing area of AAC. Children with severe physical disabilities are particularly vulnerable to problems with aspects of the visual system that may affect the use of eye gaze. Clinical and research experience suggests that problems with controlled use of gaze are often overlooked or unrecognised.

This research seminar will therefore discuss: (i) potential of new tools to describe gaze behaviours, (ii) critical issues in the observation of eye gaze behaviours in the context of child assessment, (iii) differentiation of eye gaze and cognitive skills relevant to AAC use, particularly eye-control technology, (iv) wider implications for research and service provision across the lifespan. Our overall aim is that together the seminar participants will share and develop an in-depth understanding of relevant theoretical frameworks in this area of AAC, theoretically robust approaches to the assessment of eye gaze for communication, priorities for further research and its translation to evidence-based practice in this emergent field of AAC.

### **SESSION 2: LED BY TOM GRIFFITHS – OPENING UP OPPORTUNITIES**

The use of eye-gaze control technology as a method to access computers and AAC devices is increasingly widespread for children with severe motor impairments. Often, such technologies are introduced to children at a young developmental age, with the goal of teaching the core skills needed to make use of the access method. Recent years have seen a range of software emerging for “early” eye-gaze users, many providing feedback to those supporting them and proposing continuums of skills required to develop towards full control of a system. However, to date, there exists comparatively little evidence regarding the underlying skills and abilities needed to make best use of the eyes as a method for access and control. It has been noted that the use of eye-gaze access is much harder to model than physical access methods such as touchscreen or switches, and the relationship between selection and output is much more abstract than with these other access methods. The work presented as part of this seminar will be drawn from ongoing research at University College London, and will engage delegates in exploring and developing clinically motivated research questions.



## **Eye-gaze for communication: High and Low-Tech Innovations in Research and Ethical Translation into Practice (3)**

**Michael Clarke | Jenefer Sargent | Tom Griffiths | Katie Price | Bronwyn Hemsley | Rosie Cooper | Laura McLaughlin | Gurveen Panesar | Iolanda Gill | John Swettenham**

For many children with severe motor disabilities who have little or no functional speech, the use of controlled eye gaze behaviours could be a primary method for communication and access to AAC. For instance, by shifting gaze between an adult and an object the child can use deliberate looking behaviours to direct the adult to that object. Gaze fixations and shifts can also be used as a response method in assessment, and a means to access low-tech AAC. Importantly also, use of controlled gaze behaviours can enable access to eye-control technologies which represent a rapidly growing area of AAC. Children with severe physical disabilities are particularly vulnerable to problems with aspects of the visual system that may affect the use of eye gaze. Clinical and research experience suggests that problems with controlled use of gaze are often overlooked or unrecognised.

This research seminar will therefore discuss: (i) potential of new tools to describe gaze behaviours, (ii) critical issues in the observation of eye gaze behaviours in the context of child assessment, (iii) differentiation of eye gaze and cognitive skills relevant to AAC use, particularly eye-control technology, (iv) wider implications for research and service provision across the lifespan. Our overall aim is that together the seminar participants will share and develop an in-depth understanding of relevant theoretical frameworks in this area of AAC, theoretically robust approaches to the assessment of eye gaze for communication, priorities for further research and its translation to evidence-based practice in this emergent field of AAC.

### **SESSION 3: LED BY BRONWYN HEMSLEY – LOOKING TO THE FUTURE: INCLUSIVE RESEARCH AND TRANSLATION TO EVIDENCE-BASED PRACTICE**

The use of eye-gaze technologies is rapidly evolving, at pace with related information communication technology developments in gamification, augmented reality, and artificial intelligence. In this dynamic ‘information communication tech’ environment, there is developing an interdisciplinary body of research on ways that eye-gaze technologies may be used to measure, enhance, and augment the social cognition or communication of people with little or no functional speech. In this context, it is natural that the online marketing of eye-gaze technologies is also gaining pace worldwide, particularly through the use of multiple social media platforms. However, this marketing occurs in the context of an absence of evidence about the effectiveness of technologies for particular groups of children and adults with complex communication needs. The social marketing of potential benefits often occurs in the absence of public discourse about the known and unknown risks or costs of eye gaze communication. This means that consumers/AAC users might not have access to enough information about the systems prior to making an informed choice to invest time and money in acquiring and attempting to learn communication through use of these technologies. In this presentation, the three presenters will build on the two previous seminars and discuss with the audience a wide range of future directions for inclusive eye-gaze research, including finding ways to gather social media momentum to help fund further research, and to help disseminate evidence and translate research evidence into evidence-based practice in AAC.

## **Eye-gaze technology for play and communication in children with cerebral palsy and complex communication needs**

**Petra Karlsson | Anna Bech**

In this workshop five case-studies of young children with cerebral palsy (CP) will be presented to demonstrate key factors used to evaluate when considering the use of eye-gaze technology as an access method to language and literacy activities for children with CP and complex communication needs. The children discussed have primarily dyskinetic CP, mean age 4 years, 4 months (1 year, 0 months); n=4 males; Gross Motor Function Classification System Level IV=1, V=4; Manual Ability Classification System Level IV=2, V=3; Communication Function Classification System Level IV=1, V=4; Viking Speech Scale IV=4.

Eye-gaze technology has the potential to provide a method of access to a computer or speech-generating device for children with CP, when their motor disorder (particularly at Gross Motor Function Classification System Level IV-V) limits the use of accurate hand and/or body movement or clear speech [1]. As with all assistive technology, careful and objective observation of an individual's abilities are key elements in successful decision-making for provision and use [2]. However, there is a lack of consensus around an assessment protocol to identify key skills that would indicate successful use of eye-gaze technology [1].

This workshop is designed for clinicians working with children with CP and complex communication needs and their families, who are interested in developing a systematic approach to eye-gaze technology assessment and implementation for play, participation and communication. Although no prior experience with eye-gaze technology is required to attend this workshop, participants may come to the session with case examples from their practice to contribute to discussion.

Children with communication difficulties have the same needs and rights to access a range of technology, learning, play and communication options that are available to their peers. It is likely that a single system, such as eye-gaze technology, will not meet the needs of all children with complex communication needs. However, in combination with early access to assistive technology in the form of speech generating devices and other AAC methods, young children may be assisted to reach their full potential, which otherwise may be underestimated [3].

This workshop has been developed from a combination of clinical experience and research in which parents of five young children with dyskinetic CP compared two eye-gaze technology devices. Parents perceived that apart from the frequency of calibration, the two eye-gaze technology systems work equally well for their children and were similar in terms of implementation. What parents identified as critical to successful implementation of eye-gaze technology into their home environment was: 1) clear written guidelines, 2) support from an allied health professional addressing technology aspects and 3) clear idea of learning activities. Identification of children's progress and key issues affecting play, participation and communication are critical. This workshop will provide rationales for why measures such as the CP Quality of Life, Focus on Communication Under Six© and Young Children's Participation and Environment Measure were not considered suitable for this group of children. Instruments such as the Dimension of Mastery Questionnaire, Canadian Occupational Performance Measure and Goal Attainment Scale were on the other hand found appropriate to measure parent's perceptions of their child's mastery motivation and technology goal achievement over time. Useful strategies and ideas for how to use these for eye-gaze technology assessment and implementation will also be presented.

### **LEARNING OUTCOMES**

Participants will be able to:

1. Describe key factors important to evaluate when considering eye-gaze technology in children with CP.

2. Analyse issues and solutions to assessing and providing eye-gaze technology, for play, participation and communication.
3. Discuss case studies, with videos, that embed the theoretical elements in this session and demonstrate the important skills and abilities to consider for eye-gaze technology in young children with CP.

#### **INTERACTIVE COMPONENTS**

Case studies, with videos, will be presented for the participants to analyse issues and solutions to assessing and providing eye-gaze technology for play, participation and communication. Five eye-gaze technology devices will be made available during the workshop for the participants to first-hand get an experience of the technology.

#### **REFERENCES**

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Himmelmann K, et al., Dyskinetic cerebral palsy: a population-based study of children born between 1991 and 1998. *Developmental Medicine & Child Neurology*. 2007 Apr 1;49(4):246-51.

**Evidence Area:** AACcess education

**Content Focus Area:** Research Evidence, Professional Practice Evidence

## EYEGAZE use in daily life of Spinal Muscular Atrophy children – parents' experiences

Grazia Zappa | Chiara Mastella | Katia Alberti | Maria Antonella Costantino

### BACKGROUND

Extreme weakness of muscles in children with Spinal Muscular Atrophy Type 1 (SMA1) doesn't allow them speak clearly. Children with SMA1 have difficulties communicate with the environment, but parents and people around them for many hours a day are able to understand and give sense of even the smallest vocalizations. The Early Augmentative Alternative Communication (AAC) Program through a targeted and specific model adapted AAC to SMA1: start precociously AAC to gain a clear understanding of communicative code; obtain tools to communicate effectively on all occasions and in all contexts of their lives, such as eyegaze systems by the age of 3. We evaluated 15 Italian SMA1 children using eyegaze systems to communicate, play and learn, to see how this communication system works and how it impacts on their lives.

Objective: to describe and explore parents' experiences when their children with SMA1 use gaze-based assistive technology(AT) in daily life.

Methods: Semi-structured interviews and questionnaire were conducted with parents of 15 Italian children with SMA1 using an eyegaze system in their daily activities. Age of children who entered in this research is 4 to 17 years old. We used 2 standardized questionnaires QUEST (Quebec User Evaluation of Satisfaction with assistive Technology) to evaluate satisfaction about the EYEGAZE SYSTEM and the services connected to it, and PIADS (the Psychosocial Impact of Assistive Devices Scale) to evaluate psychosocial impact of the EYEGAZE SYSTEM. Results: Most of the parents are from satisfied to extremely satisfied with their Eyegaze systems, and the services related to it.

The results demonstrate that for parents, children's gaze based AT usage meant that children demonstrated agency, provided them with opportunities to show personality and competencies, and gave children possibilities to develop, increased happiness and self-esteem. For the parents, the gaze based AT gave the children the opportunity to do activities on their own which had not been possible before. Only children with a more comprehensible speech refer less satisfaction and autonomy in using the gaze-based system. It also seems that parents with early AAC intervention, starting before 1 year of age gain better results in using the system. There are no referred differences between various eyegaze technologies.

### CONCLUSION.

Overall, a limited amount of relevant literature emerged from our review. The literature for SMA revealed that there is little awareness about SMA and AAC or Assistive Technology. In conclusion, this is the first study on gaze-based AT in SMA1 children, even if this study is on a small number of children it provides first significant information. Therefore, gaze-based AT may be an important tool that can give opportunities for non-verbal SMA1 to grow up and participate in society, and may give opportunities for development and learning. Future research in a larger sample of children with comparisons between ages, between children conditions, as well as evaluating changes in self determination and communication abilities over time would be beneficial.

Acknowledgements: The authors are grateful to children and their parents, professionals of all levels from all Italy who participated in this study for a long time, without whom this effort would not have been possible.

**Evidence Area:** AACcess emerging technologies, AACcess education, AACcess relationships

**Content Focus Area:** Professional Practice Evidence

## **Fast Acquisition of Graphic Communication by an Adolescent with Cerebral Palsy in Harbin, China**

**Kristine Stadskleiv | Stephen von Tetzchner | Lu Liu | Hanne Marit Bjoergaas**

### **INTRODUCTION**

Children with cerebral palsy (CP) may need aided communication when their motor impairments are severe and affect their ability to use speech or manual signs (Andersen, Mjøen, & Vik, 2010). Children with CP have very varying levels of cognitive functioning (Stadskleiv, Jahnsen, Andersen, & von Tetzchner, 2017) and there is no one-to-one correspondence between cognitive and motor functioning (Blair, 2010). Assessment of language and cognitive functioning is vital for providing aided communication that is tailored to the individual's needs. This requires institutions with knowledge about assessment of children with severe speech and motor impairments, as well as knowledge about aided communication and strategies for supporting aided language development.

Augmentative and alternative communication (AAC) has only recently been introduced to China. There are therefore many older children and adolescents with little or no speech who lack access to AAC and have very limited means of expressive communication, typically only answering yes/no questions. This has hindered them from attending school and receiving education in line with their potential.

In 2015, a project aimed at introducing AAC for children with CP was initiated in Harbin, China. The project is a collaboration between China Disabled Peoples Federation (CDPF), Harbin CDPF Cerebral Palsy Rehabilitation Center, and the International Association for Communication Rehabilitation (IACR), an NGO based in Norway. The Norwegian team provided lectures and workshops about AAC, and trained local professionals in assessment, production of communication books, and intervention strategies, based on von Tetzchner and Martinsen (2011). Several children and adolescents who needed aided communication have been followed up as part of the project. One of them is presented here.

### **METHODS**

A case study methodology was applied, including assessments, observations, video-recordings, interviews and case notes (Robson, 2016). The Harbin Center developed communication books and provided support throughout the project period. Progress in aided communication was recorded during the biannual visits of the Norwegian team.

### **THE CASE**

The girl was 15 years old at project start. She has CP, can walk and use her hands somewhat but with considerable difficulty. She had very little intelligible speech and no communication aid. She had been visiting the Harbin Center regularly but due to the severity of her motor impairments and lack of speech, she had not been included in formal schooling. Assessment of cognitive functioning in the fall of 2015 indicated an age-appropriate level. She was provided with a communication book with graphic symbols, and schooling and opportunities for using the communication book with peers and adults were recommended. Soon after, Pinyin, the Romanization system (alphabetic writing) for Chinese, was added to her communication book. In the spring of 2017, the girl could write more than 2000 Chinese characters using Pinyin and used the Pinyin page of the communication book in most of her communication. In addition, she communicated using the keyboard on her mother's mobile phone. She had started to write a diary, and produced small stories using long descriptive sentences. Her positive development suggests a need for a speech-generating device with Mandarin output that can be operated with Pinyin. She was given an iPad with the app "Listen & Speak" during the follow-up in the fall of 2017.

### **CONCLUSIONS**

The intellectual resources of the girl were not fully known to the hospital staff, or to her parents, before the assessment and the provision of aided communication. Her swift development shows that even when aided

communication is first introduced in the teen-age years, there can be remarkable progress in both communication and academic achievement. Her story also emphasizes the importance of building local competence that can support communication and academic achievement after aided communication may have been suggested by visiting professionals.

The presentation will include excerpts of the girl's communication and video from communication tasks.

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**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community, AACcess justice, AACcess culture

**Content Focus Area:** Professional Practice Evidence

## Feeding the Education Reality

**Mitchell Leggo | Leane Leggo**

Mitchell Leggo is 19 years old, and has cerebral palsy, ADHD, autism and epilepsy. While he can walk, he has had almost continual seizure activity from the time he was born. 2017 is his last year in the Australian school system. This is his story.

From early intervention through to year 12, Mitchell has seen all that the Australian school system has to offer, progressing through

- . Early Intervention
- . Mainstream kindergarten
- . Prep to Grade 1 – special school
- . Grade 2 to Grade 6 – mainstream primary school
- . Year 7 to Year 12 – mainstream high school
- . Year 12 – special school

Throughout his progress through the educational process he has used a vast array of communication equipment, low and high tech; going from the oldest to his current system he has worked with

- . PECs system
- . Yes/No strip
- . Step Talker
- . Dynavox Mighty Mo
- . Go Talk 20+
- . Communication folder
- . Lightwriter SL23 and SL40

He has had assistance (and interference) from speech therapists and many communication partners, including integration aides, teachers, therapists, family and friends.

Mitchell is in a unique position to provide personal and detailed insight into the theme of AACcess education. For him, communication is not just the ability to say “yes/no” in response to 20 questions, or be able to choose from two or three items. Access to education through communication has provided him with a rich and distinctive style, full of vivid language and imagery.

“I am a deep thinker but a shallow communicator. How does education help? I believe that education can improve thinking by speeding up the thinking process.

Before education, I varied.

The time I spent in early intervention was fun and didn’t feel like education. Then I went to special school and didn’t feel real. The teachers thought I couldn’t learn. I was taught the same things over. They didn’t wait for answers.”

Mitchell’s presentation will focus on:

- . The importance of complex communication in an education environment
- . AAC methods, including a comparison of different methods of AAC in a variety of settings in the education system

- . Support requirements for AAC users including therapists, teacher aides, teacher resources, and peer support
- . Improved outcomes that are possible for people with complex communication requirements as a direct result of increased educational opportunities

As his mother I have assisted Mitchell with his submission and will assist him with his presentation.

**Evidence Area:** AACcess education

**Content Focus Area:** Personal Experiences and Preferences



## Filling the Gaps – Supporting spoke services through provision of AAC equipment and training

Ladan Najafi | Julie Bradford

The Kent and Medway Communication and Assistive Technology (KM CAT) Adult Hub Team provides a range of specialist AAC services. This includes specialist AAC assessment for the provision of alternative communication aids. We are one of 15 specialist hub services commissioned by NHS England in 2015 as part of a national hub and spoke AAC service delivery model (1).

In consultation with our local speech and language therapy services, it was identified that they were not adequately equipped with appropriate AAC assessment tools and resources to carry out their initial assessments with clients.

In 2016, the KM CAT service provided 6 AAC cluster boxes to include AAC equipment and resources, along with face to face training to the spoke teams across Kent.

The cluster boxes contain electronic and non – electronic communication aids, AAC assessment tools, and resources in order for spoke services to assess with people with communication impairment.

Following use of equipment from the cluster box, the spoke therapist may then make a referral to KM CAT for provision of the identified piece of equipment or where this service is not available, may use the information from the trial of AAC equipment to seek funding for AAC equipment for their client. It can also be used to support the assessment process prior to referral to the hub for specialist assessment.

The KM CAT service has provided the spoke services with training regarding the AAC equipment and assessment tools in the cluster boxes, and the process and procedure of borrowing and returning equipment.

Each location has an identified member of administrative staff who oversees the process of booking equipment in and out via a spreadsheet.

It is planned to carry out annual audits to monitor the usage of the cluster boxes. The first audit was completed a year after their implementation, and the outcomes have informed the future development of the use of the boxes.

The available data confirms that the AAC equipment provided is being used by the spoke teams and they are developing the relevant AAC skills through use of the equipment and resources.

The administrators and therapists in each location are working well together to fill in the spreadsheets and to make the process as smooth as possible. Generally, the feedback given by administrators and therapists has been positive.

They have mentioned that sometimes the process is difficult if having to travel far to collect equipment and keeping up to date with the spreadsheet

There is some evidence that therapists are trying more than one AAC device during the assessment. This is encouraging as it enables the device features to be explored in terms of which device best meets the client's needs and consider their preferences.

It has been noted that many therapists are providing good clinical reasoning with regards to their request for provision of AAC equipment following trial of equipment from the cluster box.

In some cases there has been some confusion with apps whereby a therapist asks for a selection of both text and symbol based apps for provision instead of just one suitable app which may lead to a poor outcome e.g. abandonment of the device, or inadequate AAC to augment the client's communication. Furthermore, where trial of items has led to private purchase, this data could form the basis of a business case in that area.

There has been little feedback received that the assessment tools have been utilised. It is possible that the therapists are using their own formal/informal assessments and/or they have access to these tools (Test of Aided Communication Symbol Performance (TASP), and Frenchay AAC Screening Tool) elsewhere. It is also possible that many clients are literate and technically straightforward, therefore specific assessment tools are not deemed necessary.

The feedback suggests that the iPads and voice amplifiers are popular items, often with a waiting list for their loan.

**FUTURE PLANS**

Provide additional stock of most frequently used equipment to reduce waiting times for these.

Gain further feedback on the non-use of some items and consider further training if identified as a need

Continue to monitor the cluster box process and encourage feedback from the teams regarding how they are managing.

Pilot a phone consultation for therapists to help spoke services with their clinical decision making for AAC.

**REFERENCE:**

(1) NHS England Service Specification, 2015, Complex Disability Equipment – Communication Aids (Specialised AAC services), D01/S/b

**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Professional Practice Evidence

## **Finding and administering appropriate cognitive assessments for people with little or no functional speech**

**Rosemary Crossley | Leslie Zimmerman**

This workshop is for professionals interested in administering cognitive assessments to people with little or no functional speech (LNFS) and for parents who wish to correct misassessments caused by inappropriate test selection.

For students with LNFS to receive appropriate education and services, the AAC community needs to be aware of assessment issues, and AAC practitioners need to be involved in the assessment process.

This workshop will provide AAC teams with the knowledge required to evaluate the reliability of previous assessments and information about alternative testing instruments and supplementary strategies to help ensure that children with LNFS are assessed fairly.

Children with LNFS are often sorted into educational streams by their scores on intelligence tests designed for children with normal speech and hand skills administered by psychologists who may be ill-informed about AAC and unfamiliar with cognitive assessments that do not require speech (Pratt, 2017). They may also share common negative stereotypes of people with LNFS.

In Victoria, Australia, for example, the state Department of Education and Training (DET) directed that all students thought to require cognitive assessment should be assessed using the Wechsler Preschool and Primary Scale of Intelligence (WPPSI), the Wechsler Intelligence Scale for Children (WISC), or the Wechsler Adult Intelligence Scale (WAIS), depending on age (DET, 2012). As these tests all posit normal speech, hand skills, sight and hearing, they discriminate against students who do not have these skills.

DET directed psychologists to estimate the intelligence of any children who could not or would not do the tests. Matthew, aged 11, with autism and no speech, repeatedly put away the test materials and pointed to the door when a psychologist asked him questions from WISC IV that he had no means of answering. She wrote that “A formal assessment could not be completed due to the severity of the developmental delay” and guessed that Matthew fell in the “moderate-severe range of ID.” Consequently Matthew was placed in a class for children with IQ <50. His next school report showed Matthew, who had previously scored in the normal range on the Peabody Picture Vocabulary Test III-R, ‘working to put all the teddies in the cup’, ‘counting to three’ and ‘matching blocks according to their colours’. No activity was beyond pre-school level, although Matthew had been in the government school system for 6 years.

Recent studies (Dawson et al, 2007; Bolte & Dziobek, 2009; Nader et al, 2016) have shown that people with autism with LNFS score significantly higher on non-speech tests such as the Peabody Picture Vocabulary Test (PPVT4) or Raven’s Progressive Matrices (RPM) than they do on the Wechsler tests.

The results of the first 25 children and young adults with LNFS to complete the PPVT 4 at a Victorian AAC centre in 2016 confirmed these findings. Twenty-two of the 25 had been diagnosed with autism. All had attended schools for students assessed as IQ <50. None scored below the average range on the PPVT4 during videoed assessments (Crossley, 2016). In May 2017 DET responded to these findings by releasing new assessment guidelines allowing non-speech tests to be used with students with LNFS. (DET, 2017) These include the PPVT4, RPM and the Comprehensive Test of Non-verbal Intelligence 2 (CTONI-2) among others.

This workshop will summarise the evidence for alternative measures to the Wechsler tests and other cognitive assessments requiring spoken answers. It will review widely-used standardised non-speech cognitive assessments, and outline the pre-requisite skills required to undertake them, as some require pencil and manipulative skills that are also often impaired in children with LNFS.

Three non-speech assessments found to be accessible by and acceptable to most children with LNFS will be demonstrated – the PPVT4, RPM – Classic and Parallel, and the Comprehensive Test of Non-verbal Intelligence 2, (CTONI-2).

Strategies for assessing and developing the pre-requisite skills for test-taking, such as pointing, attention and scanning will also be demonstrated, as will activities for developing confidence in children who have had negative experiences with previous assessments.

Finally, the workshop will suggest ways of introducing new procedures into pre-existing assessment systems.

Attendees will be equipped to evaluate assessments and to recommend appropriate assessment procedures for individuals with LNFS. Handouts or links to handouts will be provided.

#### **REFERENCES**

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**Evidence Area:** AACcess education

**Content Focus Area:** Professional Practice Evidence

## **Formatting Maths for Head Pointer Access**

**Wendy Yinfoo**

Conrad Yinfoo has a severe physical disability. He has participated in learning within the regular classroom through his schooling. To demonstrate his learning in maths, he has used head control to operate his laser pointer and some alternative formatting of worksheets and simple PODD like communication tools on his computer for individual units. This poster prepared by his mother Wendy will show some examples of what we have done.

**Evidence Area:** AACcess education

**Content Focus Area:** Personal Experiences and Preferences

## **Fostering friendships over time and place when AAC is part is part of the picture**

**Lana Jones | Zhade Thompson**

Friendship is one of the most valuable sources of strength, relationship, and meaningful community in our lives. Having AAC being a part of friendships can lead to some challenges, but is a challenge absolutely worth meeting. Over the years, we have nurtured, fostered, and grown wonderful sustaining friendships. Some of these friendships are local to us, and others are international. One of the best things in our lives is spending time with our friends in person and we often travel distances to do that! However, in the times between, we have to get creative as to how to foster and nurture our friendships. Some of the very practical hints and methods we have used will be shared, including the use of social media, FaceTime, Skype, regular phone calls using yes / no buttons, sharing love gifts, snail mail, and planned time together in person. In this presentation, Zhade and Lana hope to share some of our wisdom, experiences, and the challenges we have overcome on the road to friendships.

**Evidence Area:** AACcess relationships

**Content Focus Area:** Personal Experiences and Preferences

## **Framework for Analyzing Commercial Aided AAC in Chinese Communities**

**Ming Chung Chen | Ya-Wen Kuo | Shih-Han Chen | Chih-Kang Yang | Ya-Ping Wu | Shu-Ching Lee**

The visibility of Augmentative and alternative communication (AAC) has been increased because of the advocate of AAC practice in Taiwan and other Chinese societies such as, China, Hong Kong, and Singapore. Therefore, more and more individuals with complex communication needs have had AAC interventions. While both academic and clinical professionals are excited to see the growing trend, selecting a proper AAC system is always an issue for general clinicians and teachers. Selecting a proper AAC system is an essential step for initiating AAC interventions. Although several assessment model such as the participation model (Beukelman & Mirenda, 2013) and the matching person and technology model (MPT; Scherer & Craddock, 2002), has been proposed and introduced to clinicians as assessment guidelines, the process of matching the needs and characteristics of a client to the features of an AAC system is always one of major practical issue ( Debby McBride, 2011). Therefore, a framework of AAC selection process is needed for supporting the unmet needs when Chinese AAC professionals provide AAC services. This proper framework should consider existing AAC systems across the AAC technology spectrum in Chinese societies and local policies The framework is not only for analyzing the current aided AAC. It also will help AAC developers to evaluate the features of the newly developed AAC systems.

### **AIM**

In this study, we aimed to develop a concrete framework for analyzing commercial aided AAC in Chinese communities.

### **METHOD**

Six AAC professionals were invited for the developing processing. The members included one speech-language pathologist, one special education teachers, three professors from universities in Taiwan, and one professor from an university in the United States. The panel discussions were conducted via online conference calls by the first author.

The initiating framework included the four components of AAC systems: symbol, aid, strategies, and technique (ASHA, 2004). Following the first version of the framework, all panel members were asked to add and revise potential components in the framework during panel discussions. The members also were asked to test the framework by using it for evaluating a specific aided AAC to ensure the the feasibility, and appropriateness of the framework.

### **RESULTS**

Up to the submission, three sessions of the panel discussion and a pilot analysis were completed. The panel discussion will be continued before 2018 ISAAC conference. Further information will be presented in the conference.

The major components of the proposed framework are summarized below:

1. Type in IOS: printed, SGD, computerized
2. Aided AAC features
  - A.Physical feature: size, weight, color (not available for Apps)
  - B.Type of OS: ios, android, windows (not available for printed and SGD)
  - C.Type of layout : fixed/ dynamic, size, number of icon, size of icon
  - D.Types of message generation: sentence, word(SNUG)

E.Number of message:

F.Types of symbol set: real object, picture, text, phonic

G.Types of access: direct (e.g. point, press, eye gazing, brain control interface), indirect (auditory and visual screen).

H.Type of output: no transformed, text-to-speech, real recorded, digital voice

### 3. Required capabilities

A.Language: knowledge of vocabulary, syntax, pragmatics

B.Literacy: reading, spelling, writing

C.Sensory: visual, auditory

D.Motor control: range, precision, tactile

### 4. Purposes of communication

A.Needs/wants

B.Information exchange

C.Social closeness

D.Etiquette

## DISCUSSIONS

This pilot study that aimed to develop a framework for analyzing commercial aided AAC in Chinese communities. The proposed framework which contained four sections was also used to analyze a specific aided AAC. The initiated results show that the components could be easily used. After the framework is completed, the research team aims to develop an online AAC selection system based on the framework to serve the Chinese AAC societies.

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**Content Focus Area:** Professional Practice Evidence, Research Methods and Theories



## **Free and Low-Cost Software Tools to Help Develop Vocabulary for AAC Systems**

**Russell Cross**

Choosing appropriate and useful vocabulary for an AAC system is an essential part of any developmental plan for a client. This applies to both low – and high-tech systems. With the latter, many speech-generating devices (SGDs) include pre-stored vocabulary options that attempt to provide a starting point for aided communicators. But inevitably, even the largest of vocabulary sets will require some customization.

Decisions about what pre-stored vocabulary to use or new vocabulary to add can be facilitated by using simple software tools that are easily available (Cross, 2017). In this session, a number of such tools will be demonstrated such that attendees will be able to explore and use them in their AAC practice.

Microsoft's Word and Excel programs, which are commonly used, provide search and editing features that can be leveraged to create and compare word lists, calculate word frequencies, measure mean length of utterance (MLU) from AAC data samples, and even create teaching materials. These are examples of what this session will demonstrate, and mention will be made to the free LibreOffice Writer and Calc software.

The Brigham Young University's online corpora is a free tool that can be used to see words in context, compare spoken versus written word frequencies, compare English use across World Englishes e.g. Australian English vs. American English (Davies, 2013), and even break down polysemous words (such as "light") by parts-of-speech frequency. This type of data can be very useful when considering which words to add to a system and how to teach them. The basic search options for the BYU Corpora will be demonstrated in the presentation.

WordSmith 7.0 is a low-cost software that is used primarily by corpus linguists in matching very large vocabulary databases to smaller very specific data sets. This tool can also be used in AAC to match client samples with those same large vocabulary sets, and the results can provide information about how a client's vocabulary use compares with the English language as a whole. It's also possible to use this software to create lists of "keyword" vocabulary – words whose use is statistically higher than expected when measured against expected frequencies (Stubbs, 2010): these keyword lists can be used to discover new vocabulary to add to a system or highlight which pre-stored words might be best taught next. Example of this will be shown during the session.

### **LEARNING OUTCOMES**

Participants will be able to:

1. Access and use the basic Search capability of the online Brigham Young University corpora.
2. Use a spreadsheet to match two word lists.
3. Define "keyword" as it can be applied to AAC and explain how differs from current definitions of "core" and "fringe" vocabulary.

### **INTERACTIVE COMPONENTS**

During the session, participants will:

1. Be invited to provide examples of vocabulary for the purpose of using those items as a basis for analysis using the tools discussed.
2. Complete analyses of worksheets that contain sample data, which can then be matched against data supplied and generated by the tools being demonstrated.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Professional Practice Evidence

## **From Silence to Justice: Facilitators for victims of crime with communication disabilities**

**Robyn White | Juan Bornman | Ensa Johnson**

Accessing the criminal justice system is a basic human right that is protected internationally by the Convention on Rights of Persons with Disabilities (CRPD) (United Nations, 2006). Article 13 in the CRPD specifically addresses access to justice for persons with disabilities, and clearly states that all signatory states should ensure effective access to justice for persons with disabilities on an equal basis with others.

However, there is one group within the broader sphere of disability who finds accessing the criminal justice system particularly challenging, due to the fact that they cannot rely on spoken language to meet their basic communication needs; individuals with communication disabilities.

The global disability prevalence figure was recently calculated to be approximately 15% (World Health Organization, 2011), which is equivalent to an overwhelming one billion people worldwide. The World Health Organization further estimates that 2.2% to 3.8% of these individuals have severe communication disabilities which implies that they are unable to rely on their natural speech to meet their daily communication needs.

Research has identified a chain of pertinent events that contribute to persons with communication disabilities becoming increasingly vulnerable as victims of crime. To mention a few, persons with communication disabilities are considered unable to communicate their victimisation, due to their communication difficulties and when these persons do communicate their victimisation, they are less likely to be believed because they may not be understood clearly due to their communication disability. There is the misperception that persons with communication disabilities are unable to testify in court as competent and reliable witnesses (Bryen & Bornman, 2014).

One of the possible reasons for these misperceptions could be the fact that social workers, police officers, lawyers, advocates and judges, who all form part of the criminal justice system, often have limited knowledge of how to assist a person with communication disabilities and therefore find the whole process too daunting (Bornman, White, Johnson & Bryen, 2016).

Extensive research has shown that professionals working in the criminal justice system still need to be sensitised, educated and trained to understand disability features. They should be equipped with the necessary skills to handle challenges arising from disability-related aspects, as a lack of awareness and training negatively affects the process that a victim with LNFS must follow (White, Bornman & Johnson, 2015). However, rather than dwelling on the barriers and potential barriers, it is important to explore factors that may facilitate the access of persons with communication disabilities to the criminal justice system.

**AIM:**

The main aim of this research study is to identify facilitating factors that could assist persons with communication disabilities who had been victims of crime to access the criminal justice system.

**METHOD:**

A qualitative research design was used and three semi-structured in-depth interviews as well as three focus group discussions were employed.

**RESULTS:**

The results related to factors that would facilitate access to the criminal justice system for persons with communication disabilities will be presented according to the two contextual factors listed in the International Classification of Functioning, Disability and Health (ICF) (WHO, 2001). Firstly, the facilitating personal factors will be discussed followed by the facilitating environmental factors that were identified in this research study.

**CONCLUSION:**

The most important clinical finding of this research study is that although persons with communication disabilities are particularly vulnerable as victims of crime and although they are not always given fair access to justice due to their restricted communication skills (receptively and expressively), a number of facilitating factors exist that can be used effectively to ensure access to justice for these individuals. Some of these involve personal factors (e.g. coping strategies) while others involve environmental factors (ranging from products and technology to attitudes and services, systems and policies). The facilitating factors identified in this study should be attended to, so as to assist individuals with communication disabilities to access the criminal justice system, thereby ensuring that they receive the equality they so rightly deserve.

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**Evidence Area:** AACcess justice

**Content Focus Area:** Research Evidence, Research Methods and Theories

# From Woe to Go: Processes to Support People with Communication Difficulties in the Workplace

**Hank Wyllie | Louise Hockey**

## **BACKGROUND**

“Paid work has been widely acknowledged to be the source of positive identity, financial stability, to enhance wider life opportunities and is seen as a key indicator of social inclusion” (Swain, French, Barnes & Thomas, 2004). However, many barriers continue to exist for people with communication difficulties in accessing meaningful, paid employment.

Light, Stoltz, & McNaughton (1996) examined the barriers to paid work for 25 adults who used Augmentative and Alternative Communication (AAC). The participants identified communication as the greatest barrier, followed by problems with assistive technology, the negative attitudes of others, inadequate transport, and poor workplace access (Light, Stoltz, & McNaughton, 1996).

The national average for employment of people with a disability in organisations is 11%. Scope’s Communication and Inclusion Resource Centre employs 19 staff with a disability who represent 28% of the team. Reasonable adjustments to processes and practice have been made to provide accessible employment opportunities for people with disabilities.

## **AIM**

In this presentation, we aim to explore the following questions:

1. What is the impact of meaningful, paid employment for individuals with communication difficulties?
2. How can employers provide meaningful and accessible paid employment opportunities?
3. What are the reasonable and necessary adjustments to a workplace’s processes and systems to adequately support individuals with disabilities?

## **RESEARCH DESIGN**

A qualitative design through 1:1 interviews will be used to collect the perspectives of Scope employees who use AAC and the impact their work has made on their life. The interviews will explore relevant processes that support employees who use AAC to be part of an effective, efficient, and productive workforce. The data will be thematically analyzed in order to extract the key themes related to the research questions.

## **METHOD**

A series of interviews will be conducted with Scope employees who have communication difficulties. The topics covered in these interviews will address the areas identified by Light et al. (1996) as the greatest barriers to paid work i.e. communication, problems with assistive technology, the negative attitudes of others, inadequate transport, and poor workplace access.

## **RESULTS**

Results presented will include:

- A case study and personal story presented by a person who has communication difficulties. This will outline their experiences using AAC, their journey to paid employment following voluntary opportunities, and their experience of reasonable adjustment in the workplace.
- Key themes identified through thematic analysis of the interviews conducted addressing processes that have positively supported people with communication difficulties in their employment.

**CONCLUSION**

Reasonable adjustments to processes and conditions can facilitate effective, efficient, and productive work for people with communication difficulties. These processes and conditions seek to surmount the barriers identified by Light et al. (1996) i.e. communication, problems with assistive technology, the negative attitudes of others, inadequate transport, and poor workplace access.

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**Evidence Area:** AACcess employment

**Content Focus Area:** Research Evidence, Professional Practice Evidence, Personal Experiences and Preferences

## Fun and games; AACcess community and FUN through games supported by Augmentative Alternative Communication

Sonja Carpenter | Batin Carpenter

Board Games have been part of life since pre-historic times, with small painted carved stones, like dice, being found in south east Turkey (5000 BC) and the Royal Game of UR (2600 BC). In recent years there has been a resurgence of games with The Guardian (2012) calling it the Golden Age for Board Games, stating games not only bring us together but remind us how to play. Games can also help us learn new skills, encourage communication and social participation. For people with disabilities, and in particular those with complex communication needs, games can play an even more crucial role in helping to connect people, overcoming communication barriers with a shared sense of fun and connection (Ahern, K, 2014).

In 2013, an estimated 24 percent of people living in New Zealand were identified as disabled with, 3% who have difficulty speaking (and being understood) because of a long-term condition or medical problem. These percentages are higher in the Maori population. Many people with a disability experience more than one impairment. Some of these people can be identified as having Complex communication needs (CCN).

People with CCN are described in the literature as 'people who have little or no speech, associated with a wide range of physical, sensory and environmental causes.' This can limit their ability to participate in society independently and they and their communication partners may benefit, either temporarily or permanently, from the use of Augmentative Alternative Communication (AAC). (Balandin, 2002, cited in Speech Pathology Australia 2012, p 9.). Research has shown that incorporating the use of Augmentative Alternative Communication (AAC) as part of intervention can increase communication effectiveness and allow people access to different communication strategies to better support and enhance their natural speech attempts (Cumley, 2011; Light J., Drager K., 2007)

Using AAC with board games can be a fun way giving people AACcess to communication and community. Research has shown that when fun and enjoyment is incorporated in to learning, for children and adults alike, it increases motivation, concentration and absorption of learning (Lucardiea, D., 2014). Sonja and Batin Carpenter (mother and adult daughter), present on their journey of endeavouring to increase the use of AAC at home and make it more fun by using board and card games. In particular they aimed to use board games as a way of increasing the use of AAC by support workers, overcoming barriers to engaging with AAC by making it social and fun.

This presentation supported by video clips, will portray:

- . Ten games were chosen to form a 'Game Treasure Chest'; a variety of games that could be drawn from and that people could grow familiar with. Which games were chosen and why?
- . What supports were developed to help make the playing of games easier i.e. instruction sheets with Easy Read English/visual support, and Communication boards (generic board and game-specific boards).
- . How were communication boards/supports developed?
- . Examples of communication boards/supports.
- . What was the impact on communication and social participation, with information gathered from informal interviews and videos (with support workers and AAC user)?
- . What was the impact of the use of game-specific communication boards on the use of AAC generally throughout daily activities?
- . What were the highs and lows of introducing and implementing AAC tools in a family setting with support staff?

- . Were the game-specific communication boards and supports able to be used outside of the family setting e.g. with friends in the community?

Sonja, Batin and their family have been on a journey with AAC for close to twenty years and are always looking for new ways to make learning and connecting, not only meaningful and functional, but also FUN. AAC is not a magic tool but a means to increase connection between people. Games are also a means to connecting people in a fun and social way. Combining AAC and games provides the means to connect, across communication divides with FUN and laughter.

**Evidence Area:** AACcess the community, AACcess relationships

**Content Focus Area:** Personal Experiences and Preferences



# Functional Communication Training Involving Augmentative and Alternative Communication in School Settings: A Meta-Analytic Review

Virginia Walker | Kristin Lyon | Sheldon Loman | Samuel Sennott

## **AIM:**

Some individuals with severe disabilities rely on AAC to either supplement or replace speech (Snell et al., 2010). For those AAC users who engage in challenging behavior for which individualized interventions are necessary, strategies such as FCT may result in desirable behavioral outcomes (Walker & Snell, 2013), with important implications in school-based settings. The purpose of this meta-analysis was to summarize single-case intervention research studies in which students in school settings received FCT intervention involving AAC to address challenging behavior.

## **METHOD:**

We conducted an electronic database search, hand search of relevant journals, and ancestry search to identify relevant studies. Studies were included in the review if they met the following inclusion criteria: (a) the study utilized an experimental single-case research design; (b) the study was conducted with school-aged students (K-12) in a school setting; (c) the study participants received a FCT intervention with one or more relevant dependent measures that assessed a replacement behavior; and (d) the FCT intervention involved AAC. These studies were systematically reviewed to determine the overall effect of FCT and AAC interventions on challenging and appropriate behavior (e.g., replacement behavior) and whether study characteristics moderated intervention outcomes. Effect size estimates were calculated for each qualifying student across studies using Tau-U (Parker, Vannest, Davis, & Sauber, 2011). In addition, we coded each study to provide a descriptive summary of (a) characteristics of study participants and settings, (b) characteristics of function-based intervention applied within the studies, and (c) quality of the studies.

## **RESULTS:**

Overall, FCT interventions involving AAC had large to very large positive effects on student challenging behavior and appropriate behavior. A majority of study characteristics did not moderate intervention outcomes, suggesting that FCT involving AAC is effective across a wide range of students and intervention conditions. However, we found that outcomes were more pronounced when students engaged in less intensive forms of challenging behavior, FCT intervention was informed by a descriptive functional behavior assessment, and FCT intervention was implemented in inclusive school settings. Information about student characteristics, specific FCT instructional procedures, and intervention dosage was often missing from studies, as were measures of generalization and maintenance.

## **CONCLUSION:**

Our results suggest that FCT interventions involving AAC are effective across a wide range of students and intervention conditions. Although these results are promising, additional research is needed to explore in greater depth those variables that contributed to more pronounced intervention outcomes for students in school settings (e.g., intensity of behavior, type of behavior assessment, location of intervention). Furthermore, additional research is needed to examine the effectiveness of FCT involving AAC across a more diverse population of students, with these research efforts (a) reporting on specific participant and intervention characteristics (e.g., student communicative abilities prior to intervention, specific FCT instructional practices, intervention dosage) and (b) including measures of skill generalization and maintenance.

**Evidence Area:** AACcess education

**Content Focus Area:** Research Evidence

# Gateways and barriers to staff responsivity towards students who have significant intellectual and developmental disabilities

**Maayan Shalev | Orit Hetzroni**

Children with significant intellectual and developmental disabilities (SIDD) are characterized by substantial language delays. The communication of these children resembles that of young children with typical development, as they both depend on pre-symbolic and early symbolic means for communication. The way and the extent of the communication partners' response to a child's communication has been recognized as a key component in language development for typically developing children, as well as for children with SIDD. The term "responsivity" refers to the communication style characterizing the communication partner and includes strategies of contingent feedback such as answer, expansion, interpretation and naming (Warren & Brady, 2007).

Mother-child research emphasizes the long-term implications of maternal responsivity on language development (Brady, Warren, & Sterling, 2009). Due to the resemblance of communication characteristics of people with SIDD and children with typical development, the term responsivity was borrowed for research of communication among people with IDD (Harwood, Warren, & Yoder, 2002).

## **AIM**

The purpose of this study was to examine a model that would map possible gateways and barriers to school staff's responsivity towards communication of students with SIDD and to the student's extent of communication in the interaction. The proposed model included the communication partner's variables: demographic variables, attitudes and perceptions, burnout and job satisfaction; the student's variables: demographic variables and adaptive behavior profile; and environment variables: the type of encounter between students and staff members (group activity versus individual encounter), the number of students in an activity and the frequency of encounters between the student and staff member. The model also included a proposed correlation between responsivity and student's extent of communication.

## **METHOD**

Interactions between 120 school staff members and 43 students aged 9 to 16, with SIDD and substantial language delays, were videotaped, during individual or during group encounters during routine school activities. Each student was observed during two different interactions with three different staff members, a total of 258 observations. Questionnaires were used to evaluate the students' adaptive level profiles and to collect demographic and emotional data for staff members. From the observations, staff behaviors were coded qualitatively and quantitatively. Statistical analysis was performed to examine variables predicting responsivity. Based on preliminary analysis two independent models were examined, one for each encounter type, using exploratory path analysis.

## **RESULTS**

The analysis revealed higher scores of responsivity in the individual encounter than in group activity. In the individual encounter model, the student's verbal ability was the main predictor of responsivity. There was a reciprocal influence between responsivity and the student's extent of communication.

In the group encounter model, a variety of variables were involved in the communication process. The correlation between the variables and responsivity was mediated by a latent variable that was named 'personal and contextual availability'. Thus, the environmental variables, the student variables and the staff variables all influenced 'availability', while the latent variable 'availability' increased staff responsivity and the student's extent of communication. Some of the variables were found to facilitate availability and responsivity, including low numbers

of students participating in the activity, student's challenging behavior score and staff's positive attitudes and perceptions.

#### **CONCLUSIONS**

The student's verbal ability was a significant facilitator to responsivity in the individual encounter model. Verbal ability encouraged staff to use responsive strategies such as answers, expansions and interpretations. In the group encounter model, low numbers of students were related to the level of the staff burden and to lower competition for the student. Student's challenging behaviors can be perceived by staff as having a communicational function thus promoting responsive style, and positive attitudes and perceptions relate to higher expectations of the student and higher motivation of staff to communicate, thus being a catalyst to availability. The discussion about availability expands on the discussion in current literature about emotional availability to include an emphasis on other possible aspects, such as environmental conditions (number of students), emotional burden (attitudes and perceptions) and student profile (higher communication and adaptive level abilities).

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**Evidence Area:** AACcess education

**Content Focus Area:** Research Evidence

## **Gathering egocentric video and other sensor data with AAC users to inform narrative prediction**

**Rolf Black | Zulqarnain Rashid | Annalu Waller**

Personal narrative has long been accepted as a key part of our daily communication. Sharing our experiences with friends, family and others makes up a large proportion of our conversation [1]. Many of these narratives are told more than once: sharing the good news of a new job, the stressful story of the flat tyre in the highlands or all the things we experienced during our holidays.

During a conversation, partners base their contributions amongst other factors on the context of the conversation, for example, who the conversation partner is or where and when a conversation takes place. Some AAC systems provide the user with phrases and whole narratives rather than simple word prediction. In a study by Todman et al. [2] handcrafted contextual conversational items were provided to AAC users on their device, communication rates of up to 64 wpm were demonstrated. However, using such a system requires hand scripted paragraphs and training users to remember the existence and location of these.

Automatic data-to-text sentence generators have been trialed in narrative based systems. In [3], a narrative ontology was populated with conversational topics linked to people and places.

There are some attempts to use automatically gathered context information to improve prediction. Examples include providing vocabulary for ordering when located in a café or restaurant or presenting tagged pre-stored phrases depending on who the conversation partner is. Research by [4] has added topic identification to inform context aware SGDs but the implementation of a real-time system has yet to be achieved.

### **AIM**

In this presentation, we will discuss the findings of a study we conducted with AAC users with the aim to gather context information. The context data collected includes egocentric video, location and time of a conversation as well as the AAC user's speech output.

We will describe the larger project and will present the results of data collection and the potential use of the data to inform prediction.

The presentation will highlight challenges encountered and solutions adopted when collecting video data in public spaces, particularly when video data is combined with personal information such as identifying individuals and linking the data to time and location.

### **METHOD**

Before commencing the study, ethical approval of the University's ethics committee was obtained. Additionally the data protection office of the university was consulted to ensure that no data protection regulations were breached.

Two AAC users with complex physical disabilities carried a video camera, which recorded the field of view of the participant during several hours of the day. They also carried a mobile phone, which collected additional data such as GPS information about the location of the participant and accelerometer data for movement information.

### **RESULTS**

Initial expectations were that the data gathering with egocentric video cameras would raise a lot of concern in bystanders and lead to a challenging situation for the data collection did not materialise.

Data gathering was conducted during work situations, e.g. during group meetings, at home, e.g. when meeting friends and out and about in town, e.g. visiting a café.

Challenges however included the mounting of the video cameras to allow a steady image capturing the field of vision of the participant. Static mounting on the participant's shoulder (for the ambulant participant) or on the second participant's wheelchair did not allow capturing the participants' view when they turned their head.

Currently the gathered video data is getting analysed for computer vision analysis to extract useful data to inform the prediction module of the AAC system.

#### **CONCLUSION**

During the data gathering with two AAC users with complex physical disabilities, a number of hours of egocentric video data and location and movement sensor data was collected. Data collection was conducted according to data protection regulations and ethical considerations.

The data will now be analysed for further use in our prediction system.

Future data gathering might incorporate the use of glasses with built-in cameras to accommodate for head movement and so allowing to always capture the field of view of the participant.

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#### **TECHNOLOGY.**

**Evidence Area:** AACcess emerging technologies, AACcess language and literacy, AACcess education, AACcess the community, AACcess employment, AACcess diversity, AACcess justice, AACcess culture, AACcess relationships, AACcess social media

**Content Focus Area:** Research Evidence

## **Get Moving: The Positive Impact of Physical Movement and Creative Expression On Health and Wellbeing**

**Melinda Smith | Beth Moulam | Emma Green | Dale Gonelli | Laurence Byrne | Catrin Anderson**

The aim of this workshop is to encourage people who have physical disabilities to think about the things in life that they have always wanted to try, and inspire them to be more active in their life. The workshop presenters will share their own stories of pursuing their passions in a diverse range of sport, movement, personal development and creative activities. They are all individuals with a lived experience of physical disability and communication impairment, who originate from around Australia, the United Kingdom and Hong Kong. Each presenter will talk about how involvement in their chosen activity has positively impacted their health and wellbeing. Topics will include yoga, dance, running, sailing, Conductive Education, (water) Immersion Therapy, and drama.

Each of the presenters will give a short introductory presentation on their chosen activity, followed by a question and answer session that will field questions from the audience. As a means of introducing humour and exploring artistic themes, the question and answer session will be chaired by “The Amazing Talking Wheelchair.”

Following this, the audience will have the opportunity to get moving. The presenters will lead a series of simple movement and dance exercises that are suitable for audience members with any level of ability. Participants are invited to celebrate self expression.

A secondary goal of this paper is to provide mentoring and peer support around conference presentation skills and public speaking for young people who use alternative forms of communication. Some of the presenters have limited experiences of conference presentation, so they will be guided and encouraged by the more experienced members of the team, before, during and after the conference. Workshop participants will also be encouraged to think about creative, personal, artistic, movement or sporting activities that they would like to try, and will have the opportunity discuss this with other participants. The presenters will set up a Facebook group where participants can continue to share their ideas and stories, thereby creating a supportive peer network that can continue after the conference. Participants will be encouraged to keep a record of their experiences with a view to submitting their own papers for the 2020 ISAAC conference.

All of this session’s presenters use electronic devices and/or “low tech” systems for communication. During the Q&A segment of the presenters would like to give priority to questions from audience members who have little or no speech, and use alternative means of communication.

**Evidence Area:** AACcess the community, AACcess culture

**Content Focus Area:** Personal Experiences and Preferences

## **Giving Our Quietest Children a Voice: Examining the Impact of the Quality Indicators of AT**

**Gretchen Cole-Lade | Claudia Otto | Allyson Robinson | Dianna Ross | Judy Boshart**

This presentation will provide information learned from a grant-funded, longitudinal mixed methods research project, “Giving our quietest children a voice.” The research questions included: 1. How does systematic collaboration among all team members (parents, teachers, teacher assistants, therapists) influence the use of AT by each child? 2. By following the recommended steps identified by the QIAT, were the children successful using the most appropriate AT device recommended by the team to communicate across settings and people, both initially and longitudinally? Six young children participated in the research over a period of two years in a variety of settings. The students are diagnosed with a variety of disabilities: Down syndrome, Cerebral Palsy, Autism, and multiple disabilities – she is medically fragile, has been diagnosed Holoprosencephaly, hypothyroidism, and hypernatremia. All of the young children have Complex Communication Needs (CCN). The children ranged in age from three to six years old. The need to expand AAC opportunities for each one of the six young children to support their communicative attempts addresses the challenge made by the new Supreme Court finding in mid-March 2017 regarding the Individual with Disabilities Education Act (IDEA) mandate for ensuring a “Free and Appropriate Public Education” for every child diagnosed with a disability. The United States Supreme Court voted 8-0 in 2017 in favor of Endrew (Endrew F. v. Douglas County School District, 2017), a young child with Autism, whose parents asked the court to rule on what ‘appropriate’ means in the federally mandated Free and Appropriate Public Education mandate. The IDEA mandates that Assistive Technology must be considered by every early educational team supporting children with disabilities. The new court ruling expands the definition of appropriate to challenge educational teams to pursue “appropriately ambitious” goals for all children with disabilities, especially those with more significant delays (including students with CCN). The comprehensive research team who worked with and supported the children included the Child Development Lab (CDL) Director, two university-based researchers, teachers, teacher assistants, a Speech and Language Pathologist and an Occupational Therapist from Oklahoma Able Tech, our state Assistive Technology (AT) agency . The children attended the university’s Child Development Lab (an inclusive educational setting), and two local public schools. Parents were also members of the research team. Participants will examine and assess the eight steps within the guidelines provided by the Quality Indicators for Assistive Technology (QIAT) and how the indicators were implemented in this study: AAC was considered necessary for each, the six students were then assessed for strengths and needs, AT was implemented in each classroom setting, evaluation of the effectiveness of each AT device or system was completed, and transition plans were made to transition the children to the next educational setting. A mixed methods research plan followed the children throughout the school year, from start to finish. Qualitatively, all participants participated in interviews throughout each school year. Interviews were transcribed verbatim. Using a Grounded Theory approach, content analysis was used to identify emergent themes inductively within and across the transcripts. Deductive analysis then occurred to identify overall themes from the interviews. Quantitatively, single-subject design research was used to examine the results of each implementation of the devices and systems for each child. The results, challenges, and successes from the research will be shared with the participants, providing time for questions, for sharing of ideas, and make recommendations for future research.

**Evidence Area:** AACcess language and literacy, AACcess education, AACcess relationships

**Content Focus Area:** Research Evidence, Professional Practice Evidence, Personal Experiences and Preferences, Research Methods and Theories

## **Graphic symbols as a first language revisited: When AAC is needed for receptive language.**

**Sabrina Kustreba | Gayle Porter**

At the ISAAC conference in Odense in 2002, a presentation described a speech pathologists learning about language development from her experiences working with a child, from the age of 20 months to 8 years, whose first language was graphic symbols. This presentation provides the opportunity to revisit this topic in 2018 from the perspective of that child, now women in her early twenties.

Because of my hearing impairment, spoken language was not my first language. It was not how I learnt to speak and communicate. I learnt language by learning pictures from my communication book. This was my first language.

When I was little some of the things that helped me learn language was that my speech therapist would use and give my mum displays with pictures and words. My mum and other people would point to the picture with the word and say it every time we played at home or did something like eat or bath. When I was young it was so hard to understand what was happening but everyone just kept on trying and showing me and after sometime I started understanding and using it a little bit myself. This was the beginning of me learning language. To help me even more my mum went to learn signed English because she and the speech therapist thought it would help me understand language better, and it did.

This was not easy or a good time for me. I was so scared and frightened of people. I didn't understand what was happening when I couldn't understand what people were saying to me. This is why I cried so much when I was young.

I eventually got my first DynaVox with a PODD page set. It was faster and I could see on the message window what I was writing. When I was learning to read at school my speech therapist would help me say the words by showing me how to make the sounds for each letter. I could then read the words above the pictures out loud and learn to say the words much better.

I learnt to read and type from using pictographs with the written word. I understood the symbols meaning and I remembered the written word above each symbol so I could type it and spell it.

From everything I had learnt when I was younger. I am now able to read, use a computer, type on my iPad using predictable and speak a little bit.

I still need AAC, written words or sign, to help me understand other people. People don't understand how confusing it is for me when they only use spoken words to talk to me. It is easier for people just to speak but they can't understand how difficult it is for me to know what they are saying. My mum told me that when I was young she blocked her ears and tried listening to things like the TV and people because she needed to know and feel what it was like not being able to hear so she could better understand me and how I would be feeling. I try so hard to look at people's faces or read at their lips, but most of the time I have not understood much because they have said it too fast. Sometimes I get angry because I do not understand what they are saying and then I just don't say nothing back to them because I get annoyed, frustrated and sometimes embarrassed. When that happens to me I pretend that I understand and just say YES or OK and just smile and nothing to say.

People can help children learn language and communication by using communication books and pointing to the pictures, words and showing them what the word mean. Some children might seem scared, not interested in it or maybe be naughty or cry but just keep on doing it for them. The children need lots and lots of time and modeling before they start to understand. People need to use it all the time so that children can see how it is done and they can use it for everything they want to say. Speech therapist can show children and people how to use their



devices and expand their language and the children can be more independent because they can use it themselves and have voice output to speak what they wanted to say.

Just because I can't speak properly and understand when people just speak to me doesn't mean that I have nothing to say or understand. That is not true. I love talking and I can do this with some speech and my iPad. I can do this because of everything I learnt when I was younger.

**Evidence Area:** AACcess language and literacy, AACcess education, AACcess relationships

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

## Growing AAC Camps Internationally: from Idea to Practice

Valerie Arbeau | Anne Kuhlmeier | Karen Pollock

AAC camps have flourished and died for years around the world. Their primary purpose is to bring children who use AAC together in a fun, natural environment where they can hone their communication skills with peers. Camp formats vary in style, complexity, setting and staff. In this poster we will visually represent our journey from a parent's view attending an established AAC Camp in one state, because no such camp existed in their locale, to the creation of a sister camp in a different country. The spawning of a second camp, run not only under a different format and geography but with totally different staff and restrictions, will be presented. Laying the foundation for a successful camp requires intensive collaboration, especially during the development stage. The original camp's mission and purpose was considered foundational to the development of the sister camp. The collaborative model of sharing information and how it affected camp dynamics and format will be discussed. Anecdotal and factual documentation will be shared. Factoring sustainability for the sister camp was paramount. These camps continue to be successful with plans for future expansion and ongoing collaboration which can be shared.

The focus of the poster will be on illustrating the journey from the initial idea of creating a sister camp to the successful implementation of the first new camp. The two camps differ in many ways (e.g., one is a week-long day camp on a university campus, the other is a weekend overnight family camp at an accessible outdoor children's camp). Each has its own benefits and challenges. But despite these differences, many core values and features are shared (e.g., use of pre-service students as 1:1 counsellors, communication-focused activities, ensuring a 'real camp' experience for the campers, parent involvement, utilization of volunteer clinicians from the community). Each camp provides a win-win situation where students receive intensive hands-on experience with AAC, campers receive one on one intervention and peer to peer experience, clinicians oversee students, and parents learn and model with their camper and network with other parents. The poster will identify essential components for establishing and sustaining an AAC camp and the benefits of an ongoing international collaboration.

**Evidence Area:** AACcess the community, AACcess culture, AACcess relationships

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

## **Hands On Activities for Teaching AAC: Why and How**

**Vicki Haddix**

This presentation aims to provide suggestions for how to teach AAC, framed by theories of adult learning, research about making ideas “stick,” and Universal Design for Learning (UDL). Given the dismal statistics about how unprepared SLPs can be to handle adults and children with AAC needs (Light et al., 2014), effective training for professionals already in the field is crucial for meeting the needs of people who use AAC.

Research into adult learning suggests that adults, while varying in their learning preferences, tend to be highly practical and need to have experiences to build on learning (Cream & Moran, 2012). The authors Chip Heath and Dan Heath (2008) use the acronym SUCCEs to describe how to present ideas in ways that resonate with an audience and lead to changes in behavior. They include being Concrete to help people understand and Emotional to make people care. This fits in well to the pillars of UDL – providing multiple means of representation, action and expression, and engagement (CAST, 2011).

Having hands on activities within classes or presentations that focus on AAC allows a presenter to create experiences for learners to build on, be concrete, and provide multiple means of representation of ideas. However, creating these activities can be a challenge and finding activities that work as intended can be even more of a challenge.

A recently published study (Nairo-Redmond et al., 2017) provides some crucial insight into creating activities: having participants experience a simulation of disabilities increased their empathy towards people with disabilities, but did not improve attitudes around interacting with people with disabilities. As AAC is all about interaction, and those choosing to train or be teachers and SLPs have hopefully already developed empathy, simulation activities that have been popular should be used with caution.

Over the course of 10 years of teaching AAC to pre-service and in-service SLPs and teachers, this presenter has become a firm believer in the power of hands on activities to raise awareness as well as train professionals. She has tried out a lot of ideas and activities, depending on the audience and the technology available. Some have worked better than others. She'll share the failures and successes during this presentation and encourage discussion with others who present on AAC about what has worked well.

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**Evidence Area:** AACcess education, AACcess the community

**Content Focus Area:** Professional Practice Evidence

## **Having My Cake and Eating it too**

**Emma Green | Toni Green**

In this presentation I will share why I chose as an adult to move away from getting the majority of my nutrition from formula through my peg/feeding button.

I will talk about why it was important to me, and the steps involved.

I will share the skills I had to learn (eg to drink through a straw, to manage different food textures), and the process involved in working with a naturopath and the dietician at my local hospital.

I will tell how we used blood tests to identify where I needed additional support (eg I was very low in vitamin d) and identify what has been difficult in this process and what has been easy.

It has been very much driven by me and I have had support of my family and a brilliant naturopath along the way.

I will talk about the new goal I have set myself (feeding myself some meals/snacks) and the process I have gone through to learn to do this.

**Evidence Area:** AACcess the community, AACcess culture

**Content Focus Area:** Personal Experiences and Preferences

## **Health Rumours: Useful or dangerous?**

**Susan Balandin | Judith A Molka-Danielsen**

### **BACKGROUND**

Are people who use AAC susceptible to health rumours and how do they decide what to believe? Rumours about health have interested historians, writers, health workers and the general public for years. Many people familiar with the nursery rhyme ‘Ring a ring o’ roses’ believe this to have eventuated in the time of the Bubonic plague and that it describes symptoms – a rash, sneezing, death. In fact there is no evidence for this – it is just a rumour (Molka-Danielsen & Balandin in press). A rumour can be defined as a circulating story of unauthenticated or unverified truth that can be spread by word of mouth or more recently, through social media. It is easy to discount rumours as being unimportant but rumours fill a gap in people’s knowledge (Hagar, 2013) and therefore may be rife at times of health crises such as the SARS epidemic or the spread of HIV Aids (Molka-Danielsen & Balandin in press).

Organisations such as the World Health Organisation (WHO) monitor social media to learn about population’s health concerns and to monitor the information that is being spread. Indeed, social media, in particular Facebook, YouTube, and Twitter enable rumours about health, along with other topics, to spread very quickly. Equally rumours or misinformation are quickly counteracted by the expert audience of organisations and informed users who access social media regularly (Simon, Goldberg, & Adini, 2015; Wendling & Jacobzone, 2013). We know that adolescents and adults who use AAC find it difficult to access reliable health information (Balandin & Waller, 2010), therefore, they may be at increased risk for acting on health rumours. However, little is known about the health decision making processes of people who use AAC.

Word of mouth and traditional news media such as newspapers, radio, or television often take news from social media without verifying the source or facts. Consequently, people who have poor literacy, who do not access social media or who have not had experience in reflecting on health information to find out what might be reasonable or indeed helpful, are at risk of acting on poor information about health or on health rumours. Rumours spread through these sources take longer to correct, placing those who hear them at risk. For example health rumours in parts of Africa have predominantly been spread by word of mouth, often from trusted sources such as spiritual leaders. This has had a significant negative impact on the control of pandemics such as HIV AIDS (Siegler, Mbwambo, McCarty, & DiClemente, 2012).

### **RELEVANCE FOR PEOPLE WHO USE AAC**

Many people who use AAC experience difficulty in accessing health information and have little practice at making independent health decisions (Balandin & Waller, 2010). Many have literacy difficulties and are unable to access social media independently. This may protect them from rumours but may prevent them from accessing information from respected organisations (e.g., WHO) to help them make correct decisions about their health in times of crises. They may be reliant on others, including support workers, who may also be susceptible to health rumours. Little is known about how people who use AAC make health decisions or what interventions might be effective in helping them to decide what is and is not a rumour and what is a safe action to take.

We will give a brief overview of the literature pertaining to the positive and negative aspects of health rumours and engage the audience in a short discussion of what steps the field of AAC could take to support people using AAC to make informed decisions about information they receive and how to verify what they hear.

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**Evidence Area:** AACcess education, AACcess the community, AACcess justice, AACcess social media

**Content Focus Area:** Research Evidence, Research Methods and Theories

## **Home AACtivation: Possibly and potential for environmental control systems**

**Trina Phuah**

This presentation will discuss how viable it is for contemporary voice-controlled ‘smart speakers’ to be activated using synthetic voices, such as those utilised by AAC users. The ability to control aspects of the home environment can potentially enable people to live more independently (Judge et al. 2009), reduce support requirements (Marasinghe, 2016; Mortensen et al. 2017), increase autonomy and improve quality of life (Brandt et al. 2011). Developments in everyday technologies have led to increasing ways to perform tasks such as text-messaging; using the telephone; changing television channels; listening to music; opening window blinds, locks and doors; controlling temperature, lighting and more (Calder, 2016).

Many digital or ‘high tech’ AAC devices can be used to perform a range of environmental control functions. This may require additional hardware, specific programming and potentially specialised or bespoke solutions. Typically, this requires considerable expense and extensive support to set up and implement.

The increased availability of everyday technologies that can be used for home control functions presents an opportunity for a wider range of people to participate in these activities. Most everyday technologies (e.g. smart phones, tablets and computers), now incorporate a number of personalisation features to support their use. This includes alternative access options such as switch and voice control.

Voice control promises a quick and convenient way to interact with a device. Potential benefits of using voice control include perceived simplicity of use, improved aesthetics and speed of operation (Judge et al., 2009). While there are concerns about errors in recognition and a lack of reliability when using speech input (Judge, Robertson, & Hawley, 2011), this may be addressed with improvements in contemporary speech recognition algorithms and increased processing speeds (Myburg et al., 2017).

For people who use augmentative and alternative communication (AAC), voice control may present a novel and effective way to control aspects of their environment.

This presentation will discuss findings from initial trials to investigate whether synthesised voice output is viable to use with voice-controlled devices. Practical implications will be shared and suggestions for effective home control options provided.

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**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences



## **Honoring the right to communicate when people say “He does not communicate”**

**Patricia Politano**

We all agree that everyone has the right to communicate, the right to express themselves in the ways THEY choose and the right to be heard. But what happens when a person lives in a communisphere where no one notices their subtle and, or idiosyncratic communication attempts to communicate. What can be done when people with authority say, “he does not communicate”? Where do we start? How do we change perceptions and expectations?

This presentation will include a framework for assessment, identification of functional communication goals and development of intervention plans that include education of communication partners and engineering environments to maximize communication opportunities. Assessment strategies/tools presented will include use of gesture/ communication dictionary, communication passport and the Inventory of Functional Communication. Participants will learn how functional communication goals and intervention plans derived from these tools can be used to educate communication partners and build new relationships.

**Evidence Area:** AACcess justice, AACcess relationships

**Content Focus Area:** Professional Practice Evidence

## **How to fight sexual abuse? Support for victims to file a complaint by using AAC**

**Ingeborg Thümmel | Andrea Erdélyi | Tina Meinen**

The risk of being a victim of an act of violence is particularly high among people with disabilities (Schröttle et al 2012). Being a victim of sexual abuse is even higher among people with an intellectual disability (ID) and low or no functional speech (LNFS) (Bornman, 2014; Bornman et al, 2011). One of the many reasons why perpetrators often choose vulnerable victims is that they cannot testify against their abusers (Schröttle et al, 2012). Research from Schröttle et al. (2012) shows as well that the lack of interest and ignorance of local police services make it difficult and impossible for people with disabilities to file a criminal complaint (Schröttle et al., 2012). But everyone – including people with LNFS – should have the right to stop a perpetrator, to file a complaint and to give a witness statement to the police or the court.

Reporting the offender to the police is usually the first step in the German criminal prosecution law to indicate the crime or the perpetrators. (Zinsmeister, 2003). With appropriate communication aids and the reduction of barriers, people with LNFS should be able to report a crime and communicate about the violent details of the sexual abuse (White et al., 2015). One way to report a criminal offense and to demand their fundamental rights for people with ID and LNFS is AAC (Bornman et al., 2011). White et al. (2015) identified and described the core and fringe vocabulary to report a sexual crime in court in South Africa and developed a “testifying in court” communication board. Our study refers to the research results from White et al. (2015). Furthermore, we adapted the South African “testifying in court” communication board to report a sexual assault in a police interrogation in Germany.

### **AIM**

Building upon that, we focused on four aims. The study aims to:

- investigate the core and fringe vocabulary to report a sexual abuse;
- figure out what kind of structure and design the communication aid needs so that the police can interrogate people with LNFS and work out the extent of the abuse;
- validating a communication aid to meet the needs of people with ID and LNFS in case of reporting a sexual crime to the police.

### **METHOD:**

We decided to conduct an ethnographic design study based on four phases. Four data collection methods were used: two different in-depth interviews, a role-play and a focus-group. The design included four sequential phases, built on top of each other. This ensures that the results of the previous phase served as the basis for further investigations and expert surveys in the subsequent phase. A total of 22 participants were involved in the study.

### **RESULTS:**

- . Collection of core and fringe vocabulary as well as transparent, translucent and opaque symbols which allow people with ID and LNFS to report a sexual abuse;
- . Communication folder which supports the police to interrogate people with ID and LNFS.

### **CONCLUSIONS:**

For people with ID and LNFS, a communication aid is essential to report a sexual crime. A valid tool is also a great support for the police to do an in-depth interrogation notwithstanding whether the victim can speak or not. The German communication folder for victims of sexual violence is still in the development phase. Currently, we are able to present version 1.0 of the AAC Interrogation Folder (AAC-IF) and to report the first evaluation results.

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- Evidence Area:** AACcess education, AACcess the community, AACcess justice
- Content Focus Area:** Research Evidence, Research Methods and Theories

## **How was your day? My Film, My Story! teaching method**

**Mascha Legel | Nicola Grove | Gloria Soto | Annalu Waller | Bert Steenbergen | Hans van Balkom |  
stijn deckers**

From 2012-2017 the project My Film, My Story! took place at several Dutch schools. Children with Complex Communication Needs could follow lessons in filmmaking and Storytelling. During this project a teaching method based on Film as Observable Communication (FaOC) was developed, which will be launched in April 2018. The purpose of the teaching method 'My Film, My Story' is to stimulate and assist story sharing (Grove, 2013) by children and young people Complex Communication Needs (CCN). The method was developed in close collaboration with children, parents, teachers and speech therapists. Daily personal story sharing is the foundation for language, personal development, and personal engagement (Soto & Hartmann, 2006; Von Tetzchner & Martinsen, 1996; Waller, 2006). The teaching method is based on self-collected and created film material by the AAC user him/herself. The self-created film provides the context of an experience/event that provides the support during the story sharing (Grove, 2013). The film never stands for itself but is supportive and adds to telling stories. Communication, oral language proficiency and participation are connected. Sharing a story takes two and is based on social interaction. If children don't share their stories it might lead to frustration and might increase passivity, which further restricts their opportunities to develop expressive language and narrative skills (Raghavendra, Virgo, Olsson Connell, & Lane, 2011).

- . The National Expertise Center for Learning Development (SLO), in collaboration with other institutions such as the Dutch and Cito Expertise Center, has developed reference frameworks and associated learning lines to determine the level of students, including the oral language skills and narrative. For children and young people with CCN daily personal story sharing is a challenge they need supported augmentative alternative communication tools to develop narrative skills. This is the purpose of the lesson method "My Film, My Story".
- . The FaOC teaching method "My Film, My Story" offers children and young people with CCN, their parents, teachers and speech therapists a practical method of supporting daily story sharing at home and at school to pursue the reference core goals of oral language and narrative skills. The use of Film as Observing Communication (FaOC) aims to improve story sharing and participation. The mean goal is that children, adolescents and adults with CCN get in touch with others and share big and small personal stories. Audio-visual and media technology can create new possibilities in the field of storytelling and Augmentative Alternative Communication (Pink, 2013).
- . In this presentation we introduce the FaOC teaching method "My Film, My Story!" and present research results of research-project My Film, My Story!. We will give practical advice on how to use the teaching method with a focus on filming, editing and the story sharing with Film as Observable Communication in school and at home. During the presentation we will present film material collected filmed and edited by Children who use AAC.

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**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community, AACcess social media

**Content Focus Area:** Professional Practice Evidence, Research Methods and Theories

## I Have a Dream

Victor Lam | Rosemary Crossley

I have a dream that people will think that we are all equal.

I have a dream that children will all go to the same schools whether they can talk or not.

I have a dream that all children will be taught and will learn.

I have a dream that important people will see that we are the smartest not the dumbest.

I have a dream that just as blacks equal whites, we who cannot talk properly will be the equal of those who can.

I am a teenager with autism who doesn't speak well. I have been treated as intellectually impaired because I couldn't do IQ tests that require speech. [Until 2017 the Victorian Department of Education required students with disability to be assessed with the Weschler Intelligence Scale for Children, normed for children aged 6-16, regardless of whether they could speak or use their hands normally.]

In 2016 I started doing tests that don't need speech – the Peabody Picture Vocabulary Test 4 (2007) (PPVT4), where I chose between 4 pictures, Raven's Standard Progressive Matrices (2000) (RSPM), where I chose between 6 or 8 diagrams, and the Comprehensive Test of Non-verbal Intelligence-2 (2008) (CTONI-2) where I chose between 5 pictures or diagrams.

I discovered I scored better than average. The problem is that I am in a school for children with intellectual disabilities and they don't teach us much.

I wrote my dream after watching Martin Luther King's "I have a dream speech" on YouTube.

Only by writing can I make you aware of what I am thinking. Please do not judge us by what we say.

I want to go to university and learn how to write properly so I can write philosophical stories to show the world that there is more to us than they realise, much more than we can say.

I am dreaming of a world in which our voices are heard by people everywhere, and in which all children will receive a proper education, regardless of whether they can speak.

This poster will be accompanied by video of me reading aloud and of my assessments.

**Evidence Area:** AACcess education, AACcess the community

**Content Focus Area:** Personal Experiences and Preferences

# **I have Aphasia: An app designed by people with aphasia for people with aphasia**

**Rolf Black | Chris Kelly**

Engaging with users has always been a key element of research and teaching at Computing within the School of Science and Engineering at the University of Dundee, UK. Special emphasis is put on working with users with disabilities or with users who face challenges when using technology.

In 2005, when Computing moved to a new building, a User Centre for older people was established in order to embed this special user group into the department [1]. Later in 2010, the Straight Talking User Group of adults with complex disabilities who use AAC joined the User Centre [2]. The latest addition came in 2013, when members of Speakeasy (now Speakability), a local group of people with aphasia, formed the Aphasia iPad group following an initiative of a person with aphasia from the Speakeasy group and his speech and language therapist. The aim was to learn about the use of Apple iPads and discover new mainstream apps to support communication.

## **AIM**

In this paper we report on the realisation of an iOS app that can be used on iPads or iPhones to introduce yourself and your disability, aphasia, to new communication partners. The app was realised by the Aphasia iPad user group in several stages. The group had expressed the wish to develop such an app that could help them introducing themselves and their condition in an earlier focus session exploring new activities for the group [3].

## **METHOD**

In 2016 the group was given the opportunity to take part in an eight week stop animation workshop designed and funded by Tayside Healthcare Arts Trust (THAT). The original intention was to give the group a chance to use their iPads in a new and creative way to extend the usual group activities. Emphasis was on having fun exploring the potential of the members' iPad for creating pictures and movies. The group then decided to create a short movie that could explain about aphasia and how to improve communication in conversation.

The workshop was run by an experienced stop animator who worked with the group to develop a number of short animation sequences, using different animation techniques to illustrate key points about aphasia. The group also contributed commentary and short interviews to link the various elements.

Once the animated film was completed the group worked together during the regular group sessions on methods of easy storing and presenting the animation on an iPad. Eventually, working with THAT and through the support of a local mobile app developer, the movie was integrated into an iOS app.

The group worked with the app developer on the realisation of a simple, easy to use interface to allow presenting the video timely for introduction to a new conversation partner. Functional requirements were discussed within the group and communicated to the app developer. Prototypes were tested for accessibility and usability by the group members and results fed back.

The app was submitted for publication on the iOS app store but was initially rejected by Apple due to its too simple functionality. However, after explaining its use and application, the app was accepted and is now available on the app store for free download.

Currently the group works on updating the software to improve the user interface and make the app available on Android mobile devices.

## **ACKNOWLEDGMENTS**

We thank the members of the Tap and Talk Aphasia iPad Group for their contribution to this paper.

We would also like to thank Tayside Healthcare Arts Trust for producing the 8-week workshop and Andrew Low for running an exceptional animation programme. We are also indebted to Steve Soave, film maker, for compiling a documentary of the groups progress with the project, and Ross Tuffee, Dogfi.sh Mobile, for his generous support in realising the iOS app.

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**Evidence Area:** AACcess the community, AACcess employment, AACcess relationships

**Content Focus Area:** Professional Practice Evidence



## **Identifying Appropriate Symbol Communication Aids for Children: Evidence based resources to enhance clinical decision making**

**Janice Murray | Yvonne Lynch | Nicola Randall | Liz Moulam | Stuart Meredith | Simon Judge | Juliet Goldbart**

Identifying the most appropriate communication aid for a child is a complex process for reasons related to both the child and the range of communication aids available. As AAC services have developed the profile of children attending for assessment has become more varied and children who use communication aids may have a wide range of different abilities, preferences and challenges (Light and McNaughton, 2012). Developing and maintaining the skills to provide quality services to such a diverse group of children can be challenging for clinicians. In recent times, the range of communication aids and applications available has also increased considerably (Light and McNaughton, 2012). Assessment teams need to stay abreast of the latest developments in order to support the identification of the most appropriate systems for children. A wide range of device features from symbol type and layout, language representation through to practical considerations like portability, reliability and cost among others can be considered within the assessment process (Lund et al., 2017).

As both the children who may benefit from AAC and the range of communication supports become more diverse, identifying the most appropriate symbol communication aid for individual children becomes a more difficult task (Lund et al., 2017). Furthermore the consequences of inappropriate communication aid recommendation and provision can be significant, resulting in poorer communication outcomes impacting detrimentally on literacy, general education, wellbeing, health, employment, wealth and participation in society (Bryen, Chung and Lever, 2010; Lund and Light, 2007b, Smith and Murray, 2011).

This workshop will provide an overview of a three year NIHR funded project The Identifying Appropriate Symbol Communication Aids for Children: Enhancing Clinical Decision (I-ASC). The I-ASC project took a mixed methods approach to determine how to optimise clinicians' decisions about the provision of symbol communication aids. A key outcome from the I-ASC project is the development of evidence based multimedia, free open access resources that will be available to support clinicians and families in symbol communication aid assessments. The workshop will primarily focus on the evidence based tools developed by the I-ASC project.

### **Interactive Component**

Participants will have the opportunity to interact with the decision making tools which provide a matrix of priority characteristics for consideration in symbol communication aid assessments by different stakeholders (including, clinicians, teachers, children who use AAC and their families). The tools have been designed around generic characteristics rather than a match to specific, or existing currently available symbol communication aids in order to support longevity in application. Small group discussion based on specific questions related to the tools will be used to facilitate reflective practice in communication aid assessment with and without the use of the decision making resources

I-ASC's participative research model and specific focus on the inclusion of children who use AAC and their families as active participants in the decision making process will also be outlined. Workshop participants will be asked to comment on the tools for different stakeholders and in particular to consider how the tools might be used to support families having a more central role in decision making.

## LEARNING OUTCOMES

1. Discuss attributes related to the child and generic communication aids that are considered important in making decisions related to communication aid provision.
2. Identify strategies to support families as active participants in the decision making process related to communication aid provision.
3. Be able to reflect on their own role in communication aid assessment(s) and identify how the I-ASC tools (or workshop learning) may enhance their contribution to future symbol communication aid assessment.

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**Evidence Area:** AACcess emerging technologies, AACcess language and literacy, AACcess relationships

**Content Focus Area:** Research Evidence, Professional Practice Evidence

## Imagining the possibilities: The journey towards obtaining AAC

Sebastian Caon | Peta Booth | Jessica Moll

Communication is a fundamental human right (see United Nations (2006) Articles, 16, 17, 21, 24). People who experience complex communication needs (CCN) may benefit from the use of Augmentative and Alternative Communication (AAC) solutions (Balandin, 2002). Identifying the most appropriate AAC solution/s for an individual can be complex however, and requires collaboration between consumers and prescribers of AAC to co-design a solution. LifeTec Australia supports consumers to obtain the most appropriate Assistive Technology (AT) to meet their needs by following the AT Journey which involves multiple steps (de Jonge, Hoyle, Layton & Verdonck, 2017). It is hypothesized that the journey towards obtaining AAC is the same. In the past two years, LifeTec has established a dedicated AAC service, which has been kickstarted due to the National Disability Insurance Scheme (NDIS) providing the funding for people with CCN to explore communication options (for some people, the NDIS has enabled them to do this for the first time in their lives).

The AT journey documented by de Jonge et al. (2017), uses a co-design approach throughout the following four steps (see Figure 1 also):

- . Imagine: Exploring AT possibilities, goals, and aspirations;
- . Seek: Identifying their requirements and seeking information on the available AT options;
- . Choose: Trialling and evaluating a range of AT options, and acquiring the best option;
- . Live: Setting up, training, and learning to manage the AT to live successfully.

Figure 1. The AT Journey (LifeTec Australia, 2017)

This poster presents information about LifeTec's experience in implementing the AT journey to support AAC services. Specifically, the poster will focus on the Imagine and Seek stages, and will explore and document:

1. Strategies and resources that promote quality imagining of the AAC possibilities
2. Outcomes for consumers using a co-design approach
3. Consumers' experience of the process
4. Strengths and challenges of this approach
5. Areas for development to enhance consumers experiences and promote AAC knowledge and use

The "Imagine/Seek" stage of the AT Journey supports people with CCN and their communication partners to develop a greater awareness of AAC solutions and resources which may enhance their communication, participation, and inclusion. In addition to enhancing their general knowledge of AAC, it supports them to understand what AAC might offer them specifically. The greater awareness achieved within the "Imagine/Seek" stage ultimately leads to better outcomes as people are informed and emboldened to set meaningful and achievable goals. Mapping out the AT journey allows them to be more informed about each stage they will experience and affords them greater confidence and control on their own AAC journey, which can be lifelong.

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**Evidence Area:** AACcess the community

**Content Focus Area:** Professional Practice Evidence

## **Immured, Suspended, Provisioned: The Meaning of Home for People with Complex Communication (Access) Needs**

**Betty-Jean Dee-Price**

This study is an investigation of the meaning of home as revealed by Australian adults with severe communication impairment. Herein, it aims to understand the relationship between home, communication, and the building of quality lives. The study was keen to ensure the direct participation of research participants (rather than use other methods such as proxy interviewing, observational ethnography or broadening data collection by incorporating participant supports/assistants to shape the content of responses). It also sought to include a diverse range of people, such as those with significant intellectual impairment and or diverse age and cultural backgrounds.

Using case study analysis, three major themes related to the meaning of home for the participants of this study. The study highlighted many points raised in the review of the literature. For example, the home of six of the ten participants involved in the study areas Wiesel (2015) describes.

Many people with disability in Australia experience housing and living arrangements which are markedly different to the rest of the population. A large proportion of people over 25 years old live with parents, in group homes or in large congregate or institutional settings.' (Wiesel et al, 2015 p. 1)

A further two participants live with partners and indicated that without the care of their partner they may be required to live in a group or nursing home. There is a clear delineation between meanings of home for the group described within 'Immured' 'Suspended' and 'Provisioned'. Participants living in group homes tended to make selections that revealed powerlessness, concerns for bodily safety and social disconnection outside of the home itself. Experiences of previous assault in residential care settings were reported by three of the four participants with the fear of assault indicated by all four.

The four participants whose responses created the case study of 'Suspended' live either with parents or 'carer' partners. Two of these participants (young men living with parents) indicated their wish to move out of the home and live with young people of their choosing, however, they perceive few options. Lack of quality of care and communication partnering were viewed as significant barriers by these participants fearing (alongside their families) that these needs could not be met outside of the familial home. Loneliness, isolation and boredom were raised by several participants, particularly by those whose responses shaped the themes 'Immured' and 'Suspended'. The point made by Light (2015) that many individuals continue to experience serious challenges participating in educational, vocational, healthcare, and community environments, is most noticeable in the responses of these participants.

In comparison, participants responses shaping the theme 'Provisioned' differed considerably. This group lived in their own rented homes, access (and control) support worker assistance and exercise control and choice in their homes. Their capacity to communicate using speech is greater than the rest of the participants, as appears to be their access to information technology (email, social media, blog sites, etc.) in combination with access technology to communicate. The private world of the 'provisioned' home appeared to support their participation in the public sphere with a number of (disability advocacy) roles on community boards and committees). Despite employment access barriers, these participants have created opportunities for casual or part-time paid work.

Another important finding from this study is that communication is much greater than written and spoken word, and does not simply 'just happen'. There are many powers and processes, outside of conventional language and AAC which affect the existence of communication. For example, the embodied experience of the researcher standing in the front yard and searching for a comment to 'break the ice' with the participant on the other side of the

door was as 'communicatively valid' as the prepared icons on the communication devices used in the interview. The impact of communication contained in the 'ice-breaker story' of one's garden, the objects displayed in one's home, the style of clothing and the individuality of one's hairstyle, evidence of accessible technology, engagement with pets, the communication skills of support people and even prayer assisted the understanding of the meaning of home and the vast, and diverse conduit of communication.

This presentation aims to describe the three themes 'Immured' 'Suspended' and 'Provisioned' as discovered in the findings of this qualitative study of the meaning of home for people with CCN. It also aims to outline some of the communication/AAC access implications for the varying home settings. It also briefly outlines the development, testing, implementation, and evaluation of the new methods used in the study.

**Evidence Area:** AACcess the community, AACcess employment, AACcess diversity, AACcess social media

**Content Focus Area:** Research Evidence

## **Impact of KWS training via telepractice on the communication of parent-child dyads; mixed-methods pilot study**

**Aylin Huzmeli | Elsie Chang | Monique Hines | Harmony | Turnbull | Andy Smidt**

### **BACKGROUND:**

The use of technology has emerged as a strategy that may address the inequitable access to services faced by people with disabilities and their families, especially of those who live in rural and remote areas (Dew et al., 2013). There has been an increase in the literature around effective AAC interventions delivered via telepractice, with parents reporting services to be satisfactory and convenient (Anderson, Balandin, Stancliffe, & Layfield, 2014). One AAC intervention that has yet been adapted to telepractice is Key Word Sign (KWS). Since the 1980s, studies have focused on a range of clinician-led KWS interventions for both children (Wright, Kaiser, Reikowsky, & Roberts, 2013) and adults (Meuris, Maes, & Zink, 2015), or KWS training programs for staff working with adults with complex communication needs (Chadwicke & Jolliffe, 2009). Hence, there is a gap in the literature both for training parents to implement KWS, and for adapting face-to-face training to accommodate telepractice delivery. KWS, which requires participants to practice signs, seems ideally suited to telepractice delivery where participants can watch video clips in their own time and space to become proficient with signing, and engage in video-conferencing sessions with a trained speech pathologist.

### **AIMS:**

This study investigated the effectiveness of a telepractice model which trained parents to use KWS and create a signing environment in which their child was exposed to KWS, in comparison to face-to-face training. Parents of toddlers with Down syndrome (DS) were focused on, given the literature supporting the use of KWS with children with DS (Wright et al., 2013).

We explored the following:

1. Can parents create a signing environment for their child whereby they use signs themselves and use strategies to encourage their child to sign?
2. Following a parent created signing environment, do the communication skills of children with DS change?
3. What are the effects, experiences, and views of parents implementing KWS following training delivered via telepractice in comparison to face-to-face workshops.

### **METHOD:**

The present mixed method pilot study included two single-case pre/post studies, in which two mothers of children with DS (aged 29 & 38 months) attended either a standard face-to-face workshop or six-week telepractice training. Quantitative measures included parent-child use of KWS and their communication during 10-minute video-recorded interactions at home, and the child's vocabulary size. Qualitative semi-structured interviews were conducted at the end of the implementation period.

### **RESULTS:**

Both mothers made increases to the frequency and range of vocabulary of KWS used. The increase in the frequency of KWS was higher in the telepractice-dyad, while the number of discrete signs used was higher in the standard-dyad. The child in the telepractice-dyad increased the frequency of spoken word use, while the child in the standard-dyad increased in their frequency of signs used. The interviews indicated that both mothers were satisfied with the training and indicated three components that supported their KWS implementation: (a) understanding their child's capabilities, (b) embedding signs in daily routines, and (c) collaboration with communication partners.

**CONCLUSION:**

The preliminary results suggest KWS training delivered via telepractice provides an effective and convenient alternative for families that have children with complex communication needs living rurally or who cannot attend face-to-face services. There is also a need to provide communication partners explicit instruction on how to implement strategies to support KWS use in daily routines. Families' perspectives on an online portal is important in continuing to provide a range of AAC options.

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**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Research Evidence



## **Impact of parent-child courses on the implementation of AAC in daily life**

**Ina Steinhaus | Leevke Wilkens**

There are multiple measures of Alternative and Augmentative Communication (AAC) used in different institutions in Germany to improve the possibilities of communication. One of these measures is the provision with simple or complex communication aids. A study of the AAC Consultation Centre at the University of Cologne shows the need for qualified support in Germany to facilitate the integration of communication aids and teaching strategies into everyday life. 44% of the participants said that they did not have any professional support after the delivery of the communication aids (Boenisch & Schäfer, 2016). Already in 2012, Baxter et al. described barriers to the use of high-technology AAC devices. Practitioners need to keep in mind, that technical support and further staff training might be needed (Baxter et al., 2012). In summary you can say, that there are still plenty of barriers to transfer AAC measures into the everyday life of AAC users, parents and other reference persons.

The COCP-program addresses children with complex communication needs and their adult communication partners. Among the most appreciated parts of the COCP program are the so called 'partner strategies', ten strategies for interaction partners to encourage and facilitate communication for children and adults with complex communication needs in dyadic interactions (Heim, 2016).

The family center "Integrative Kindertagesstätte Bochum" (integrative day care Bochum) by Diakonie Ruhr offers special training courses for parents to foster the transfer into the home environment and, thus, improve the participation of children with complex communication needs. These training courses are based on the ten 'partner strategies' and were created by two speech-language pathologists (SLP). As a basis for these training courses, the intervention team and parents first evaluate the communication abilities together. Following the COCP-program, the evaluation takes functions and forms of communication into account (Weid-Goldschmidt, 2013).

The training courses are held during the morning, in the integrative day care Bochum, partly with the children and partly without them. These are the rituals for the participants used in the individual lessons:

- . Introduction and discussion of one selected partner strategy
- . A specific play situation chosen by the SLP that will be carried out by every parent and their child
- . Discussion of the play situation with regard to the used partner strategy using a constructive dialogue

From the second lesson on there will be always an exchange about the last learned strategy (Lenz & Thiemann, 2017).

After some participating parents stated that they were very satisfied with the content of the training and the positive impact on the interaction with their children, the kindergarten came up with some questions:

Can these courses improve the implementation of AAC measures and strategies in the everyday life?

How helpful are the partner strategies as an instrument for parents to interact with their children?

Do these courses help the families to help themselves?

A research group of bachelor-students of the rehabilitation sciences program at the TU Dortmund University will try to answer these questions in close collaboration with the performing SLP and the associated teacher using multiple research methodologies.

At the ISAAC Conference 2018, this project will be presented for the first time. The presentation includes on the one hand the results and conclusion of the research group. On the other hand, experiences of practitioners, who carry out these parent-child courses, will be presented as well as the potential these courses have to implement

AAC in daily life. Both, experiences and research results are based on the theoretical framework of the COCP-program. In conclusion, the impact of such parent-child courses on the implementation of AAC in daily life will be discussed from different point of views – parents, practitioners, researchers.

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**Evidence Area:** AACcess the community, AACcess relationships

**Content Focus Area:** Professional Practice Evidence

## **Implementation of Core Strategies in Grid 3**

**Chris Gibbons**

Core language strategies are facilitating for many AAC users but their structure and implementation are not always well understood. Questions frequently arise about how core systems differ. What is the basis for their design? What types of clients benefit most? What does research generally suggest about core implementation and growing a system with early learners? Grid 3 includes powerful core language grid sets (e.g. Vocabulary for Life, WordPower, Beeline, Symbol Talker) as well as a totally fresh approach to core encouraging symbol learning and vocabulary development. Principles underwriting the successful implementation of Grid 3 core language strategies will be discussed as well as the evaluation, use, and customization of specific core grid sets.

It has been well established for some time that having access to a relatively small set of words allows us to communicate accurately in a variety of contexts, especially for those using AAC. Core words occur with great frequency across contexts, often possess semantic flexibility, are efficiently adapted with morphologic markings, are easily understood by a wide circle of communication partners, and make up the vast majority of what we say. Fringe vocabulary, on the other hand, is tightly bound to context, less flexibly applied linguistically, may only be understood by a smaller number of communication partners, and is used relatively infrequently compared to core vocabulary. For typical communicators core vocabulary represents linguistic and cognitive efficiencies. For people learning to use AAC, core vocabulary sets can provide a heuristic for ingesting and categorizing language – especially in the absence of the intense incidental practice most typically developing people experience. Moreover, core can provide a powerful and stable framework upon which to expand a language learner’s vocabulary even if a person is at the earliest stages of symbol development.

Clinically, core methodology is not singularly represented. A variety of core-based resources are available that suit client preferences, skills, personality, learning style, memory, and our own perspective as clinicians. Grid 3 has incorporated several respected core strategies to address this variety of approaches and to provide clinicians with prebuilt resources. They span from Symbol Talker grid sets with categorically organized core vocabulary, Vocabulary for Life, and PODD offering more pragmatically based organization, to WordPower, Beeline, and a fresh new approach incorporating the most relevant research from developmental and clinical literature.

Infused throughout this presentation will be information on the latest core strategies informed by research and reported clinical trials. As the landscape of core word approaches continues to expand and evolve, it is important for clinicians to have a full understanding of why various resources were developed, where they can be found, and methods for implementation. Grid 3 acts as a platform for several established core-based grid sets and clinicians attending this presentation will learn about why they are included, who the authors target as appropriate users, and how Grid 3 supports their future development and customization for clients.

**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Professional Practice Evidence

## **Implementation of the LAMP approach in mainstream schools**

**Peter Hockley | Ellen Winchester**

The Language Acquisition Through Motor Planning (LAMP) approach was developed to support the communication skills of people with no or limited verbal communication. Through implementation of the LAMP approach children and adults have demonstrated that they can start expressing themselves through their speech generating device (Neno, Ellawadi, Cargill, Lyle and David, 2016). Some LAMP users have also developed verbal communication (Potts and Satterfield, 2013; Bedwani, Bruck and Costly, 2015).

This presentation describes the process through which a range of schools in Tasmania became successful implementers of the LAMP approach, and the outcomes they are achieving with their students. While the specifics of the process to support LAMP were different for each school, analysis showed that common themes and strategies emerged. Short videos will allow the audience to hear from representatives from the schools about learning and implementing the LAMP approach. The themes and strategies used are considered with reference to factors linked to the success or abandonment of AAC systems (Johnson, Inglebret, Jones, and Ray, 2006). They include:

- accessing training – both formal session and direct (in vivo training)
- accessing information and training online and informally through networks like Facebook support groups
- developing internal and external networks of support around the approach
- providing specific LAMP and student information sessions to the peers of the LAMP user
- positive attitudes to AAC and students using AAC – including celebrating successes
- linking LAMP use into individual goals and the curriculum (e.g. literacy goals).

This presentation summarises the above themes to provide a suggested framework of how to go about introducing the LAMP approach to optimize language and literacy for those using the approach in schools.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Professional Practice Evidence

## **Implementing a disability sensitivity training programme with police officers taking statements from persons with CCN**

**Erna Viljoen | Juan Bornman | Kerstin Tönsing**

### **INTRODUCTION:**

Persons with CCN are more likely than the general population to come into contact with the criminal justice system as victims of crime. Negative attitudes, misconceptions, false beliefs and unfounded stereotypes around persons with CCN are rife in the police system stemming from limited knowledge, information, and understanding about persons with CCN (Bornman, 2015). Therefore, these individuals face multiple barriers when attempting to report being a victim of crime. Their credibility as complainants is often questioned, hence many cases do not proceed through the criminal justice system due to the lack of a credible police statement (Hughes et al. 2011).

### **AIM:**

The main aim of the study was to determine the effect of a custom-designed disability sensitivity training programme on the attitudes, knowledge and skills of police officers when taking statements from persons with CCN who report being a victim of crime.

### **METHODOLOGY:**

A mixed methods exploratory design with three phases was used. Phase 1 was the exploratory phase which entailed a systematic review of published literature on disability sensitivity training for police officers (Viljoen, Bornman, Wiles & Tönsing, 2016) a standardized questionnaire on police officers' disability knowledge (n = 98) (Modell & Mak, 2008) and two focus groups with eight participants each. These three data sources were used to ascertain what content the police officers thought relevant as well as the training andragogy. Phase 2 entailed the development of a training programme, an evaluation form and design of the measuring instrument. The training programme and evaluation form were reviewed by two stakeholder groups who work in the field of AAC (n = 2 and n = 7 respectively) as well as an expert panel (n = 8). The measuring instrument was pre-tested with a group of police officers (n = 10) who complied with the same selection criteria as the pilot study. This was followed by a pilot study (n = 7), after which the measuring instrument was again reviewed by the researcher and tested on police officers (n = 12) before the finalization of the training programme and measuring instrument. In Phase 3 a pre-test post-test control group design was used to evaluate the effect of the training programme on police officers' attitude, knowledge and skill regarding statement taking from persons with CCN. Although Phases 1 and 2 are mentioned, the focus of the presentation will be on Phase 3.

### **RESULTS OF MAJOR FINDINGS:**

The results from Phase 1 were used to develop the training programme according to police officers' input on the training andragogy they would prefer (e.g. including a person with CCN as one of the facilitators, using facilitators outside of the police force as presenters, ensuring an interactive and experiential training style). Phase 2's results focussed on the pilot study and led to the adaptation of the training programme and the measuring instrument for the main study. Results from Phase 3 showed that the training programme was effective in increasing the knowledge and skills of police officers in taking statements from persons with CCN who report being a victim of crime. Attitudinal changes noted after the training programme were also positive. The inclusion of a person with a CCN as co-facilitator proved successful. Interactive communication activities and role play activities with the person with CCN were used for the retention of learning. These findings suggest that the custom-designed disability sensitivity training was effective and should be rolled out to the Client Service Centre (charge office) as the first point of entry when a person with a CCN reports being a victim of crime.

**CONCLUSION:**

The training programme was successful to improve the attitudes, knowledge and skills of police officers. Success may in part be attributed to the fact that the programme was outcomes-based, interactive, included experiential learning, and was co-presented by a person with CCN. The ultimate aim of training would be to improve both the quality of encounters between police officers and victims with CCN and the outcomes of these encounters.

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**Evidence Area:** AACcess justice

**Content Focus Area:** Research Evidence

# Improving Communication in Children with Autism Spectrum Disorder Using AAC: Three Case Studies

Xueyun Su | Aihe Li | Stephen von Tetzchner

Many children with autism spectrum disorder (ASD) are severely delayed in speech development and some develop little or no speech. They have difficulties expressing their wishes and thoughts, and may react with challenging behaviors. Studies have shown that early intervention with augmentative and alternative communication (AAC) may improve communication and reduce challenging behavior in children with ASD. In mainland China, the use of AAC is still limited. This study investigates the effect of AAC training for three children with ASD and generalization to school and home.

## **METHOD**

A multiple case study design with observations, notes and interviews, allows for inclusion of rich contextual information typical of real intervention situations and is therefore well suited for case studies of intervention for children with disabilities. Observations included amount of initiating and responding, eye contact, and mean length of utterance in the three situations. Performance during training was registered. The teacher recorded the children's use of graphic symbols during play, and parents were interviewed about communication in the home. After the AAC training was terminated, information was collected about the use of graphic symbols during play and with the family at home.

## **CASES**

Wu was diagnosed with ASD at three years of age and started training soon after. Intervention with AAC was initiated when he was 5;8 years old. At this age, Wu had good fine motor skills and liked drawing very much. He could recognize basic shapes and colors, and imitated some movements. He followed a few spoken instructions, but rarely initiated a conversation and did not spontaneously express if there was something he wanted. When he saw something he liked to eat, he would say eat, and also I want to eat when prompted to do so. Wu would bite his arm when he became excited, frustrated and angry, or was upset about tasks he did not understand.

Wang was diagnosed with ASD at 3;4 years and started training soon after. AAC intervention was initiated at 5;1 years because of his limited speech. Wang was easily distracted and very active. He recognized basic shapes and the color red. He did not imitate movements. He followed some spoken instructions, but rarely initiated a conversation and did not spontaneously express if there was something he wanted. When he saw something he liked to eat, he would say drink milk and could say I want to drink milk with spoken prompts.

Zhang was diagnosed with autism when he two years old and started training soon after. He started AAC training at the age of 3;1. Zhang recognized basic shapes, was visually attentive and liked rough-and-tumble play. He understood one-step instructions but rarely initiated a conversation and did not spontaneously express if there was something he wanted. He did not point and his speech was very difficult to understand. Zhang would often lose his temper when he was frustrated and his demands were not met.

## **INTERVENTION**

The intervention aimed at improving the children's communication skills by guiding them to use graphic symbols meaningfully in combination with play and other activities in three situations: AAC training, play in school, and with the family at home. Each AAC session lasted 20 minutes, followed by ten minutes evaluation of the communication during the session. Strategies for generalization were implemented in play in school after the training and in the home.

**RESULTS**

The children initiated communication significantly more often after the training, in all three situations. They also responded more to communication during training and play, but not with the family at home. There was no effect on eye contact. Wu used speech more actively and frequently, and showed improved word order. He could now say sentences such as I want two red triangle blocks without prompting. Wang made demands more actively, for example finding the graphic symbol for his favorite food on his mother's cell phone and constructing sentences like GIVE POTATO-CHIPS DOG or GIVE MILK DAD. Zhang more often initiated communication, and would ask the teacher or mother for something, combining graphic symbols and speech, and sometimes said a sentence without symbols. Vocabulary and sentence length had increased. His speech was more intelligible and he interacted more in class. His mood was more stable, and his temper tantrums rare.

**CONCLUSIONS**

All three children benefited from AAC intervention. The children spoke more and used speech more often in all three situations, and the mean utterance length increased. There was less frustration, anger and challenging behavior.

**Evidence Area:** AACcess education

**Content Focus Area:** Professional Practice Evidence



## **Increasing AACcess to information, choice and control for NDIS planning: A project in co-design.**

**Jaquie Mills | Laura Jones**

Developmental Disability WA (DDWA) used a co-design approach collaborating with people with Complex Communication Needs (CCN) and their families to develop resources and workshops that can be used to support other people in a similar situation to prepare to plan with the National Disability Insurance Scheme (NDIS). Central to Australia's NDIS is the principle that the participants – people with disability – will have the choice and control to determine the supports and services they need to lead the life they want (Baxter Lawley, 2017). Whilst there are many person-centred NDIS planning resources available, it can be difficult to find those which are accessible to people with CCN, particularly for those who may also need support to understand and engage with the core concepts around the NDIS – funding, planning, and what it means to have choice and control.

The majority of adults with severe intellectual or developmental disability (IDD) have CCN (Mirenda, 2014) and as such would benefit from augmentative or alternative communication (AAC) supports. Despite this, many adults with IDD and CCN do not have appropriate AAC supports routinely available to them (Mirenda, 2014). It is DDWA's experience that many families of adults with IDD and CCN have limited awareness of developments in the field of Alternative and Augmentative Communication (AAC) and do not realise that with quality AAC support their adult family members with IDD can develop their ability to communicate and achieve self-actualisation through through a productive and fulfilled life (Beck, Stoner & Dennis, 2009; McNaughton, Bryen, Blackstone, Williams & Kennedy, 2012 and Mirenda, 2014). As a result, some families may have given up on seeking communication support for their loved-one with CCN.

The experience of DDWA is that adults who have Intellectual or Developmental Disability (IDD) and CCN who also experience behaviours which can be seen as challenging by other people are generally not consulted about their plan, and families find it difficult to determine what their dreams, goals and wishes are. Whilst this can be a challenging group of people to engage with due to their previous experiences of disempowerment and low expectations, their voice is crucial to the person-centred planning process.

In the process of co-designing workshops and resources with a group of people with CCN, IDD and behaviours which can seem challenging to others, DDWA learned about the core concepts of planning important to the group, how to best engage the group and ways to support their understanding. This project explored how information can be offered to show that it is possible for people with IDD and CCN to explore questions such as What do I want from life? What is important to me? What do I think a good life for me looks like? What do I want support with to live the good life I want? Do I have goals I want to achieve? Do I know how to get help to achieve these goals through the NDIS?

Even though some of the group members were more experienced AAC users, the project facilitators learned that without a process in place which family members and support workers are regularly using, planning is rarely happening in a fully supported and meaningful way. This highlighted that regular, supported, planning opportunities are critical to people with IDD and CCN really having choice and control in their lives.

This presentation will discuss both the co-design process and the resources created through the project. It is DDWA's hope that the workshops and resources will not only assist adults with CCN and IDD engage with the NDIS planning process but may also assist students with CCN and IDD to experience greater self-determination through increased communication access when planning their transition from high-school.

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**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community, AACcess employment, AACcess justice, AACcess culture, AACcess relationships, AACcess social media

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

# Increasing Communication Rate: Multiword Core Vocabulary Sequences for French Children Who Use AAC Systems

Manon Robillard | Stéphanie Beaulieu | Émilie Moore

People who have complex communication needs often have more difficulty communicating their needs, ideas and/or feelings (Beukelman & Miranda, 2013). This population frequently uses an augmentative and alternative communication (AAC) system to communicate with family and friends, which includes both fringe and core vocabulary.

Many researchers have investigated the commonality of core vocabulary used by young children in order to program the most frequently used core words in AAC systems (i.e. Robillard, Mayer-Crittenden, Minor-Corriveau & Bélanger, 2014; Trembath et al., 2007). However, these researchers have limited their studies to the analysis of single words and did not analyze the commonality of multiword sequences used by young children. One study by Yorkston, Beukelman, Smith and Tice (1990) found that multiword sequences could increase communication efficiency by increasing the communication rate and by reducing the level of fatigue experienced by the AAC system users (Yorkston et al., 1990). However, this study's results only described the length of sequences and not the content or specific words. Moreover, this study was conducted in English. Therefore, the aim of this study was to analyze the French multiword sequences of children in order to accelerate their communication rate.

## AIM

This study answered the following questions:

- 1) What are the most commonly used multiword core vocabulary sequences used by typically developing monolingual francophones and bilingual (French-English) children aged 4 to 6 years?
- 2) Do monolingual francophone children use the same multiword core vocabulary sequences as bilingual children?
- 3) Do children with and without a Developmental Language Disorder use the same multiword core vocabulary sequences?

## METHOD

This study used secondary data obtained from Robillard and collaborators' 2014 study, which included 57 typically developing school aged children aged 4 to 6 years. Children were divided into four groups: a group of 6 French-speaking monolingual children; a group of 22 Franco-dominant bilingual children; a group of 19 Anglo-dominant bilingual children; and a group of 10 children identified as having a Developmental Language Disorder. Participants were recorded during a typical school day in their usual classroom with a Sony Digital Voice Recorder. The language samples in this study were collected in Ontario, Canada where French is a minority language and English is a majority language. The data was then analyzed using Lexico 3 computer software program in order to find the multiword sequences with the highest frequency.

## RESULTS

Preliminary results show that most multiword sequences are primers, and could be used to initiate conversation. For example, « Je veux » (I want) and « ça c'est » (this is). Other short phrases were also identified, for example « madame est-ce que je peux » (miss can I). Adding these multiword sequences to AAC systems could allow French-dominant children with complex communication needs to combine them with other words. This should help these children increase their communication rate and also reduce their level of fatigue and frustration when communicating. The final results of this study will be presented at the conference.

## CONCLUSION

This study will allow the creation of a list of the most frequently used French multiword core vocabulary sequences in order to help French children who have complex communication needs have access to the same

vocabulary as their typically developing peers. This list will also help them communicate their wants and needs more efficiently by giving them the opportunity to accelerate their communication rate. Just as importantly, this list will help clinicians by facilitating vocabulary selection for French AAC users. The authors of this study intend to publish this list to make it available to all clinicians who work with French AAC users.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Research Evidence

## Innovation in speech solutions in Amyotrophic Lateral Sclerosis: a case report

**Giordana Donvito | Anna Marconi | Lucia Greco | Stefania Bona | Christian Lunetta | Elena Carraro | Valeria Sansone**

Amyotrophic Lateral Sclerosis (ALS) is a progressive and severe disorder characterized by degeneration of motor neurons in the brain and spinal cord (1).

As ALS progresses, irrespectively of the type of onset, the ability to speak declines in nearly all patients (2). This progression weakens the ability to meet daily communication needs using natural speech; the patient encounters an impairment in both word articulation (dysarthria-anarthria) and production (dysphonia-aphonia).

A total absence of effective communication may have devastating social and psychological consequences, negatively impacting quality of life (QoL) (3). Communication is an important aspect in the construction of identity and in defining yourself in a familiar and social environment.

When speech is totally compromised, it should be combined with alternative or augmentative communication (AAC). Recent studies have demonstrated that about 70% of ALS patients could benefit from AAC (4), maintaining relationships and improving QoL.

High-technology strategy is a specific type of ACC and usually speech-generating devices (SGDs) are chosen; these produce a speech output through prerecorded messages or with text-to-speech programmes (5). However, a common feature of SGDs is that they record electronically synthesized voices, providing the patient with a metallic and impersonal voice.

Aim of this study is to describe an individualized ACC project for a patient affected by ALS. This project contemplated the registration of the patient's personalized voice in a virtual bank that was then implemented to an eye tracking device.

The patient (S.F.) is an educated 51 year old man, single, that lives in Milan, Italy. He manifested the first symptoms in April 2015 and received the diagnosis of ALS in November of the same year. He is now completely dependent on caregivers in daily activities. No psychiatric or cognitive disorders were reported previously or since the diagnosis.

S.F. has been followed at the NeMO Clinical Center (Neuromuscular Omnicenter), a multidisciplinary clinic specialized in neuromuscular diseases. S.F. has especially worked with the occupational therapy and the psychology department. He accepted to participate at this project, registering his own voice. During the first stage he was trained to use the software my-own-voice (MOV Acapela). The registration of the messages lasted a month. During this period he had the possibility to contact the NeMO center whenever necessary. McGill questionnaire was administered during and at the end of the registration. Additional tests were administered at the end (the State-Trait Anxiety Inventory, STAI, Beck Depression Inventory-II, BDI II and Edinburgh Cognitive and Behavioural ALS Screen, ECAS), to evaluate his mood and cognitive status. Finally, a semi-structured interview created ad hoc was conducted, in order to investigate the subjective perception of this voice banking experience.

At the end of the registration period no relevant differences were obtained, comparing the results on the QoL questionnaire. The most interesting information emerged from the semi-structured interview: the patient experienced the registration as non-invasive and as easy to complete. However, the registration process was longer and more boring and difficult than what he expected. In addition, S.F. felt a constant pressure because he was afraid he was going to lose his voice before completing the registration.

Up to now, the most common prerecorded communication strategies use SGD's which however provide a synthesized impersonal voice. NeMO is the first Italian Center that is implementing custom voices with this software

of voice banking. With the prospective of extending the use of this system to other ALS patients, our case report highlights the main psychological concerns implicated, allowing us to propose this system also to other patients in a more structured and conscious way.

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**Evidence Area:** AACcess emerging technologies, AACcess education, AACcess culture

**Content Focus Area:** Professional Practice Evidence

## **Insights from four mothers who pursued robust AAC for their adult sons with developmental disability.**

**Laura Jones | Yvette Theodorsen | Jaquie Mills**

It is estimated that a third of people with intellectual or developmental disability (IDD) also have complex communication needs (CCN) (Blackwell et al, 1989 as cited by Ganz et al, 2017). Research demonstrates that Augmentative and Alternative Communication (AAC) interventions including aided language stimulation can improve communication for people with IDD and CCN (Beck et al, 2009; Ganz et al, 2017) yet many individuals with IDD and CCN still enter adulthood with limited access to or success with appropriate AAC (Mirenda, 2014; Dalton & Sweeney, 2011) leaving them only gesture or body language with which to express themselves (Stancliffe et al, 2010). Such limited communication is unsurprisingly frequently associated with behaviours that can be described as challenging to others (Mirenda, 2014).

The focus of this presentation is the experience of four mothers from Western Australia whose adult sons have CCN and a diagnosed IDD. Each of these men experienced inadequate AAC intervention during their school years, leaving school with very limited ability to meet their communication needs. Despite this, each mother was determined to support their son to lead an independent self-determined adult life and persisted in the search for a communication system that would meet their son's communication needs for today and tomorrow – that would grow with them as their skills developed. Each young man now has his own personalised robust communication system in the form of a Pragmatically Organised Dynamic Display (PODD) with varying access methods and technologies and a variety of skilled communication partners across multiple settings that understand the need to provide aided language stimulation.

This presentation will share from the perspective of the mothers why PODD was chosen, why and how it has been different to other AAC trialled through the school years, what has contributed to the successes experienced, what challenges there have been and how the mothers view their son's future.

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**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community, AACcess employment, AACcess culture, AACcess relationships, AACcess social media

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

# Instructional & Interactive Strategies to Enhance Communication Functioning of Children with Down Syndrome: Treatment Study

Kati Skulski | Celia Hughell | Marilyn Buzolich

## PURPOSE

The purpose of the study was to gather evidence to support training and use of instructional and interactive strategies to improve the communication, participation, and socialization of children with Down syndrome. Following partner training and implementation of instructional (aided language stimulation, scripting & role play, sabotage, expectant delay, and forced choice) and interactive strategies (referencing visual supports, positioning, pacing, validating) we investigated the effects of intervention on the participant's communicative means and functions.

## METHODS

**Participants:** Twelve participants, ages 3 to 7 years, presenting with diagnosis of DS participated in a 6-week treatment study. All participants were provided with opportunities to utilize Augmentative Alternative Communication (AAC) systems. LSBSC were used to record and share home and school news following a script. In addition, pages of books were recorded on the LSBSC for participation in reciprocal book reading. Children with severely limited verbal output (i.e. less than 10 spoken words) and/or severely impacted intelligibility (i.e. less than 40% intelligible in known contexts) were provided with iPads programmed with communication software matched to the student's profile. The classroom environment was outfitted with recordable GT1s to create additional communication opportunities (i.e. "open door" at door and "turn on" at sink).

**Data Collection:** Video-recording was used to collect communication samples of each participant pre (week 1) and post (week 6) intervention. Communication interactions during circle time, snack, small group activities (reciprocal book reading, art), free play, and recess were recorded. The data was analyzed using Communication Sampling & Analysis (Buzolich, Russell, Lunger-Bergh, and McCloskey, 2011). Communication Sampling & Analysis (CSA) is an assessment tool designed for infants, toddlers, and children with multiple physical, sensory, speech, and cognitive-linguistic challenges" and provides an objective method to evaluate the communication of nonverbal or severely speech impaired children who are difficult to test (CSA Manual, 2011). Two speech language pathologists with CSA experience are in process of sampling, transcribing, and coding a minimum of 25 pre and post intervention recorded communication interactions for each participant. Inter-rater reliability for sampling and coding will be established.

**Intervention:** During week 2 of intervention, implementers (teachers, volunteers, and speech pathologists) were trained on the following strategies:

- Instructional: aided language stimulation; scripting and role play; sabotage; expectant delay; and forced choice
- Interactive: referencing visual supports, positioning, pacing, validating communication

Trainings included a PowerPoint presentation on each strategy with print and video explanations, on site modeling, and coaching of partners. The above strategies were implemented during intervention that took place in a school environment for 20, 3-hour sessions. Strategies were employed during the following activities: circle time, snack, recess, whole group activities, free play, and literacy instruction.

## RESULTS/DISCUSSION

The present study replicated Communication Means findings from our previous pilot studies. AAC use increased for nonverbal subjects and verbal speech increased for the majority of verbal subjects. Four out of 5 of our non-verbal subjects also increased their use of joint attention acts when provided access to symbolic communication



(AAC) and opportunities for subjects to relay information, comment, and request information. Increasing levels of communication for all subjects can be attributed to providing a language and communication enriched environment with partners trained to elicit and support communication. The subjects' communication functioning is dependent on a variety of interrelated factors including the communicator, partner, interactive or instructional activities, and the context. (Buzolich, 1983). The CSA specifically measured the communication outcomes of young children with DS in an enriched 6-week summer program.

**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Research Evidence

# **Integrating AAC and Antecedent Interventions Strategies to Improve Problem Behaviors for Children with Angelman Syndrome**

**Ming Chung Chen | Yu Cheng Lin | Ya Ping Wu | Chien Chuan Ko**

## **1. INTRODUCTION**

Angelman syndrome (AS) is a kind of rare genetic disorders, caused by lossing or malfunctioning of chromosome 15q11-13 mostly (Lalande & Calciano 2007). Individuals with AS usually demonstrate the following characteristics: (a) charming smile facial expression, (b) unstable pace like puppet, (c) severe cognitive function deficits, (d) limited communication skills, (e) behavior problems like pulling hair, and throwing items et al. These characteristics impact these people on their learning and communication (Clayton-Smith & Laan, 2006; Radstaake et al., 2013).

Antecedent interventions strategies (AIS) have been regarded as one of effective strategies to reduce problem behaviors for students with severe intellectual disabilities (Radstaake et al., 2013). Meanwhile, augmentative and alternative communication (AAC) is also an intervention for them to express effectively, which could reduce their problem behaviors (Radstaake et al., 2013). AIS and AAC should be used with integration in practical. Therefore, the major purpose of this study was to explore the effect of integrating AIS and AAC on improving behavior problems of a child with AS. Meanwhile, the improvement of communication behavior after intervening AAC was also explored.

## **2. METHOD**

### **2.1 Participant**

Amy was 7 years old. She was diagnosed AS around one-year-old. She was recruited in a self-contained classroom in the southern of Taiwan. Her communication skill was less than age of 1 year based on score of Vineland Adaptive Behavior Scale (VABS-CE), she also revealed problems behaviors, e.g. lying on the floor, crawling others' item, hand in the mouth, shaking the chair, pulling hair, and throwing items. She participated in the study after gained her parents' consent.

### **2.2 Experimental design**

The ABAB' design of single subject research was adopted, including four phrases: baseline1(A1), intervention1(B1), baseline2(A2), and intervention2(B2). The phrases A didn't introduce AIS nor AAC. Phrase B used curriculum modification as antecedent interventions strategies, in which learning activities were changed once Amy had revealed antecedent behaviors. In phrase B2, AAC was added as functional communication, a functional equivalence behavior that met the functions of escaping away from request and getting attention based on a functional assessment. The dependent variables were the percentage of duration of problem behaviors occurred and score of the AAC communication behaviors, which was counted based on the degree of prompts, from physical+oral prompt (1) to independent (4).

### **2.3 AAC devices**

Bigmack was used to generate a voice message " Mr. Lin, I want to change my assignment". The participant was taught to press the button of the Bigmack. Then the assignment would be changed once she pressed Bigmack.

## **3. RESULT**

### **3.1 Improvement of communication behavior**

Scores of communication behavior would indicate if Amy could use AAC to express that she want to change the assignment. As the results shown in figure one, she didn't demonstrate communication behavior in phrase A (baseline2). The score increased when AAC was introduced in phrase B2 (the mean=2.1).

### 3.2 Improvement of problem behaviors

The percentage of duration of problem behavior for Amy is shown on figure two. The percentage was decreased once AIS was introduced in B1, but unstable. The percentage was decreased to around 10% in the final few sessions. The effect of added AAC was better. The PND of B1 was 55%, and PND of B2 was 100%.

#### 4. DISCUSSIONS

The current study support not only the effect of the antecedent interventions strategies but the effect of added AAC on improving the problem behavior of a child with AS. However, the participant didn't use AAC to communicate independently in this study. The major reason might be that the participant was trained to use Bigmack in the classroom. In the future, the participant should be trained to use AAC to communication in advance.

#### DECLARATION OF INTERESTS

This study has no financial or other interest in objects or entities mentioned in this paper.

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**Content Focus Area:** Research Evidence

# **Intensive AAC intervention compared with speech intervention for communication participation with children with cerebral palsy**

**Johanna Korkalainen | Patricia McCabe | Andy Smidt**

Changes in disability funding in Australia have enabled families of children with disabilities and complex communication needs (CCN) to have more say in choosing interventions appealing to them. Communication intervention for children with cerebral palsy (CP) currently includes motor speech interventions, and the use of augmentative and alternative communication (AAC). This study is one of the first to compare outcomes and efficacy of two common communication interventions. This study will also include a third intervention that combines motor speech intervention and AAC. The outcomes of this study on efficacy of the three interventions will provide timely support for clinicians and families in selecting appropriate interventions for their children with CP.

Motor speech interventions promote clearer speech, but do not automatically translate to communication participation (Pennington, Roelant, Thompson, Robson, Steen, Miller, 2013). On the other hand, AAC promotes participation (Granlund, 2008) and speech and language development (Clarke & Piece, 2012) but is associated with being underutilised, easily abandoned, and only used as a last resort in selected environments (Anderson, Balandin, Stancliffe, 2016). Most children with CP rely on speech, even if this is significantly impaired (Cockerill, Elbourne, Allen, Scryton, Will, McNee, Fairhurst and Baird, 2013). In addition, most parents are satisfied with their child's communication, and understand their children without AAC (Cockerill, Elbourne, Allen, Scryton, Will, McNee, Fairhurst and Baird, 2013).

This presentation will outline and compare three intensive 6-week intervention blocks for children with moderate to severe CP. These include motor speech intervention, AAC intervention, and a combination of these.

We will focus on the content of the AAC intervention, including language acquisition, literacy development, and communication partner training, and will describe outcomes of these compared with the motor speech intervention.

Participant preference and satisfaction with the intervention outcomes before and after each intervention will also be discussed. In addition, communication partner preference and experiences with AAC use, and whether this promotes or hinders communication will be outlined.

## **AIM**

The aims of the presentation are to:

1. Present the outcomes for this pilot intervention study and report on the efficacy of three intensive interventions on communication participation.
2. Discuss participant, family, and communication partner satisfaction and preference for each intervention.
3. Consider communication partner satisfaction and reflections on training and supporting AAC.
4. Provide evidence based intervention options for communication participation to assist families and clinicians in selecting communication intervention with children with moderate to severe CP.

## **METHOD**

Four children with CP, GMFCS II-IV, aged 8-12 years, who are currently using, or have used AAC will be randomly allocated to receive three six-week intensive intervention blocks. These include (1) motor speech intervention, (2) AAC intervention, and (3), combination of these.

Single subject experimental design is used across 4 children. Data is collected on speech intelligibility, linguistic and operational competence with AAC, and communication participation. Data also includes client, parent, and communication partner satisfaction and AAC use before, during, and after intervention. Five baseline assessments are conducted to ensure a steady pre-treatment baseline. Within treatment probe assessments are conducted at the half way point of each treatment, and between treatment probes will be collected following each intervention phase. Five post treatment probes are collected at the end of the last treatment phase.

#### **RESULTS**

The study is currently ongoing. It is envisaged that preliminary data will be available by early 2018.

#### **CONCLUSION**

Conclusions on the comparisons of effectiveness of the three intensive intervention blocks on achieving communication participation will be highlighted. Conclusions on the participant, family and communication partner perception on AAC use and its effectiveness will also be examined.

Current impact and future research will be suggested.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Research Evidence, Professional Practice Evidence

# Interaction between user of Augmentative and Alternative Communication Systems and Unfamiliar Interlocutor: A Qualitative Study

Surani Nakkawita | Daphne Hartzheim

## BACKGROUND:

Individuals who cannot solely rely on verbal language for their communication needs must rely on Augmentative and Alternative Communication (AAC) systems. The main purpose of introducing such AAC systems is to allow individuals to be successful and adept in their communicative interactions; this in turn will enhance their participation in everyday activities (Beukelman & Mirenda, 2013). To meet this purpose, one requires to develop communicative competence with an AAC system. According to Beukelman and Mirenda (2013, p. 8), communicative competence has been defined as the “the ability to efficiently and effectively transmit messages in all the interaction categories based on individual interests, circumstances, and abilities.” However, AAC users face many barriers in this process of becoming competent communicators. Some of the barriers include: (a) their attitude towards the use of an AAC system, (b) the attitude of communication partners, and (c) lack of communication partners who are willing to converse with an individual who uses such systems. Most often individuals in the society are unfamiliar of how to respond to an AAC user. Their inexperience may limit the AAC user to a small group of communication partners such as immediate family members and friends.

## AIMS:

This study will describe the experiences of using an AAC system with individuals who are unfamiliar to the person (also defined as novel communication partner within this study), and with AAC system. Further, it will describe the attitudes, feelings, and challenges faced by the AAC user and the unfamiliar communication partner as reported by study participants.

## METHOD:

This study uses a qualitative research design to gain information about behaviors, perceptions, attitudes and feelings when using AAC systems to communicate with unfamiliar communication partners. The perspectives of both the AAC user and the unfamiliar communication partner will be described.

This study was approved by the Institutional Review Board. A maximum of 40 participants will be recruited. All participants will be adults between the age of 18 to 60 years. All participants must be fluent in English and should not have any known communication difficulty. Twenty of the participants will be assigned as AAC users. They will be provided with a minimum of 30 minutes of training on using an AAC system of their choice. The AAC systems include; Ipads with AAC apps (i.e., Proloquo2Go, Speak for Yourself), TobiiDynavox Communicator software, or Prentke Romich Company Accent devices with Essence software. The remaining 20 participants will be recruited as unfamiliar communication partners. Participants will be excluded from the study if they are familiar with AAC devices, and/or the AAC user.

All participants will complete a personality scale – Five Factor Model Rating Form. A questionnaire to collect basic demographic information will be completed. For each AAC user, one or two communication partners will be randomly assigned. Each AAC user will spend 15 minutes with the assigned novel communication partner/s communicating on any topic of their choice. The setting will be either a quiet room with limited distraction or a natural communicative setting such a dining hall, a café, or outdoors. The AAC user will not be allowed to use any verbal communication and must use the AAC system for the entire interaction.

The interaction will be observed by the investigator. At the end of the interaction, the AAC user and novel communication partner/s will be interviewed individually. Semi-structured interviews will be utilized. (i.e., from the AAC user – “tell me about your experience using an AAC system to communicate with an unfamiliar person”, from the communication partner – “how do you describe the communication skills of the person who was using the AAC system?”)

Interviews and observations will be coded and themes will be identified. A qualitative analysis will be completed. The themes will be compared across participants. Themes will be further compared based on the following the personality of the AAC user, personality of the communication partner, type of setting, number of communication partners, and type of AAC device used.

**CONCLUSION:**

Currently, we have commenced participant recruitment and data collection. We anticipate completing data collection and analysis by March 2018. We hypothesize identification of themes related to ease of use, level of comfort, positive emotions and negative emotions.

Beukelman, D., & Mirenda, P. (2013). *Augmentative and alternative communication: Supporting children and adults with complex communication needs* (4th ed.). Baltimore: Paul H. Brookes Publishing Co.

**Evidence Area:** AACcess the community, AACcess relationships

**Content Focus Area:** Research Evidence

## **International Guidelines for Management of Communication in Rett Syndrome**

**Gillian Townend | Theresa Bartolotta | Anna Urbanowicz | Helena Wandin | Leopold Curfs**

### **AIM:**

Rett syndrome is a neurodevelopmental disorder primarily caused by mutations in the X-linked methyl-Cp2G-binding protein 2 (MECP2) gene. The disorder affects approximately 1 in 9000 females and is associated with language and physical impairments, each of which contributes to difficulties with communication. Difficulties with communication can have a profound impact on quality of life for both individuals with Rett syndrome and their caregivers. The literature on communication ability across the lifespan in Rett syndrome is growing; yet there are no published clinical guidelines available to assist communication professionals working with individuals with Rett syndrome. Caregivers report their struggles to access appropriate, knowledgeable, timely and ongoing assessment and intervention tailored to their daughter's specific communication needs. The aim of this project is to develop rigorous international clinical guidelines for the assessment, intervention and long-term management of communication in individuals with Rett syndrome.

### **METHOD:**

The guidelines were developed following a review of the published and grey literature on communication and Rett syndrome, and an international online survey of communication professionals and caregivers. The communication professionals' survey was available in English and the caregiver survey was available in 16 languages. Responses to closed ended questions were analyzed using descriptive statistics in STATA and responses to open ended questions were analyzed using thematic analysis in NVivo. The results of the literature review and the surveys were used to develop a set of statements for the draft guidelines. An expert panel consisting of experienced professionals and caregivers reviewed the statements through a two-stage modified Delphi study. The experts reported their agreement with the statements using a Likert scale and added additional comments in response to questions about the statements. Each statement that reached a threshold of >70% agreement was accepted and additional statements were drafted based on feedback from the participants. The revised statements were then reviewed and rated by the expert panel for a second round. Statements that reached a threshold of >70% agreement were added to the originally approved statements, resulting in a final complete set of guidelines that were developed through consensus.

### **RESULTS:**

More than 300 articles were analyzed in detail, drawn from literature relating specifically to Rett syndrome as well as research in augmentative and alternative communication and clinical practice documents. More than 400 caregivers and 120 communication professionals from over 30 countries completed the online surveys. The responses gave a broad and varied picture of the knowledge, experience and supports for communication offered across the globe and provided valuable insights into factors that contribute to successful communication. A panel of 36 expert individuals reviewed a comprehensive list of statements in the first round of the Delphi process through an online survey. The results of the modified Delphi study and the final international guidelines for management of communication in individuals with Rett syndrome will be described in this presentation.

### **CONCLUSION:**

Using a combination of methods, we produced rigorous guidelines for management of communication in individuals with Rett syndrome. One challenge faced by the team was evaluating a large body of anecdotal evidence and comparatively limited research evidence. The methodology adopted attempted to solve this challenge by combining available evidence with expert consensus. A further challenge encountered by the core group was to write



guidelines that were flexible and responsive to variations between countries, culture and language, and economic and political situations which influence and shape societal attitudes towards individuals with rare diseases and which determine differing national healthcare and education policies. Now that the guidelines are published, the core group has entered the implementation phase of the project. This project drew on the knowledge and experience of individuals across the world and is firmly embedded in the lived experience of Rett syndrome.

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**Evidence Area:** AACcess language and literacy, AACcess relationships

**Content Focus Area:** Research Evidence, Professional Practice Evidence

## **Internet and social media use by young people with complex communication needs: An international study.**

**Ingo Bosse | Gregor Renner | Pammi Raghavendra | Martine M. Smith | Leevke Wilkens**

### **BACKGROUND**

In recent years there has been enormous increase in using the internet for social networks by adolescents without a disability. Over 97% of 15-24 year old Australians access the Internet, and of these Internet users more than 90% report using social media [1]. In Germany, the number of Internet users has been risen up to 58 million in 2016 from 46 million in 2010. 100% of 14-19 years old use the internet at least seldom, 91,5 % stated to use it daily [2]. 70% of the 14-19 year olds stated to use Facebook daily. In Germany, the current study “Media use of persons with disabilities” [3] shows that people with disabilities face specific access – and participation barriers in media use. A factor that makes media use difficult is lacking accessibility. Contextual factors like living arrangements also influence the access to media use. Even though this study used instruments, which allowed people with various communication needs to participate, people with complex communication needs were not included, because of methodological reasons [3].

The internet offers opportunities for young people with complex communication needs to participate, e.g. by using chat options instead of spoken language.

### **AIM:**

The aim of the international study was to gather information from young people with complex communication needs on their engagement with social media platforms. Using a survey methodology, data was collected on types, frequency and duration of engagement with internet-based social media, as well as barriers and facilitators as experienced by the young people. Findings offer a platform to develop further social participation based on a self-determined engagement and participation. The data will help to identify facilitators and barriers to participation in this area important especially for young people and highlight common experiences and differences across a range of geographic sites.

The research questions are:

- 1) How are young people with complex communication needs using Internet technologies and social media?
- 2) What are the facilitators and barriers to using Internet technologies and social media for this group?

### **METHOD**

Building on previous research the study uses the Australian survey [4] with some country specific adaptations.

Research setting: Homes and schools in four regions across Australia, Ireland and Germany (2 regions).

Target population: Adolescents (aged 10-21) with physical disabilities and complex communication needs.

### **PROCEDURE**

A survey, modified from one that was Australian research was used in this study[4]. It provides baseline information on this group’s current Internet use, benefits and challenges of use, and expected use. This allows us to compare and contrast with the data.

Module 1: Participant sites carried out online and paper-based surveys with participants with complex communication needs.

Module 2. Follow-up face-to-face interviews were carried out with a subset of participants across a range of settings using plain language, with appropriate symbols to help with comprehension or decision facilitating methods like talking mats.

## RESULTS

The findings from both the survey data and the interviews will be explored with particular reference to the similarities and differences that emerge across the three sites. Both the extent to which social media platforms are used and the barriers and facilitators to that use are considered, providing an international perspective on this emerging research area.

## CONCLUSION

The collected data in combination with secondary evaluation of other studies provide preliminary evidence of the factors that influence the internet and social media usage of children and adolescents with complex communication needs. These data can be used as a basis, to design teaching – and learning situations according to the support the needs of young people with complex communication needs.

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**Evidence Area:** AACcess social media

**Content Focus Area:** Research Evidence

## Interview as tool for obtaining information and planning communication intervention for children with multiple disabilities

Olga Askenova | Svetlana Leschenko | Stephen von Tetzchner

In the planning of communication intervention, several sources of information are used, including observation of communicative behavior in the Center and at home, analysis of home videos, parent questionnaires, screening instruments, and tests, and parent interviews. Many children with severe and multiple disabilities need augmentative and alternative communication (AAC). When children have multiple disabilities, many assessment instruments have limited value, and an interview may be the main tool for gaining insight into the child's communication. Their communicative acts may be so rare that only parents can give comprehensive information about the child's communicative expressions. Moreover, professionals may not recognize the meaning of idiosyncratic or unusual forms of communication, or may not acknowledge them as communication at all.

The interview allows professionals to obtain in-depth information about communicative opportunities, initiatives and behavior, including concrete examples from parents. An interview may create a relaxed atmosphere and give professionals opportunity to discuss the child's level of functioning, and ensuring cooperation in the intervention. Observation during the interview may provide additional insight into the family situation and how the family may promote or hinder planning and implementation of the intervention. It may facilitate the evaluation when professionals can ask questions while parents are in interaction with the child.

Parents often start with giving general answers but with professional support and patience they provide a lot of the information needed to start intervention. The purpose of the initial assessment is to understand the communicative acts of the child in their complexity and establish a basis for the intervention. Descriptions of communication reveal the successful steps and allow the introduction of new forms of communication that will promote the child's development.

### ILLUSTRATIVE EXAMPLES FROM INTERVIEWS

#### Basic information

Questions are related to social functioning, activity level, and communicative initiatives of the child, and the understanding of everyday situations.

Oleg's Mother (OM): He does not pay attention to dogs or birds, he pays attention to girls, if they are dressed beautifully.

Professional (P): Are colors beautiful to him? Or is he attracted by brightness?

OM: Yes, brightness probably.

#### Behavior

OM: He is haunting around the room, not knowing what to do. It is necessary to divert him, because he starts to chew on himself.

#### Language and communication

The initiative of children with severe communication difficulties may be subtle, selective and unusual, but described by the mother in a few words.

Zlatas Mother (ZM): The way we understand him is in the voice, the laugh, his exploration with the hands, gestures, nodding the head "Yes" or shaking "No". We are working on this during play and at meals.

ZM: He smiles at me, especially when I touch him.

ZM: My child starts to breathe like crazy, eyes glassy. I had a shock when I saw it. I started to pull, tugging just to distract him. He breathes and breathes and breathes. I said to him: «Enough. Stop». He looks at me and begins to breathe again.

The needs

Through interviews one may obtain an impression of the parents' available resources or lack of resources, and professionals working with the child may give insight into what they still need in the intervention.

OM: When we began to visit the Center, he had some impulses that I can (somehow) interact with him. For me it is a tragedy.

OM: The aunt came. He reaches out to her all the time. She comes in, his eyes light up.

OM: But if I'm going to fight, I don't know. I also have the right to freedom of expression. Trying to hold back. How can I.

#### **ANALYSIS AND PLANNING**

The promotion of a child's communication depends on whether professionals understand the child's initiation and responses with other people. We assess competence and attitudes in the environment, sensitivity of parents, how the child tries to communicate, and seek to adapt the environment to the communicative behavior of the child.

The interview gives information about the child's interest in people, objects, actions and events, and possible communication attempts. Analysis of interviews gives a better foundation for making intervention priorities and goals, to discuss joint steps with the family and help the parents understand their child better – and thus support the child's understanding.

#### **CONCLUSIONS**

The interview has advantages and disadvantages. It takes time and resources. Transcription may be necessary for the analysis but is time-consuming. The Center for Early Intervention uses this method when the initial intervention strategies are not working, and in cases that seem incomprehensible and complex.

**Evidence Area:** AACcess education

**Content Focus Area:** Professional Practice Evidence

# Introducing Open Communication Boards SW & AAC linked with Google Drive

Min Hwi Joo | Jae Sung Lee

## ABSTRACT

Starting with the tablet-PC based 'My First AAC' (2014), the NCSOFT Cultural Foundation in Korea has developed various type of High to No-tech Korean based AACs for the past 4 years : smartphone-based 'My AAC' Basic, Child, General series (2015), Windows PC based 'My AAC' PC version (2016) and 'Calendar type Communication boards' and 'My AAC Ver2.0' (2017).

In this presentation, the newly developed Open Communication Boards SW and AAC linked with Google Drive, 'My AAC Ver2.0' will be introduced. The presentation invites those who have interest in both high-tech and no-tech AAC and potential partners in collaboration for AAC development. The presentation will also be useful for AAC professionals who are concerned with developing AAC in one's native language other than English-with reference to our development of Korean AAC.

- 1) Open Communication Boards SW & AAC linked with Google Drive
  - Demonstration of the newly updated 'My AAC Ver2.0'
- 2) Calendar type Communication boards
- 3) Connecting AAC with language learning SW

## < OPEN COMMUNICATION BOARDS SW & AAC LINKED WITH GOOGLE DRIVE >

On top of the already existing 'My AAC' developed by the non-profit foundation, a newly developed 'My AAC Ver 2.0' is out updated with communication boards production and Google-drive function. With the newly loaded Google search function, 'My AAC Ver 2.0' PC version increases degree of user freedom by letting users to find images on Google and use it as symbols in their communication boards; in addition to the around 750 symbols already provided in the software. Also, with the hands down settings and symbol editing composition, the software makes communication boards production fast and easy. The communication boards made by the 'My AAC Ver 2.0' PC version can also be used on the smartphone based 'My AAC Ver 2.0' apps through Google-drive interlock. Making communication boards compatible between all devices.

The compatibility of communication boards between all devices makes communication boards accessible everywhere, anywhere. Also through Google Drive, communication boards become available in an urgent situation like when one's devices are malfunctioning or is lost. In order to support users unfamiliar with communication boards, 'My AAC Ver 2.0' provides recommended communication boards designed by speech therapists and special education professionals. Users can personalize communication boards by simply editing the given recommended communication boards.

## < CALENDAR TYPE COMMUNICATION BOARDS >

It has been found in various studies that no-tech and high tech AAC is both important for children with communication needs (Janice Light, & Kathryn Drager, 2007 ; Iacono T, & Lyon K.2013). Therefore, in addition to the High-tech 'My AAC' software, the foundation has also developed No-tech communication aids for therapists and parents. The 'My AAC' PC version developed in 2016 was the start to our focus on no-tech AAC. The PC version lets users to print more than 900 symbols provided in the software and also communication boards self-made by the individual users. The printed communication boards can be used as symbol cards or to study vocabularies in learning field.

In 2017, together with speech therapists and special education specialists, the foundation have designed a 'Calendar type Communication boards' for kids at daycare and kindergarten. 'Calendar type Communication boards' is arranged with symbols found to be frequently used by children at daycare and kindergarten on a hard board. Specifically, the communication board is separated into 7 different topics, these being Food, Daycare, Classroom, Living, Family/child, Play and hospital. On the left of the communication board, 23 most used words(symbols) for each topic is arranged in 3x4 sequence and on the right side, expressions that go along with these words(e.g. I want, Give me, Want to eat) are placed so that children can make sentences by combining the symbols from each side. The last page of the 'Calendar type Communication board' is the 3x5 sequence blank page allowing users to create personalized communication choices using attachable sticker type symbols provided together with the communication board. The 'Calendar type Communication boards' is entirely free, available online through the foundation's website in powerpoint form. Such way increases accessibility for the material even to the people outside of our reach, as they can simply download the communication boards and edit it using powerpoint.

**< CONNECTING AAC WITH LANGUAGE LEARNING SW >**

In addition to the Augmentative Alternative Communication (AAC) for people with communication difficulties, the foundation have also developed Korean based language learning software so people using AAC can repeatedly practice and learn vocabularies to advance language skills. With words selected with reference to the 'Core words Study Book' made in collaboration with the National Institute of Special Education Korea. the language learning software allows kids to learn core words with animation and fun game.

**Evidence Area:** AACcess emerging technologies, AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence, Professional Practice Evidence

# Investigating remote coaching modalities to ensure AAC intervention fidelity among parents and professionals

Charles Fage | Pascale Grevesse | Christelle Maillart

As they represent key communication partners, clinical research demonstrated the relevance of including parents and health professionals in Alternative and Augmentative Communication (AAC) interventions towards children with Children with Complex Communication Needs (CCN) (for review: Kent-Wash, Murza, Malani & Binger, 2015). However, the literature of training interventions focused on knowledge reports limited impact onto changing practices. A recent meta-analysis of educator training studies gives interesting insights on this matter: when reflexive modalities are implemented for educators, the benefits of interventions are increased (Markussen et al., 2017). Another recent study reports similar results, highlighting the relevance of associating modeling with performance feedback, regardless of the duration of the intervention (Brock & Carter, 2017).

Interventions reviewed in these meta-analyses rely on the presence of the trainer to train/monitor participants in conducting interventions. However, this presence may narrow down spreading such evidence-based practice because of the geographical and economic constraints of this population. Hence, researchers are now investigating the opportunities of new technologies for training and coaching parents and health professionals (Wainer, Pickard & Ingersoll, 2017).

## AIM.

This study aims to investigate two different aspects:

1. The feasibility of implementing and animating remote training/coaching AAC interventions based on an innovative French-speaking AAC application, named Tiwouh;
2. The modalities allowing the greater benefits for both children with CCN and their stakeholders (i.e. parents and health professionals).

## METHOD.

To identify the best remote coaching modalities during AAC interventions for children with CCN, we deployed to a sample of health professionals and parents a mobile application-based intervention that we developed. Similar to the PECS protocol (Picture Exchange Communication System; King et al., 2014), this four-stepped intervention aims toward introducing an assistive application to allow children with CCN making basic requests in real life situations. Each step involves a trainer and a communication partner, alternatively embodied by a parent and a health professional.

Participants were recruited on three different French-speaking locations: Belgium, France and Switzerland. They first received a session of training on the Tiwouh intervention. Then they were divided into three different modalities: physical workshop followed by no coaching, physical workshop followed by remote group coaching and physical workshop followed by remote personal coaching. We evaluated these different modalities with self-efficacy and fidelity of the intervention for parents and health professionals on one hand, and outcomes for children with CCN on the other hand.

## RESULTS.

We were able to actually remotely implement an AAC intervention through coaching both parents and health professionals (mostly speech therapists). We report participants insights on barriers that have to be addressed, especially for the technological aspects of such a setup. Concerning coaching modalities, we anticipate an overall better fidelity for participants who received remote coaching, even if the relevance of a physical workshop to introduce the intervention may be shown beneficial as well. However, as interventions are still ongoing, data have to be gathered and computed to confirm our hypotheses.



**CONCLUSION.**

This study will give insights on the feasibility of remote coaching in AAC interventions towards children with CCN. The upcoming results will help highlight needs and constraints of health professionals and families in terms of implementation of AAC intervention. Identifying the best remote coaching modalities will allow developing better suited intervention to maximize benefits in real life for children with CCN.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence

# Investigating the Effect of Parent Training on Increasing Children's AAC Use

Allison Bean Ellawadi | Lindsey Paden Cargill | Samantha Lyle

## INTRODUCTION:

The purpose of AAC technology is to provide individuals with complex communication needs an effective and efficient means to a) express their wants and needs and b) develop social relationships (Beukelman & Mirenda, 2013). AAC training often focuses on supporting operational competency (e.g., how to program new vocabulary into the device) rather than buy-in (i.e., understanding how a device will enable the user to communicate). We hypothesize that buy-in from the individuals who interact with an AAC user on a regular basis is critical for supporting AAC use and decreasing device abandonment/rejection, because buy-in should result in behaviors that increase communication opportunities for the AAC user. The purpose of this research study is to investigate the impact of parent buy-in training on AAC use in school-age AAC users with autism. This research program will specifically investigate 1) whether training programs aimed at buy-in alter parent behaviors and 2) whether these changes in behavior increase an AAC user's use of his/her AAC device to communicate home.

## PROCEDURES:

This study received approval from the Institutional Review Board at The Ohio State University. Upon study enrollment parents will complete a survey that assesses operational competency and buy-in. Parents will also be videotaped interacting with their child for 30 minutes in the home. Parents will take-part in a six-week training program that will be conducted by certified speech-language pathologists with expertise in AAC. The training will consist of a) class-room instruction and b) using AAC to communicate. The classroom instruction will consist of educating parents and teachers about language development and intervention and prompting strategies that should be used to scaffold AAC use in individuals who are AAC users. Each 60-minute session will consist of hands-on instruction and a discussion of any issues that participants encountered implementing the intervention strategies and prompting discussed in the previous session. In addition to classroom instruction, parents and teachers will participate in two "chatterbox challenges" that involve relying on using an AAC device to communicate in a community setting such as a restaurant or coffee shop. Upon completion of the training parents will complete a survey that assesses operational competency and buy-in and will be videotaped interacting with their child for 30 minutes in the home.

## RESULTS:

Parents of school-age AAC users are currently being recruited to enroll in the study and the training will take place this fall. Data analysis will compare parent's survey responses pre – and post-training to determine whether the training increased parent reported buy-in. In addition, we will compare AAC use in the home pre – and post-training to determine whether children demonstrated greater use of AAC in the home post-training.

## CONCLUSION:

Anecdotal data indicates that "chatterbox challenges" are effective in providing parents with a greater insight into using AAC to communicate. Therefore, we predict that the combination of classroom instruction (which teaches prompting and intervention strategies) and participation in "chatterbox challenges" (which provide the opportunity to experience being an AAC user) will increase buy-in. We hypothesize that this increase in buy-in will, in turn, result in higher reports of parent buy-in and increased use of AAC in the home.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence

## **It's prAACtically a Party!**

**Keng Hock Teh | Sim Mariam Mohd | Dawn Wee | Dawn Young | Deborah Xinyi Yong | Sarah M Yong | Ivan Tan**

This workshop will feature 3 examples of social gatherings organised by SPD Singapore for our clients who use Augmentative and Alternative Communication (AAC), and how the Participation Model for AAC (Beukelman & Mirenda 2013) can be used to guide AAC party planners in the types and extents of interventions needed leading up to the event to ensure success. These social gatherings target 3 different age-groups of AAC users—below 7 years of age, 7 – to 12-year-olds, and 13-year-olds to young adults—each one featuring correspondingly age-respectful activities.

As the AAC scene in Singapore remains at an emerging stage, social gatherings that can facilitate the productive use of AAC systems for authentic interaction are few and far between. A clear correlation exists between children with complex communication needs and being “at risk” of social isolation and delayed learning development (Sadao & Robinson 2010). Research also shows that AAC-reliant persons mingling produced more “equal” exchanges as compared to exchanges between an AAC-user and a speaking partner—which largely resulted in significant passivity on the part of the AAC-user (Müller & Soto 2002). Creating opportunities for young AAC users to put their communication tools to the test in authentic social get-togethers such as a party provide the necessary impetus for practicing good communication habits, developing social interaction skills and honing elements of self-determination.

Planning a social gathering for AAC-users to play and to interact with their verbal counterparts gives rise to opportunities for AAC outreach and awareness campaigns. Persons involved in the planning and in hosting the gathering would require some basic knowledge of the AAC systems used by participants. This provides a meaningful platform to train caregivers, classroom teachers, external volunteers and even potential employers in useful AAC techniques such as partner-assisted scanning and aided-language stimulation—all in a bid to build capabilities within the Singapore community towards an AAC-inclusive society.

Hosting an AAC-user party alongside mature AAC-users can also provide a platform for reverse inclusion. AAC-users work in tandem with the party organisers to decide on meaningful activities for their young charges. For new AAC-users, having a proficient user of AAC to look up to can have a significant impact on their intrinsic motivation and help craft a positive vision of AAC success.

Workshop facilitators will explore some of the rationales used by several schools, hospitals and Non-Profit Organisations—locally and internationally—for hosting such events, highlight some of the unique challenges faced by event planners and volunteers for each aforementioned age-group, and the overall benefits discernible from elements adapted from the Therapy Outcome Measures for AAC (Enderby, John, & Petheram 2006). The workshop team will also take participants through a hands-on, step-by-step AAC party planning process to jumpstart their own AAC party in their native countries.

### **LEARNING OUTCOMES**

Participants will hopefully be able to:

1. Craft an institutionally-based, culturally-appropriate rationale for hosting a social gathering for AAC-users in their native settings.
2. Identify key challenges pertaining to organising and hosting such an event.
3. Employ the Participation Model for AAC to help decide types of intervention needed towards AAC success.

**INTERACTIVE COMPONENTS**

Video snippets from the planning and implementation of the 3 social gatherings will be presented, and participants will have the chance to learn from our successes and our shortfalls in planning their own AAC-user party.

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**Evidence Area:** AACcess the community

**Content Focus Area:** Professional Practice Evidence

## **Journey to Multimodal Communication AACess. The challenges and benefits for a teenager with Angelman's Syndrome**

**Catriona Collins | Hela Munro**

“We all need to communicate and connect with each other – not just in one way, but in as many ways as possible” (B.Williams, 2000 p 248). It was this philosophy that underpinned the current supports for a 18 year old male student with Angleman's Syndrome, which changed his interactions with his school community, family and local community.

Over the years extensive communication intervention has been provided to this student. Different therapists have offered interventions and support programs focusing on specific areas, with a primary focus on speech sound production. A few simple words from a new therapist, “he will use whatever method he can to communicate, so accept whatever he uses” and the implementation of a comprehensive high and low technology communication system, this story shifted from a young man trying desperately to interact with his communities and resorting to behaviour, such as spitting, pinching, hitting and throwing, as his most successful communication, to a young man able to AACess his communities as a multi-modal communicator.

In working with this young man, we have reflected on his journey in developing multi-modal communication, the impact this has had on his behaviours, AACess to school, peers, family, local communities and also considered the challenges for the future heading into his final year of school and the workplace.

We aim to take you on a journey to discuss the success and challenges of communication with this young man, reflect on the use of best practice with his complex communication and maladaptive behaviours and consider challenges for future AACess including the workplace.

When he began with The Communication Clinic Speech Pathology Services in April 2016, after his Occupational Therapist had recommended a multidisciplinary approach was needed, this young man presented as a keen communicator with no identified method to communicate. He tried whatever he could and when this failed, used negative behaviours. This student is in a unique position because he has so many positive aspects within his life that will support him moving forward with his communication.

- . He attends a community based private school where he has a consistent learning support officer.
- . He has a mother who was raised by deaf parents and is fluent in Auslan.
- . His Learning Support Officer had receive training in Proloquo 2 Go and completed self directed training.
  - The school had installed Proloquo 2 Go on a dedicated device.
- . The school are proactive and had printed and bound PODD books to use.
- . The school has a focus on integration and are keen for support with this.
- . He is keen to talk and communicate with a variety of communication partners.

As his new Speech Pathologist, the first thing to stand out was the enormous capacity already available to support this young mans AACess. There was a wealth of competent communication partners who didn't realise how much they could support this student.

We began small, with specific focus areas and continued to build on this in order to support wider networks of community supports. He is now using Auslan signs, idiosyncratic signs, gesture, paper Proloquo 2 go book, iPad with Proloquo 2 Go and iPod with Proloquo 2 Go, picture communication supports, visual schedules and speech.

He is truly a multimodal communicator. Previously, this student was using a variety of communication methods. However, he is now using these in a more meaningful way and with more clarity. We have seen him grow from what appeared to be a frustrated boy, to an interactive and keen communication partner. He has built resilience with repairing communication and knowing others value his communication. These aspects have resulted in him more effectively AACcessing a variety of communities across his life – school, peers, family and local community access. We look forward to sharing this journey with you.

**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community, AACcess employment

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

## **Kids Chat 2 You – a mobile AAC support service reaching local Victorian communities.**

**Katie Lyon | Julie Curtis | Marion Van Nierop | Andrea McQueen**

### **BACKGROUND**

An estimated 1 in 500 people in Australia have severe communication disabilities or complex communication needs, with approximately 25% being children (Perry, Reilly, Bloomberg, & Johnson, 2002). Many children with communication difficulties benefit from communication aids to facilitate their speech and language development and enhance daily interaction and participation. Non-electronic communication aids can include, but are not limited to, communication books, boards, timetables and activity schedules. An evaluation of Kids Chat, a pilot project that provided non-electronic communication aids to children with complex communication needs during a 6 month period in 2015, indicated a knowledge gap in families about the Augmentative and Alternative Communication (AAC) options available. In addition through anecdotal feedback, the transition of services under the National Disability Insurance Scheme (NDIS) has highlighted the need for families to advocate for an appropriate plan that meets the needs of their children with complex communication needs. The Kids Chat 2 You project has been developed to reach families of children with complex communication needs in Victoria who are transitioning into the NDIS and who require specialist AAC support.

### **AIMS**

Kids Chat 2 You has been developed to provide a holistic, responsive, mobile service to support families of children with complex communication needs across Victoria, who are transitioning into the NDIS, to have access to appropriate communication aids, supports and resources. The service will

1. Provide non-electronic communication aids to children in regional and metropolitan areas of Victoria, in advance of the NDIS rollout to support their current communication needs
2. Assist families to understand the NDIS and how they can they can access NDIS funding to meet the communication needs of their child
3. Build capacity and knowledge of local therapists and service providers.

### **METHOD**

Workshops covering AAC strategies and principles will be delivered to families, therapists and educators across 33 regional and metropolitan locations across Victoria from July 2017-November 2018. In addition, consultations with a speech pathologist with experience in AAC will be offered to individual children and their circles of support, to provide individualised information, advice and resources. A customised non-electronic communication aid will be provided to every child attending a consultation, for whom it is appropriate. Qualitative data is collected post-workshop and post-consultation. Semi-structured follow up surveys and phone interviews will be conducted at 9 and 18 months post-consultation.

### **RESULTS**

Kids Chat 2 You has received positive responses from families regarding the access to appropriate, high quality, non-electronic communication aids for their children, and information to assist them in the transition to the NDIS. Service providers and speech pathologists have reported finding the practice support opportunities in AAC valuable and also building capacity of families to take on the use of AAC at home. This feedback is informing the project's ongoing development and is indicative that this service is a responsive and valuable resource to children and families.



**CONCLUSION**

Kids Chat 2 You is an innovative AAC service providing much needed information and resources to families and service providers who support children with complex communication needs. Data is currently being collected but early indicators are positive. It is anticipated that the service will provide a number of sustainable resources that can be accessed freely through the internet. This presentation will outline the service model, its outcomes and learnings through qualitative and quantitative data and personal stories.

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**Evidence Area:** AACcess emerging technologies, AACcess education

**Content Focus Area:** Professional Practice Evidence

## **KiwiChat Camp: Experiences and Perceptions of Children with Complex Communication Needs and their Family/Whānau**

**Jessamy Bell | Mke Ninces | Sally Clendon**

Children with complex communication needs (CCN) who use augmentative and alternative communication (AAC), require a significant amount of intervention in order to become autonomous communicators. This intervention can be provided in a variety of different contexts and methods.

TalkLink Trust is a charitable trust in New Zealand who complete AAC assessments and training for children and adults who use AAC. TalkLink host KiwiChat Camp biannually. KiwiChat Camp is a 5 day camp for children and families who use AAC to connect, practise social communication skills, develop life skills, meet positive role models who use AAC, and to have fun. The children who use AAC participate in direct training and aided language stimulation activities. Their parents participate in training focused on teaching strategies for supporting their child to use AAC, and to develop language and social communication skills. KiwiChat Camp also gives families a chance to meet other families of AAC users, network with older AAC mentors, and enjoy a family camp experience.

AAC camps were introduced in the 1990s in order to support and increase communicative competence of children and families who use AAC by providing brief, but intensive AAC intervention (Bruno & Dribbon, 1998). These camps are run around the world; however, few studies have explored the perceived effectiveness and/or benefits of camp-based interventions (Berger & Feucht, 2012; Dodd & Hagge, 2014). This project aimed to provide insight into the experiences and perceptions of the children and families who attended KiwiChat Camp in 2016 hosted by TalkLink.

### **AIMS:**

1. What are the experiences and perceptions of parents and siblings of children who use AAC?
2. What are the experiences and perceptions of families (parent, siblings and children who use AAC) after attending an AAC focused camp and how does it impact on their motivation and confidence in using AAC afterwards?

### **METHODS:**

Twenty children who use AAC and their families attended KiwiChat Camp, of whom 18 families participated in this research. This was a four part project and data was gathered through surveys and interviews. Parents answered a pre and post camp survey and then 3 randomly selected parents participated in a phone or Skype interview within 4 weeks of camp, to explore their experiences and perceptions in more depth. Children who use AAC completed a survey with visual supports on the final morning of camp while their siblings participated in small semi-structured interviews. Frequency counts and simple statistics were used to analyse the Likert questions. The short answer questions and interviews were transcribed and thematic network analysis was used to analyse their experiences of camp.

### **RESULTS:**

All results indicated that camp is a highly valuable method of providing AAC intervention, and that all participants would return to camp if given the opportunity in the future. Families valued meeting older AAC mentors as they saw hope for their child, but also felt overwhelmed by the effort they were required to put in. Families treasured meeting other families 'like us' and knowing that 'we are not alone' even though many families indicated they would not stay in contact after camp finished. Several families reported that "it's so good to feel normal" and "I love that we can all do this as a family [because all of the activities are accessible]". One surprising finding, was that siblings of children who use AAC, regardless of age, desperately wanted training on AAC and how to be a good communication partner to their brother or sister. They felt that they 'picked up' information through observation but would like formal training in this area.

**CONCLUSION:**

This study shows that families perceived camp to be an effective and highly valued method of providing AAC intervention for children who use AAC and their families. It positively confidence, knowledge, and skills of children who use AAC, their parents, and siblings. It also validated additional benefits of attending camp, such as interacting with AAC mentors and networking with other families of AAC users. The results are limited due to the lack of generalisation and maintenance data after camp and more research is recommended.

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**Evidence Area:** AACcess language and literacy, AACcess relationships

**Content Focus Area:** Research Evidence

## **KiwiChat Sibling Camp: A Camp Experience for the Siblings of Children with Complex Communication Needs**

**Jessamy Bell | Mke Ninces | Jenna Land | Sally Clendon**

In 2017, TalkLink Trust (a charitable trust in New Zealand who provide AAC assessments and training for teams of children and adults who use AAC) and the Speech-Language Therapy Programme at Massey University partnered together to host the first ever KiwiChat Sibling Camp. The camp was held over two days in the April School holidays and had a circus theme. On Day 1, the siblings came on their own and spent time getting to know one another, learning more about augmentative and alternative communication (AAC) systems and how to be an effective communication partner. Each child was provided with the same communication system that their brother or sister uses. On Day 2, their brothers and sisters who use AAC, as well as at least one parent joined the siblings. The siblings had the opportunity to put into practice some of the skills that were learned on Day 1. This presentation will provide an overview of the KiwiChat Sibling Camp including feedback from the siblings and their parents. One mum shared the following about her children's learning from the camp: "They learned to be patient for a response and loved being able to feel like they had their own communication system for a few days. I think they have more understanding of what it would be like for A as they tried to communicate as much as possible with the iPad and TouchChat with WordPower. I also think they enjoyed meeting others who use communication systems and their families and seeing how everyone is different." An Honours student, Jenna Land, from Massey University has completed a research project exploring the experiences and perceptions of the siblings; the findings from this research will also be shared in this presentation. This project was based on initial Masters research project on KiwiChat Camp 2016 where families (parents, siblings and children who use AAC) attend a 5 day camp. During KiwiChat Camp the siblings of children who use AAC were asked about their experiences and perceptions of having a brother or sister who uses AAC. All of the siblings reported that they had not had formal training on AAC but would like to have specific training on using their brother or sister's AAC system and how to be a good communication partner. The idea for KiwiChat Sibling Camp was then sparked.

**Evidence Area:** AACcess language and literacy, AACcess relationships

**Content Focus Area:** Personal Experiences and Preferences

## Knowledge and Perception of AAC Use for Individuals with Disabilities in an AAC-Emerging Area

Mo Chen | Wa Liu

Augmentative and Alternative Communication (AAC) has gained increasing attention in the Asia Pacific regions including Mainland China (Fuller, Gray, & Warrick, 2013). The purpose of this study is to gather information regarding how a group of people who participated in a training on AAC knew about and perceived the AAC use by individuals with disabilities. A total of 38 participants completed the web-based survey using Questionnaire Star prior to the beginning of the AAC training workshop that was conducted in Beijing.

A majority of them (89%) are parents or teachers of learners with disabilities who have difficulties in communication. Seventy-four percent of them reported that they have heard about PECS or other symbolic communication systems, while 68% of them reported that they have seen people using alternative approaches (e.g., PECS, communication board, sign language, and/or iPad) for communication. Only 46% of the participants had direct experience with communicating with people who used alternative communication modes.

In addition, forty-two percent of them reported that they have seen AAC devices such as communication board, computer, iPad, cellphone, typewriter, and speech-generating devices. Finally, when being asked about their expectations for the topics to be covered in future AAC-related workshops, approximately 40% of them opted for more information on how to use picture-based or other AAC devices to improve the communication in individuals with disabilities and communication difficulties, while 58% of the participants anticipated for more training on how to improve these individuals' abilities in using spoken language.

Limitations of this study and implications for future research are discussed. In particular, the results from this study revealed that although parents and teachers in a big city like Beijing in China may have some knowledge about AAC but they still tend to more favor the prospect that their children or students with disabilities who have communication difficulties are able to develop better skills in using spoken language. Implications will be discussed about the necessity and challenges in setting up AAC services in AAC emerging areas like Mainland country and some other Asia Pacific countries.

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**Evidence Area:** AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence

## Knowledge to Action Roadmap for Literacy Education of Children with SSPI who Use AAC

Pascal Lefebvre | Jocelyn Barden-Underhill | Amita Bhargava Furgoch | Jean Ju | Leslie Walker | Melodie Serre | Tanya Campbell

Many children with cerebral palsy have severe speech and physical impairments (SSPI) and must communicate using augmentative and alternative communication (AAC). Because education and literacy are proven to be important social determinants of health (Paasche-Orlow & Wolf, 2007), the health outcomes of children with SSPI are further compromised by their very low reading and writing levels (Larsson, Sandberg, & Smith, 2009). A gap between current and best practices in their literacy education has been identified as one of the main causes (Sturm et al, 2006; Koppenhaver and Yoder, 1993).

The Knowledge-to-Action (KTA) cycle (Graham et al. 2006) offers a framework that can contribute to bridging this gap. The phases of this cycle have been used in health care settings, but not in the context of literacy education within school and family settings. This project aimed to understand the specific steps that a family in collaboration with a school team, health care services providers, and researchers have to go through in order to mobilize knowledge of best practices in literacy education for these children.

Therefore, two objectives were targeted:

- 1) Increase the knowledge uptake of best practices in literacy education in a typical home and school of a child with SSPI.
- 2) Increase the knowledge about the phases of the KTA cycle applied to this context.

The research team included six researchers and clinicians specialized in qualitative and action research methods, literacy, knowledge translation, and AAC. It also included, eight knowledge users involved in the literacy education of a child with SSPI. Together they brought expertise in education and healthcare needs of children with SSPI. Given the participatory nature of the project and the fact that it involves both active transformation of existing knowledge and inquiry for new knowledge, integrated knowledge translation and action research approaches were adopted.

The first five phases from the KTA cycle were used to translate knowledge about best practices in literacy education into practice in a child's home and school. They also served as templates to create an operationalized roadmap of best practices for literacy education of children with SSPI. To accomplish each phase of the KTA cycle, methods developed by the SAS2 Dialogue team (Chevalier & Buckles, 2013) were selected. All activities were video recorded, and artefacts generated during the activities were collected as data. They were analyzed using Thematic Analysis qualitative methods with the NVivo software (QSR, 2014).

By targeting literacy, an important social determinant of health, this project could positively influence the future health outcomes of children with SSPI who use AAC. Also, the operationalized KTA roadmap applied to the literacy education of children with SSPI will be disseminated through traditional scientific channels to advance health-related knowledge and research for scholars. This will advance literacy and health outcomes of other individuals with SSPI by inspiring and informing knowledge users beyond the scope of this project.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Research Evidence

## Language development and the use of Signs in Kleefstra Syndrome – a case study

Luciana Maria Wolff | Maria Cecília de Moura

### INTRODUCTION

Language is an important part of human being development. It is by the language that the individual can be constituted as social part of a group (Vigotsky, 1991). Some individuals have significant communication disabilities that cannot rely on their natural speech to meet their daily communication needs (Beukelman & Mirenda, 2008). The development of augmentative and alternative communication (AAC) strategies, unaided symbols as non verbal behavior may give them potential to enhance communication, (Almirall, Soro-Camats & Buyltó, 2003). There are some conditions that makes it being hard for a child to develop oral language. Kleefstra Syndrome is one of these conditions. It is characterized by Intellectual disability, childhood hypotonia and distinctive facial features. Generally, there is an expressive speech delay with very limited speech development. The big majority of Kleefstra Syndrome is caused by a heterozygous microdeletion at chromosome 9q34.3 (Schmidt et al., 2016).

In 2015 the Cerebra Centre for Neurodevelopmental Disorders and the Kleefstra Syndrome Support Group in the Kleefstra Syndrome Conference stated that early intervention by a speech and language therapist with the use of alternatives ways of communication (including Signs) could help these children to develop language.

### AIM

This work will describe the speech language pathology work with Signs with a girl with Kleefstra Syndrome.

### METHOD

The speech language pathology therapy with a girl, 3 years and 10 months old with the diagnostic of Kleefstra Syndrome. It happened twice a week, 45 minutes sessions, with the presence of the babysitter and the results were registered. It was used key word signs (i.e., simple single-word gestures for communication) and utterances, as well as, forms of intentional communication were considered for 4 months.

### RESULTS

The child, in the initial assessment, showed indicative gestures when she wanted something, imitation was not present and her symbolic play consisted in taking a doll and manipulating it with no other form of playing as feeding it or putting it to sleep. She vocalized an /a/ sometimes when playing. When the signs were introduced (colors, shoe, do you want, another one, eat, drink, shoe) on the end of the first day, she used in a meaningful way (pink and shoe – as an answer). As the therapies continued she used more signs as: “I want, another one, to sleep, to play, blue, orange, white, yellow, to eat, dog” and other operative words in situations that the signs were appropriate. The vocalizations were used as a clue in front of the mouth to show the form of the mouth for phonemes /a/ and /u/ and /i/. She began to imitate these vocal sounds after 2 months. The phonemes /p/ and /s/ were introduced and she started to use then. The symbolic game developed to a more sophisticated form. Another behavior could be observed: on the beginning she used to accept almost everything that was proposed to her, making just few choices. After 2 months she began to show what she wanted and to interact in a very meaningful way, even showing tantrums sometimes.

### CONCLUSION

the work with signs showed to be very helpful to develop language in the first steps in both ways: signed and oral. The development of the oral mode seems to show that the use of signs promote the activation of the articulation in a way that must be better understood. Early stimulation in children with complex communication needs, specially using AAC, may influence and develop language. So, continued researches in this area may show better interventions and support for children, their families and mainly for the speech language pathologist therapy.



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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Personal Experiences and Preferences

## **Language Intervention for Children who Use AAC**

**Gloria Soto**

Children with motor speech difficulties who use AAC commonly use limited grammatical structure in their everyday interactions. This includes difficulties with basic sentence constituents, pronouns, verb form elaboration, negative and interrogative sentences, noun phrase elaboration, and complex sentences. This workshop will describe: (1) core aspects of language development for children who use AAC; (2) key aspects of theory linking language acquisition to language use through interpersonal interaction; (3) characteristics of AAC-mediated interactions and its features that may support or restrict language learning opportunities; and (4) discuss principles and practices of discourse-based language intervention for children who use AAC.

### **AIMS**

The aims of the workshop are to:

1. Outline issues concerned with language development for children using AAC
2. Describe key aspects of theory linking language acquisition to language use through interpersonal interaction
3. Outline the characteristics of AAC-mediated interaction and its features that may support or restrict language-learning opportunities
4. Discuss principles and practices of discourse and narrative-based language intervention for children using AAC

**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Research Evidence

**SUBMISSION ID 1435**

Interactive (240 minutes)

## LEAD Workshop

**Lateef McLeod**

The ISAAC Lead Committee is hosting a four hour workshop during the 2018 ISAAC Conference where People who use AAC and desire to become leaders will learn about leadership and Dare to Lead. Participants will be selected to develop a plan for turning their proposed visions into future realities. Initiating their journey to become leaders locally, nationally, and internationally at ISAAC.

**Evidence Area:** AACcess the community, AACcess employment, AACcess culture

**Content Focus Area:** Personal Experiences and Preferences

## **Learning head-tapping, eye-gaze and PODD: A Catholic high school's response to communication access**

**Max Price | Frankie Roberts**

Accessing mainstream schooling with a disability can be difficult enough but for a 13 year old with severe cerebral palsy and communication access needs it required new ways of thinking and adapting. “supporting students who use AAC in inclusive classrooms continues to pose unique challenges for educational teams.” (Chung and Douglas, 2014). The school, BlackFriars Priory in Adelaide South Australia was aware of the complexity of incorporating a student with unconventional communication methods into this mainstream, high school environment. It anticipated risks and the likely potential of set-backs along the way.

In addition to curriculum and learning access problems that would be required to overcome, the school also recognised the potential social consequences for this student. As revealed by Raghavendra et al., (2012); Thirumanickam et al., (2011) children using AAC have fewer friends and acquaintances than their peers without impairments and reported higher levels of loneliness. It would require the commitment of a school to address barriers for this student and to learn new ways of doing things; new ways of communicating Blackfriars Priory School (BPS) is founded upon a philosophy of valuing diversity, welcoming students from a variety of background, yet up until now the exciting world of AAC has remained largely outside of the experience of the school.

This presentation reports on how the school supported the transition of a 13 year old student (and his different ways of communicating) into BPS. It describes the strategies used by the school to learn AAC as well as the successes, difficulties and problem solving experienced along the way. It reports on the functioning of the team (teachers, family, speech therapists, education support staff, mentors and peers) who in driving this process have not only worked to break down communication barriers for an individual student but have shaped new insights into communication for an entire school community.

This presentation aims to send a message of encouragement to other mainstream private schools who have yet to experience notions of communication access.

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**Evidence Area:** AACcess language and literacy, AACcess education, AACcess diversity, AACcess relationships

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

# Learning to Use Twitter Strategically and Safely: An Evidence-Based Training Workshop

**Bronwyn Hemsley | Simon Stevens | Sarah Ezekiel**

## **RATIONALE:**

Twitter is an important social media platform for information exchange and solidarity, particularly for minority groups; and is an important communication technology for people who have complex communication needs (Brunner et al., 2015; Hemsley et al., 2014, 2015, 2016, 2017). However, people with communication disability are under-represented on the platform (Media Access Australia, 2012), and the Twitter networks of people who use AAC networks are relatively small (Hemsley et al., 2015). Furthermore, there are potentially additional risks to safety online for people with communication disability as a result of their communication impairments and reliance on third parties for access to the internet and social media (Hemsley et al., 2017). As such, training on the use of Twitter is indicated for both people who use AAC and their supporters (Hemsley et al., 2014, 2017). If people who use AAC are to be included in public discussions about AAC in Twitter, it is vital that they are supported to do so safely and have ways to manage the roles of third party supporters (e.g., family members, support workers, friends).

## **AIMS:**

The aims of this workshop are to:

- (a. increase the confidence and competence of people who use AAC in using Twitter strategically, alongside their family members and people who work with people who use AAC; and
- (b. establish a thriving and responsive AAC network in Twitter that is information rich and inclusive.

## **FORMAT**

- . This workshop will involve face-to-face interactions, coaching and demonstration, active participation (tweeting), and ongoing interaction in Twitter following the workshop.

## **LEARNING ACTIVITIES**

1. Networking the participants in Twitter, by sharing of Twitter handles for increasing the mutual following/follower networks. This will create an instant 'virtual classroom' in Twitter and promote ongoing follow-up to the activities presented. The hashtags #TweetReach #ISAAC2018 will be used to promote development of a Twitter network of people who use AAC for continued networking and support into the future.
2. Group instruction on ways to compose tweets that maximise the reach and impact will increase the visibility of this group of delegates in a variety of Twitter communities. Good Twitter networking practices will be explained so that delegates are well aware of the rationale for these and ways to remove barriers to and enhance facilitators for effective communication in Twitter.
3. Learning how to use the 'Twitter search' feature effectively for finding novel information quickly and leveraging this on other social media sites. Delegates using Twitter will learn how to integrate tweeting with their other social media platform habits, so as to sustain their Twitter activity and establish a responsive and dynamic network.
4. Safe and enjoyable use of Twitter. Strategies for maintaining good 'social media hygiene' will be explained and demonstrated (e.g., regular logging in, password management, filtering content, responding to threats to social media safety as they arise).

## LEARNING OUTCOMES

Workshop participants will be able to:

- (i. identify and re-create the structural components of a tweet that enhance its reach and visibility in a large Twitter network;
- (ii. tweet strategically for a range of purposes;
- (iii. use conversational tweets for engagement and impact to support development of a responsive network; and
- (iv. identify and manage the potential risks to personal safety in Twitter, including reputation management for the safe and enjoyable use of Twitter;
- (v. know strategies for reducing risk and enhancing social media safety, including managing the role of third parties for access to the internet and social media.

This workshop will not only support individual delegates, but also represent an investment in terms of the use of Twitter as a forum for exchanging information on AAC.

## REFERENCES

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**Evidence Area:** AACcess diversity, AACcess justice, AACcess culture, AACcess relationships, AACcess social media

**Content Focus Area:** Research Evidence, Professional Practice Evidence, Personal Experiences and Preferences

## **Let's go – castle**

**Noah Nemec**

Let me tell you about my biggest adventure – to the castles in Germany In 2016, I went overseas with my family and some friends. Here are some places I went to.

ITALY:

Italy was beautiful! I saw lots of sheep. Have a look at my photos!

I called my friends on Skype to show them.

We went to the Italian golf tournament in Monza.

GERMANY:

Germany was beautiful! It was so awesome that I took lots of photos. Let me show you how beautiful it was. I think its funny that the castles are so old. The castle tours were really cool. The moats were my favourite. The moat stops the evil people getting in. Let's go to the castles in Germany again!

Here's a video that I made about my trip. I hope that you enjoy it.

Thank you for listening to my presentation about my trip.

**Evidence Area:** AACcess culture

**Content Focus Area:** Personal Experiences and Preferences

## **Literacy for all. Beginning our journey, building language, creating shared vision, whole school AAC approach.**

**Joanna Pickering**

This Presentation will use our School's example of professional practice and experience of a whole school approach to AAC from the perspective of the Pedagogical Coaches. We are a large special school catering for students from early childhood through to year 12 who have been verified with an intellectual disability. We have a diverse range of students, many of whom have Complex Communication Needs (CCN) with no identified Augmentative, Alternative Communication (AAC) system.

Why did we embark on this journey? Ultimately, "Because no student is too anything to learn to read and write" (Yoder 2000). Our Deputy Principal ignited the spark within the school community to create a common understanding of language acquisition and a shared vision to ensure Literacy for all. We began to walk the journey of implementing a whole school approach to AAC together with the belief that it would change the lives of our students for the better and not forgetting, Communication is a human right (UN Universal Declaration of Human Rights 1994).

Coaching is the vehicle we have used to implement change and improve our understanding of language acquisition, AAC and practice from within. Initially three teachers, including myself, stepped in to pedagogical coaching roles focussing on our Junior to Junior Secondary sections of the school. These coaches are our change makers using evidence informed strategies that encompass the Identify, Learn, Improve Cycle (Jim Knight et al 2015) specifically focussed on literacy and communication development for students with CCN supported by the research and work from experts in the field, Erikson, Kopenhagen, Clendon and Farrall. The coaches attend regular coaching clinics and along with a group of colleagues, attended a week long Literacy Intensive with Speech and Language Pathologist's and Literacy Consultants – Jane Farrall and Sally Clendon. I also attended a two day PODD workshop and follow up two day workshop with Gayle Porter.

The coaches have worked alongside colleagues in partnerships and have not 'told' classroom teachers what to do. They have modelled AAC as whole language systems; particularly within a Balanced Literacy Diet (Erikson and Kopenhagen 2007) as this is the perfect opportunity to demonstrate the power of AAC for students with CCN. It is also the perfect opportunity for the use of Aided Language Stimulation, proven to be an effective way for children to learn the use of their AAC Systems (Burkhart, Porter 2000) and (Binger, Maguire-Marshall and Kent-Walsh 2011).

As a part of our journey we have established Professional Learning Communities providing a platform for teachers to build and share knowledge around evidence based practices with a particular focus on language and literacy. The opportunity for professional dialogue and joint data analysis has been embraced by all. Through the PLCs' moderation of core aspects of the P-2 Literacy Continuum and the Developmental writing scale (Janet Sturm), we have begun to see improved student outcomes. The school has also developed a whole school literacy and communication policy enabling the community to 'own' our focus and set future goals for our continuing journey.

This presentation will illustrate strategies we have used to create a shared language of our students' literacy and communication needs. It will show the use of data to describe where our students are on their literacy journey, emergent, transitional or conventional and use of aided language stimulation to not only help students use their AAC but to assist in their literacy growth. The presentation will include opportunities to view the beginning use of rich language environments and use of robust AAC systems throughout the school.



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David Yoder, DJI-AbleNet Literacy Lecture, ISAAC 2000

**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Professional Practice Evidence

## **Louis's literacy and communication journey evidenced in a whole school approach**

**Liesl Harper | Phillipa Tonkin**

This presentation explores how one special school has developed a whole school approach to teach communication to students with multiple disabilities and complex communication needs (CCN). In this whole school approach, the students in the special school receive support for their receptive and expressive communication through language immersion using Augmentative and Alternative Communication (AAC). The development of individualised communication systems for this group of learners is challenging, time and resource intensive. In response to these challenges, the school is continuing to establish best practice communication interventions so that students can access the curriculum and show their learning.

A consideration in the development of a whole school approach is the need to establish individualised AAC systems for students. There are three main barriers to establishing individualised AAC systems: – i) access to highly skilled speech language pathologists, ii) time required to assess, determine and trial the most appropriate AAC approach and iii) training of students and communication partners in the specific communication system (Beukelman & Mirenda, 2013; Light & McNaughton, 2014; Norburn, Levin, Morgan, & Harding, 2016). This whole school approach acknowledges the need to train teachers in AAC and that teaching literacy provides naturally occurring communication opportunities. Additionally, the school has developed a communication policy which supports the schools 'Explicit Improvement Agenda'. The focus of the explicit improvement agenda is 'communication to build literacy and numeracy'. Therefore, the school has developed four communication levels which describe the interventions required for each student to progress their communication so that they can access learning.

Accordingly, this presentation will focus on the attributes of the whole school approach defined as: the education environment; whole school practices and a case study that will showcase these attributes through one student's journey with communication and literacy.

### The Education Environment:

- . Professional development in AAC and Balanced Literacy for all staff
- . Curriculum meetings with families prioritise communication
- . Leadership meets with teachers regarding planning for curriculum and communication
- . Parent training for communication
- . Whole school approach to language immersion using AAC
- . Students individual communication systems are recognised as the student's voice and are used for communication and learning

### Whole School Practices:

- . Master teacher – Literacy and AAC – working in classes using an instructional coaching approach
- . Master teacher – PODD and communication – working in classes using an instructional coaching approach
- . Personalised Communication Information (PCI) page for every student, updated twice a year
- . School data wall which shows the communication interventions for every student and relates this to their level of literacy attainment e.g. emergent or conventional
- . Communication is the first agenda item on leadership meeting and staff meetings

- . Meet regularly with SLP's to prioritise and discuss student communication
- . Meet with families and SLP's to discuss shared goals
- . Communication partners model to build receptive language/ comprehension using PODD or P2Go if the students don't yet have an individualised system
- . Our strategic focus for the school is "Communication to build literacy and numeracy" – this informs all decisions made
- . School communication plan is shared with families and SLP's

**CASE STUDY:**

This case will present:

- . Student profile, "Who is Louis?"
- . Communication profile – Personal Communication Information (PCI) page, video and photo evidence showing progress from a whole school communication system to an individualised AAC system.
- . Literacy profile – literacy work samples, video and photo evidence showing the use of AAC to support literacy learning.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Professional Practice Evidence

## **Mastered PECS – What’s Next: Transitioning from PECS to SGDs**

**Sophie Kerr | Lori Frost | Andy Bondy**

The Picture Exchange Communication System® (PECS®) is an evidence-based augmentative/alternative communication system that is often chosen as a communication intervention for learners with autism or other complex communication needs who are not developing spoken communication. Speech language pathologists and other clinical/educational service providers often plan to transition from PECS to a speech-generating device (SGD) for long-term use after learners successfully progress through the PECS protocol. Possible transition to a device may be recommended for learners who do not develop speech following extended use of PECS and complementary intervention efforts. This seminar will provide recommendations for best practices associated with this transition. We will begin with an assessment of the learner and device selection prior to the transition from PECS, discuss intervention planning and conclude with a review of the factors necessary for the learner’s successful independent use of the SGD.

When considering adopting or transitioning to a new communication modality, it is important to consider the definition of communication. Communication involves behavior directed to another person who then mediates access to a reinforcer, which may be tangible (e.g., an object or activity) or social (e.g., shared attention). Of particular relevance to individuals with autism or other complex communication needs, communication must be initiated spontaneously and completed independently in order to be effective in real world contexts. Students are taught these foundational communication skills first via PECS prior to later transition to SGDs.

As a general guideline, we recommend that individuals not be transitioned from PECS to an SGD until they have mastered Phases I through IV of the standard PECS training protocol. Completion of PECS Phase IV ensures mastery of many basic communication skills including.

- Persistence in identifying and approaching communication partners across environments
- Discrimination between 20 pictures in an array
- Navigating from page to page while building a Sentence Strip™
- Pointing with index finger to individual pictures during Sentence Strip exchange

As part of the transition, teams should collect a PECS Language Sample which specifically includes: (a) total number of pictures currently used, (b) average number of pictures used per sentence, (c) longest picture sentence used, (d) frequency of PECS or other no-tech communications produced across the day, (e) rate of spontaneous versus prompted uses of PECS communications, and (f) average time or number of steps needed to complete a PECS-based communication exchange. Careful analysis of this information is required in order to determine which SGD best matches the student’s specific skill set.

In any communication transition, the responsible team has an ethical responsibility to plan the transition in a manner that ensures that the individual does not lose any current communication capabilities. This is particularly true for individuals who have only a limited repertoire of functional spontaneous communication skills. Given that individuals with autism experience significant difficulties with pragmatic aspects of communication, and particularly social-communicative approach, it is critically important that portability issues do not interfere with continued communication or reduce communication opportunities for the learner. As such, teams should directly compare the features of the SGD with the current PECS skills of the individual. In so doing, we are specifically determining whether and how the SGD has the capacity for both providing the learner with a means to rapidly transfer existing communication skills for use with the SGD and continue to expand his or her functional communication and language skills.

Once the appropriate device has been selected and device features have been customized specifically for the student, lessons regarding teaching the student appropriate device usage should begin. Transitioning the learner's PECS skills to the SGD will require time and carefully planned lessons. Merely presenting the learner with the device and demonstrating its use is not sufficient. In using these evidence-based and data driven analyses, teams will ensure that all learners reach their highest level of communicative competence.

**Evidence Area:** AACcess education

**Content Focus Area:** Professional Practice Evidence

# Measuring Early Language Comprehension: Strategies, Technologies, and Challenges

MaryAnn Ronski | Nancy Brady | Rose Sevcik | Evelyn Fisher | Kristen Muller Muller

Language comprehension skills are an early marker of risk for the development of expressive language skills including through augmented means. Identifying the comprehension skills of young children who are not speaking is essential to developing targeted early language interventions. The aim of many intervention programs is to improve language outcomes including both expressive output and comprehension. In addition, language comprehension frequently correlates with other cognitive measures and has been viewed as a proxy for general cognitive development for difficult-to-test children.

Currently, however, available methods often do not yield clinically useful comprehension measures for many individuals. Testing stimuli and response requirements for available tests lead to scores at floor levels for far too many individuals. These individuals often appear to comprehend many aspects of language according to familiar caregivers and other communication partners. This poster presentation will review methods that have been employed to measure early language comprehension, describe innovative methods to measure early stages of comprehension in children who are beginning to use AAC, and discuss related challenges.

## METHODS TO MEASURE EARLY STAGES OF COMPREHENSION

Traditionally, many existing tests measure early comprehension. Their use with children who are not speaking is often problematic because they rely on caregiver report and/or too few items administered at early stages. We will review an optimal set of test items from existing measures selected based on past research with children with developmental delays (Brady, Thiemann-Bourque, Fleming & Matthews, 2013; Ronski et al., 2010), including the Clinical Assessment of Language Comprehension (CALC, Miller & Paul, 1995); the MCDI (Fenson et al., 2008), the receptive communication scales from the Vineland adaptive behavior scales: Vineland II (Sparrow, Cicchetti & Balla, 2005) and the Mullen Scales of Early Learning (MSEL, Mullen 1995).

## STATISTICAL AND TECHNOLOGICAL INNOVATIONS

There are many possible contributing factors in obtaining a valid comprehension score. The measurement of language comprehension can also be improved by optimizing the psychometric properties of individual items on existing tests. This is accomplished by applying item responsive theory (IRT) in the development of measures. IRT is defined as a group of probability models that specify the relationships between individual test items and a latent trait. IRT tools can be used to 1) evaluate the appropriateness of items for a given population, 2) maximize time efficiency by including only items that are valid and reliable, and 3) reveal information about the relative difficulty of skills tested in each item. We will describe a study by Fisher, Ronski, and Sevcik (2017) that is exploring the use of IRT with several measures of language comprehension in a sample of 113 toddlers with significant developmental delays.

When children cannot point to stimuli, another approach is to track eye movements to assess comprehension of object names. Brady et al (2014) examined use of eye tracking with children with autism and found that eye gaze was a reliable indicator of vocabulary comprehension. We are currently investigating eye tracking with real objects. An innovative technology-enhanced eye gaze measure using external cameras developed at the Georgia Institute of Technology by Rehg and colleagues will be applied in order to reduce the coding time required to measure gaze to objects—an indication of implicit comprehension used in previous research.

## CHALLENGES TO MEASURING LANGUAGE COMPREHENSION

There are still many challenges that lie ahead to adequately assess early language comprehension, including moving beyond vocabulary comprehension. The methods presented in this poster provide preliminary evidence for enhanced methods of measuring comprehension in individuals with complex communication needs

**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence, Research Methods and Theories

# Measuring Outcomes of Robust Aided Language System Implementation with Young Children

Tasha Haran | Gayle Porter

## BACKGROUND INFO

Aided language stimulation techniques are the recommended intervention strategy to develop children's autonomous communication using a PODD communication book (Porter, 2007). The opportunity to experience aided language mode used by others during genuine interactions is regarded as a necessary component of a dynamic assessment process (Goossens', Crain and Elder, 1992; Porter, 2007). Children cannot be expected to demonstrate the ability to use a language that does not naturally exist, which can be further complicated for children who have significant sensorimotor challenges as their ability to produce the facial expressions, body/eye movements, gestures, vocalisations and speech typically relied on in communication assessment is compromised by their movement challenges. These children need to be taught movements to communicate using AAC in order to discover their underlying potential.

Over the last three decades, Cerebral Palsy Education Centre (CPEC) staff developed a parent and child program that incorporates learning movements and the use of aided language stimulation techniques in natural environments. This includes parent education sessions and transdisciplinary group programs, in which aided language stimulation techniques using activity specific displays, PODD communication books and speech generating devices are taught to the families. Over the years, there has been clinical and personal evidence of the effectiveness of the program and collaboration between staff and families to refine and improve the program. Measuring quantitative evidence of this has been more complex.

## AIM

The objective of this project was to measure the communication outcomes of the CPEC program for children with movement challenges and complex communication needs. Measurements focused on the reported functional use of communication in daily life.

Another aim of this study was to gain parental feedback on the elements of the intervention program that supported their implementation of aided language stimulation, advice for improving the program, and suggestions for other families beginning on this journey.

## METHOD

All of the subjects attended the parent and child programs at the Cerebral Palsy Education Centre (CPEC). Data was collected at year intervals using the following measures:

- . The Pragmatics Profile of Everyday Communication Skills in Pre-School Children (Dewart & Summers, 1995). The answers to the communication functions section were further rated according to the independence of the modality used to express each function using a 5 point scale (Porter & Iacono, 2007).
- . Communication Matrix
- . Parent questionnaire

The Pragmatics Profile was administered by a speech pathologist with a parent of the child learning to use AAC. This assessment was completed again at the end of the first year of attending the CPEC group program. Parent questionnaires were completed at the end of the first year in the program.



## **RESULTS**

The data collected displays an improvement over time in the use of language to communicate a variety of functions. All children assessed rated higher generally across the communication functions measured in the Pragmatics Profile in their assessment at the end of the first year at CPEC. Some children assessed moved from using only informal communication methods, such as undirected vocalising, to using whole word modes across a variety of functions.

The parent questionnaires provided information regarding what supported their learning the best, as well as the supports and barriers to learning to implement AAC in their environment.

## **CONCLUSION**

Language development of children with CP using AAC has not been widely documented. Current research in the area indicates that language acquisition is most successful when used in natural contexts and routines, at home, school and in the community. This is reflected in the data collected from the assessments. Further data collection in this area will allow for a more longitudinal insight into the outcomes of implementing AAC with children with CP.

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**Evidence Area:** AACcess the community

**Content Focus Area:** Research Evidence

# Measuring the Efficacy of a Teacher Training Program to Promote AAC Use in Inclusive Preschools

**Michelle Schladant | Monica Dowling | Sarah Messiah | Ruby Natale**

There is growing data that AAC improves early literacy outcomes for young children with disabilities (Light & McNaughton, 2012). However, there is an urgent need for evidence to better understand how to use AAC in everyday settings with natural communication partners (Ganz et al, 2017). There is also a need for tools and methods to assess the classroom environment as it relates to the integration of AAC. Step Up AT is an innovative project with an integrated online toolkit designed to train teachers in preschool settings. Specifically, teachers are trained to adopt evidenced-based AAC and related practices to support early literacy experiences for young children with disabilities. The Step Up AT online toolkit extends beyond traditional professional development practices (in-services and workshops) by including coordinated coaching and multimedia resources that teachers can access on mobile devices “anytime, anywhere.” This project is funded by the U.S Department of Education Office of Special Education Stepping Up Technology Implementation Grant. Using information obtained during the year one development phase, this presentation will discuss implementation, methods, and initial findings with particular attention devoted to the outcome measures used to assess the availability and use of AAC in naturalistic settings. Measuring AAC outcomes in everyday contexts can be particularly challenging for researchers and practitioners.

In this presentation we aim to:

1. Describe elements of the interactive online toolkit to train teachers on the integration of AAC practices in an inclusive preschool setting.
2. Explore the usefulness of two measures to assess AAC use and implementation.
3. Discuss key findings and relevance for children with disabilities in inclusive settings.

## **METHODS:**

The Step Up AT pilot was a 24-week preschool-based intervention aimed at increasing teacher use of AT, including AAC methods, tools and strategies. Participants included 10 teachers, 10 teacher aids, and 22 children ages 3 to 5-year-old with disabilities (n=23). All participants, including the teachers, teacher aides, children and their primary caregivers, identified themselves as Hispanic. Teachers were instructed to view four online interactive training modules (available in English and Spanish), one of which was specifically devoted to AAC. Each module contained two narrated videos, interactive problem solving activities, and a quiz with immediate feedback. Furthermore, teachers received 12 coaching sessions (3 per module), targeting AAC and related AT strategies. All classrooms received a large kit of AT materials that included a variety of AAC devices with corresponding demonstration guides. Qualitative results included findings from a teacher focus group discussing benefits and challenges of participating in the project. Quantitative measures included an observational checklist of AAC use during literacy activities in the classroom created as part of the project, and the Inclusive Classroom Profile (ICP, Soukakou, 2016), a psychometrically sound measure for rating inclusive practices including those that fall within the purview of AAC (e.g., alternative means of communication, supports to facilitate communication, strategies for oral language development). The Support for Communication domain assesses the quality of supports for encouraging and supporting children’s language and communication skills, including scaffolding strategies, use of AAC and visual supports.

## **RESULTS:**

Qualitative analysis showed that participation in the Step Up AT project resulted in increased usage of AAC and visual supports. Teachers also felt more comfortable with using AAC tools and strategies. Quantitative results

showed that child AT use of communication devices, visual supports, visual schedules, and iPads with accessibility features, and learning applications

significantly increased from pre (0%) to post (62%) Step Up AT project participation ( $p < .0001$ ). ICP findings showed improvement in all domains assessed (adapting space, adult-child relationships, supporting communication, adapting group activities, facilitating transitions), although only communication was statistically significant ( $M = 3.30$ ,  $SD = .675$ ) to post-test ( $M = 5.70$ ,  $SD = 1.57$ ),  $t(18) = -4.48$ ,  $p < .001$ .

**CONCLUSIONS:**

Findings from the year one pilot show that teacher training and ongoing coaching can result in an increase in the use of AAC in the classroom during early literacy instruction. In addition, the ICP is a useful tool for assessing the quality of supports including AAC for encouraging and supporting communication skills.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence, Professional Practice Evidence

## **Mental Health Matters: perceptions of people with complex communication needs regarding mental health and wellbeing**

**Eleanor Watson | Pammi Raghavendra | Ruth Crocker**

Mental health and wellbeing are foundational in human interaction, societal contribution, self-determination, regulation of emotional states, and life satisfaction. The World Health Organisation (WHO, 2016) identifies that the conditions for optimal mental health and wellbeing are a fundamental right to be afforded to all citizens of all nations. As a UNCRPD ratifying nation, Australia has multiple legislative documents and policies pertaining to equitable access to community-based health services for people with disabilities. However, people with complex communication needs continue to face disadvantage in accessing support to address issues of mental health (Di Marco & Iacono, 2007; Foley & Trollor, 2015).

Research in this area is extremely limited, with existing literature presented as practice guidelines, providing strategies to assist mental health practitioners to engage with people with complex communication needs (Foley & Trollor, 2015; Hagiliassis et al, 2006). To date research has not explored the experiences of people with complex communication needs when accessing support for their mental health and wellbeing. Hence, this project investigates the lived experiences of people with complex communication needs in identifying the common facilitators and barriers that present when they seek to address mental health and wellbeing.

### **AIM:**

This research aims to:

1. explore the views and perceptions of people with complex communication needs regarding mental health and wellbeing.
2. identify the facilitators and barriers that people with complex communication needs experience when attending to their mental health and wellbeing.

### **METHOD:**

This qualitative research project utilises the phenomenological approach described by Liamputtong (2013) to ensure a sensitive approach to research with a population at risk of social marginalisation. The study purposively recruited three participants over 18 years of age, who identified as experiencing complex communication needs, were willing to discuss mental health and wellbeing, and had an AAC system that would enable them to provide in-depth information in a semi-structured interview. Further to these inclusion criteria, a brief binary response questionnaire was given to confirm participants' understanding of their rights and responsibilities in the research process.

The researcher met with participants in 1.5-3 hour interviews over 1-3 sessions. Participants were asked to explore their unique perspectives on mental health and wellbeing. Participants used a range AAC methods to communicate their responses to the researcher during interviews. These included typed text via Skype, communication boards, speech generating device, key word sign, gesture (with communication dictionary) and one communication assistant.

An iterative approach to data analysis allowed identification of themes relating to the barriers and facilitators present in the described interactions between people with complex communication needs and family, friends, professionals, services and systems that assist them.

**RESULTS:**

The data provided by the participants was analysed and presented as individual case studies, then combined through a process of multiple case analysis exploring common experiences and perceptions. The multiple case study analysis revealed themes relating to:

- . The role of everyday communication partners in enabling mental health and wellbeing.
- . The impact of self-determination on mental health and wellbeing.
- . The importance of purpose and belonging in sustaining mental health and wellbeing.
- . Limited access to formal mental health supports.
- . Use of online environments to address mental health and wellbeing.

The barriers and facilitators identified through data analysis were presented using Beukelman and Mirenda's (2013) Participation Model. The model's domains of knowledge, skill and attitude were explored with a specific focus on access to supports for mental health and wellbeing.

**CONCLUSION:**

The presentation will expand on the views and perceptions of and the facilitators and barriers faced by people with complex communication needs regarding mental health and wellbeing.

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**Evidence Area:** AACcess the community

**Content Focus Area:** Research Evidence, Research Methods and Theories

## Misguided Guidelines: Changing inappropriate educational policy for students with little or no functional speech

Chris Borthwick | Rosemary Crossley

This poster describes a case study in the use of AAC research to alter governmental educational policy.

Until 2017, the Victorian Department of Education and Training (DET) required students seeking assistance from the Program for Students with Disabilities (PSD) to attend a special school to demonstrate their eligibility by undertaking a psychological assessment using a standard intelligence test – specifically, as laid down in its Professional Guidelines (DET, 2016) using one of the Wechsler tests: the Wechsler Preschool and Primary Scale of Intelligence (WPPSI), the Wechsler Intelligence Scale for Children (WISC), or the Wechsler Adult Intelligence Scale (WAIS).

The Wechsler scales, however, require normal speech and manipulative skills, and many children, especially those with little or no functional speech (LNFS), cannot undertake them.

Early in 2016, a Melbourne AAC centre raised concerns about the Wechsler tests with the Department, citing the outcomes of clients previously assessed as having IQs <50 who had scored at average levels or above on standardised cognitive assessments not requiring speech .

The Department replied “Standardised measures are used ... for determining eligibility ... it is essential that procedures are consistent and variations in scores are not attributable to the use of different test instruments. In order to achieve this, a common test is needed. The Wechsler tests are recommended ... as they are a valid and reliable tool for the assessment of cognitive functioning of children and young people, including those with an intellectual disability ... “ (DET, March 7, 2016)

When reminded that tests could not be valid and reliable for people who were unable to access them, and when presented with

- (a. international research casting doubt on their use with this population (Dawson et al, 2007; Nader et al, 2016)
- (b. the Centre's continuing research showing extreme discrepancies between outcomes on speech-based and non-speech-based scales, the Department accepted that this policy was indefensible. The Department issued revised guidelines in May 2017 (DET, 2017) permitting the use of non-speech based assessment instruments, including those used at the Centre – the Comprehensive Test of Nonverbal Intelligence 2 (CTONI-2), the Peabody Picture Vocabulary Test 4 (PPVT4) and Raven's Progressive Matrices (RPM).

However, many problems remain. The change has not been widely publicised, and parents, teachers, and even many psychologists and AAC practitioners are not aware of it. Few psychologists own, or have been trained in delivering, any non-Wechsler tests.

A more fundamental problem is that changing the assessment scales, or even the assessment outcomes, does not necessarily alter the educational provision available. Cognitive assessments are given to children who are already thought to have intellectual disabilities, often because they have LNFS. A high score on a PPVT4 or a CTONI-2 does not necessarily shift this mindset.

Victoria is proposing to move away from its current IQ – and diagnosis-based eligibility schemes to a more needs-based program for students with disability. Care must be taken that the removal of cognitive assessments from the system will not mean that a school faced with an LNFS student then simply relies on an eyeball assessment.

The AAC community must address these structural issues. We need

- . Consultation with AAC agencies before regional educational testing requirements are implemented;

- . Training for AAC professionals on assessment procedures;
- . AAC interventions for all children with LNFS before any cognitive testing takes place, to ensure that an appropriate test is used, and that the child has any necessary pre-requisite skills;
- . AAC practitioner involvement in all standardised assessments of students with LNFS.

The presentation will be accompanied by video of the administration of the standardised non-speech tests used at the AAC centre, as above.

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**Evidence Area:** AACcess education

**Content Focus Area:** Professional Practice Evidence

# Moving beyond object requesting with AAC: A communication intervention for children with autism spectrum disorder

**Kristy Logan | Teresa Iacono | David Trembath**

## **BACKGROUND**

Aided augmentative and alternative communication (AAC) systems have been shown effective in teaching children with autism spectrum disorder (ASD) to make object requests (Logan, Iacono, & Trembath, 2017). The successful outcomes of this research may relate largely to the preference of children with ASD for communication to regulate the behaviour of others using object requests (Shumway & Wetherby, 2009). In contrast, there has been a paucity of research focussed on socially oriented communication functions, such as commenting. As a result, little guidance can be found in the research evidence-base about how to incorporate AAC into interventions that teach a broad range of communication functions, thereby addressing aspects of communication with which children with ASD experience most difficulty.

## **AIMS**

There were two main aims of this research. The first aim was to investigate the effectiveness of enhanced milieu teaching (Hancock & Kaiser, 2006), a naturalistic, conversation-based intervention, paired with aided language stimulation, which involves combining visual-graphic symbols with spoken language models (Goossens, Crain, & Elder, 1992), to increase the range of communication functions produced by children with ASD who were minimally verbal. The second aim was to investigate whether parents could be taught to implement the intervention. Further aims were to determine the generalisation of findings, maintenance of intervention outcomes, and social validity of the intervention in terms of acceptability of intervention goals, procedures, and outcomes.

## **METHODS**

Ethics approval to conduct the research was obtained from the La Trobe University Human Ethics Committee. Parents provide written and verbal consent to participate and provided consent for their child. The child's assent to participate was also checked prior to and during each session.

Modified multiple baselines in the form of multiple probe experimental single case design were used to test the effect of the independent variable – aided enhanced milieu teaching (AEMT) intervention – on the dependent variable of spontaneous, unprompted, symbolic communication behaviours. Key features of the AEMT intervention were environmental arrangement, structured interactions, and a least to most prompting hierarchy. Two studies were conducted, with the researcher as the intervention agent in the first, and a parent delivering intervention in the second. Six children with ASD aged under 8 years, who met criteria for being minimally verbal, were recruited for the two studies. In study 1, 20 sessions of intervention were conducted at home during a 6-8 week period, after which generalisation of outcomes to an untrained partner, as well as maintenance of effects were evaluated. In Study 2, parents received 15 training sessions to implement AEMT over a 4 week period, with sessions included to address generalisation and maintenance. The social validity of outcomes in both studies was determined using a comprehensive parent survey, developed in consultation with AAC/ASD researchers.

## **RESULTS**

In study 1, treatment effectiveness was demonstrated, with participants increasing their use of symbolic communication as a result of the intervention. Social functions improved for one participant in particular, but were difficult to elicit spontaneously in the other two. Generalisation to untrained partners was demonstrated. In study 2, parents took on the role of intervention agent, and were taught AEMT strategies prior to each intervention session using a combination of discussion, modelling, and role play. They then implemented these strategies for 30



minute periods during their child's preferred activities. The results of both studies will be reported in the form of both visual and statistical (percent of all non-overlapping data) analysis.

#### **CONCLUSION**

Outcomes provide practitioners and parents with evidence to draw upon to enhance communication beyond simple object requests for children with ASD. The challenges experienced by the children in Study 1 speak to the need to incorporate a range of activities and specific environmental and teaching strategies to introduce greater variety and opportunities for more exemplars of social functions. The social validity findings also have implications for implementing the intervention in everyday situations.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence

# Multipurpose Handheld Devices and Communication in Individuals with Autism Spectrum Disorder: A meta-Analysis

Nouf Alzrayer | Devender Banda | Rahul Ganguly | Rajinder Koul

The development in the technology has permitted the use of tablets (i.e., Apple iPad, iPod Touch) for communication and social interactions. Lately, there has been a shift toward utilizing tablets as SGDs in individuals with communication impairments. Tablet-based SGDs have specific features that led to the frequent use of these devices in the AAC field, such as flexibility, availability, social acceptability, cost-efficiency, portability, and high quality (McNaughton & Light, 2013).

Recent systematic reviews show some common patterns about the effectiveness of utilizing tablet-based SGDs in enhancing social-communication skills in individuals with autism spectrum disorder (ASD; Alzrayer, Banda, & Koul, 2014). However, the majority of systematic reviews failed to utilize behavior-change indices, such as the percentage of nonoverlap data (PND) and percent of all overlapping data (PAND), that may provide unreliable results (Parker, Vannest, & Brown, 2009). Further, most meta-analyses (e.g., Stephenson & Limbrick, 2013) did not mention whether tablet-based SGDs are considered as an evidence-based practice for individuals with ASD and/or other developmental disabilities.

## AIM

In this presentation, we aim to answer the following research questions:

- . What is the effect size of using iPad/iPods with AAC apps in improving social-communication skills rigorous nonoverlap method (i.e., Nonoverlap All pairs-NAP) with confidence interval (CI)?
- . What is the level of evidence of using tablets as SGDs by individuals with ASD?

## METHOD

Electronic databases, ancestral, and hand search were used to located relative studies. The studies were included based on the following criteria: (a) the study must utilize single-case experimental design (SCED) that demonstrate functional relation; (b) at least one participant with a diagnosis of ASD must be included in the study; (c) the independent variable had to be handheld multipurpose devices with AAC apps; (d) social-communication skills (e.g., requesting, labeling, answering and asking questions) had to be the main dependent variable; (e) the studies had to be published in English in a peer-reviewed journal. The studies were coded based on participants' characteristics, experimental design, setting, intervention, teaching methods, target behavioral outcome(s), quality of the single-subject research based on the quality indicators suggested by Horner et al. (2005), and effect size of treatment(s).

## RESULTS

The systematic review identified a total of 29 studies that applied tablet-based SGDs as a single treatment or as a treatment package in 83 individuals with ASD. Per the effect size results, all AA modalities (PCS, MS, SGD) displayed medium effects in improving different social-communication skills in individuals with ASD. However, the average NAP value for the tablet-based SGD was higher ( $M = 0.90$ ) with narrow estimated intervals ( $CI_{95\%} = 0.84, 0.94$ ) compared to PCS and MS, which indicated more reliable and trustworthy effect size. Based on evaluating the quality of each study, all 29 were considered acceptable quality in accordance with quality indicators established by Horner et al. (2005).

## CONCLUSION

This review shows that using tablets as dedicated SGDs to teach social-communication skills was moderately effective in individuals with ASD. Per the evaluation of the quality of the studies, the use of tablets as SGDs should

be considered with caution. Hence, there is a need for studies with more rigorous methodological to establish tablet-based SGDs as an evidence-based practice.

The results of the review help guide future research in several directions to close the gap in the literature and to establish this practice as evidence-based. Future studies should investigate whether tablet-based SGDs are best suited for infants, toddlers, and adults with ASD with a wide range of autism severity. Another suggestion for future research is to transition from targeting simple requesting to more advanced and complex social-communication skills. Finally, the stakeholders' perspectives about the effectiveness and the acceptability of the tablet-based SGDs should be considered. Future research is recommended to examine the stakeholders' perspectives about the effectiveness, the need, and the acceptability of the intervention.

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**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Research Methods and Theories

## **My Desert Island Discs: Ten songs telling the story of my life and disability**

**Alan McGregor | Rolf Black**

In this presentation, the two authors Alan McGregor and Rolf Black will talk about ten songs and their impact on Alan throughout his lifetime. Alan was born with cerebral palsy and has no speech. Music always played a vital role in his life.

The talk draws some of its inspiration from the UK national radio programme “Desert Island Discs” which was first broadcast in 1942 and is still broadcast every week. During the programme a guest called “the castaway” chooses eight music recordings, a book and a luxury item, they could take to a desert island. They talk about their lives and the reason for their choices. Famous guests include Prof Stephen Hawking in 1992 who shared his experience of having no speech.

Alan has chosen these ten songs because they help him to express the feelings he has because he cannot talk.

“I love music and music helps me in my life”.

Alan used to go to the local disabled centre to write music back in 1989 and continued for 25 years. He would create the music on a computer and afterwards write the words. The music helped him to say things and eventually he created four CDs and loved making them. The music teacher helped by singing the songs.

“Music can create feelings, and say things, that you cannot say yourself. It can hold memories. It can remind you of a place or a time. Music is special to me as it helps me in my life. It is calming... and makes me feel happy. On days when I feel sad I turn on music and start to feel better. When I have had a difficult day trying to talk, music helps me then, as well, and calms things down.

“Back in the day I was frustrated and there were things I wanted to say and I wrote songs in order to say them.

“In my own music, the feelings I had then were like being in jail, a prisoner within myself, not able to speak. Writing the music helped me to release that feeling.

“Today I have my ten special songs for you. Each of the ten songs I have chosen tell stories about not being able to talk, disability and my feelings.”

The authors will explore Alan’s love for music in the form of a conversation interspersed with excerpts of the songs. This will be very personal and could be quite emotional for the audience as well because some of the songs describe some heartfelt feelings.

### **ALAN’S TOP 10 FAVOURITE SONGS FOR ISAAC**

(You can find the playlist for listening to the songs on our website: [aac.dundee.ac.uk/isaac2018](http://aac.dundee.ac.uk/isaac2018))

- 1: Power of music – Alan McGregor 1991
- 2: Living in hell – Alan McGregor 1991
- 3: It’s only love – Bryan Adams & Tina Turner
- 4: Keep talking – Pink Floyd
- 5: The last dance – Magnum
- 6: I want to break free – Queen
- 7: Don’t you forget about me – Simple Minds

8: Live to tell – Madonna

9: Strange – The Feeling

10: Paralympic games 3 bronze medals – Alan McGregor 1993

**Evidence Area:** AACcess culture, AACcess relationships

**Content Focus Area:** Personal Experiences and Preferences

# Naturalistic Speech Generating Device Interventions for Children with Complex Communication Needs

Cindy Gevarter | Claudia Zamora

Speech generating device (SGD) research for children with complex communication needs (CCN) has often focused on teaching early communication skills (e.g., requesting) in structured, de-contextualized, trial-based formats (Alzrayer, Banda, & Koul, 2014; Rispoli, Franco, van der Meer, Lang, & Camargo, 2010). It has been suggested that naturalistic interventions, which occur during everyday routines and activities, may be better suited to social-oriented AAC skills (Rispoli et al., 2010). There are several intervention approaches such as milieu teaching, partner-modeling, and peer-mediated intervention that occur in natural contexts. Given the different naturalistic approaches, understanding the specific intervention strategies (e.g., modeling, time delay) that are most often included in successful interventions has important implications for learners with CCN.

## AIMS

This presentation will describe the results of a systematic review which synthesized studies that have examined naturalistic SGD interventions for children with CCN. Specifically, the review aims to: (a) describe intervention strategies that are most commonly applied in studies with positive effects and minimal methodological flaws, and (b) examine the populations and outcomes for which these strategies have been effective.

## METHOD

Specific inclusion and exclusion criteria were used to conduct a systematic literature search. Studies needed to: (a) include at least one individual aged birth-21 with CCN, (b) utilize a single subject design, (c) teach SGD use via naturalistic intervention, and (d) include at least one outcome that evaluated SGD expressive communication in a natural context. Across studies, the following variables were coded: participant ages and diagnoses, types of SGDs (and prior use), routines and settings, SGD measures, intervention packages and strategies, results, and certainty of evidence. Results were coded using success estimates (Reichow & Volkmar, 2010), and the percentage of non-overlapping data (Scruggs, Mastropieri, & Casto, 1987). The certainty of evidence rating examined the presence of quality indicators adapted from prior AAC reviews.

## RESULTS

Thirty-two studies met criteria. Nineteen studies had positive results and at least a suggestive evidence rating. There were 83 participants. Preschoolers were included most commonly, and participants most often had a diagnosis of autism spectrum disorder (ASD), intellectual disability, or cerebral palsy. Participants with ASD were slightly less likely to participate in successful studies. The use of simplistic SGDs was most common across successful and inconclusive studies, but studies examining intermediate to advanced systems largely had successful results. Although participants with varying levels of SGD experience were included across studies, inconclusive studies were more likely to include participants without any prior experience. School was the most common setting and play was the most common routine.

Studies used a variety of titles to describe intervention packages (e.g., milieu teaching, interaction strategies), but certain intervention strategies were common across studies. These included (in order of most frequently to least frequently used): (a) creating and capturing communication opportunities, (b) providing feedback, (c) prompting, (d) modeling, and (e) training communication partners. In successful studies, the most commonly used strategies for creating or capturing communication opportunities were time delay, environmental arrangements and asking questions. The most commonly used feedback strategies included: reinforcement of a request, verbal praise, and expansions. Prompting included verbal, physical, and gestural prompts. Modeling more commonly involved SGDs than vocal modeling. Training most commonly involved peers or paraprofessionals.

## **CONCLUSION**

The 19 successful intervention studies provide support for practitioners to continue to utilize naturalistic methods for SGD instruction. Rather than adopting a particular intervention package for all learners, strategies that were common components of successful interventions in this review can be used as a “menu” from which to select elements that match the individual learner’s needs. For instance, specific strategies may be more appropriate for learners with limited prior experience. Researchers should conduct component analyses and comparative studies to elucidate critical intervention components for learners with different characteristics. Studies should also make greater attempts to include: (a) elementary and secondary aged participants, (b) parents and teachers as primary instructors, (c) home-based contexts, (d) social contexts beyond play, and (e) measures of spontaneous or unprompted responding.

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**Evidence Area:** AACcess education, AACcess the community, AACcess relationships

**Content Focus Area:** Research Evidence

# Navigation Ease and Preference of two Communication Applications

Daphne Hartzheim | Surani Nakkawita | Cara Tyson

Augmentative and Alternative Communication has become more and more accessible with the development of tablets and multiple applications. It is more acceptable to carry tablets around, changing the overall attitude towards alternative ways to communicate. There are a large number of applications on the market targeting alternate communication. Some apps are designed with a linguistic theoretical background in mind, while others are programmed with theories of motor planning. However, barriers to effective use continue to be present. One barrier includes the attitude of the user as well as people in the environment. Additionally, level of knowledge and skill in regards to programming and access can hinder successful use. Often it remains unclear as to which app might overcome these barriers. The aim of this study was to investigate how quickly an individual unfamiliar to communication devices would be able to navigate through two different types of systems. Further, our aim was to identify their preference of a software at the conclusion of the study.

## METHOD

After approval from the Institutional Review Board we recruited 10 adults, ages 20-30 years old. We will continue to recruit 20 more adult participants and 15 children, ages 8-16 years old, to join this study. Informed consent was obtained from participants. Individuals had to be unfamiliar with either system.

Prior to data collection, 20 words with high – and low-frequency occurrence were identified. Words included nouns, verbs, prepositions, and adjectives. We identified two communication apps (i.e. Speak for Yourself (SfY) and Proloquo2Go (P2G)) that are frequently used by speech-language pathologists with nonverbal children with Autism Spectrum Disorders or severe developmental apraxia of speech. Speak for Yourself is based on motor planning theories, while Proloquo2Go has a linguistic organization. Words were randomized for each participant.

Participants were asked to find words four times, twice using P2G and twice using SfY. The order of which app came first was counterbalanced across participants. Participants had 1.5 minutes to find each word at which point the next word was presented.

All sessions were video-recorded for reliability scoring. We recorded the time it took each participant to find the word, as well as how many touches it took to get to the target word. In conclusion, we interviewed each participant on their device preference.

## RESULTS

Thus far, results indicate no statistically significant difference in number of touches between the apps for the first time they are trying to find a word ( $F(18)=.990$ ,  $p=.067$ ). However, the second time around, it takes the participants significantly less touches to find words in P2G over SfY ( $F(18)=20.462$ ,  $p=.013$ ). This indicates a quicker learning in regards to number of touches for P2G. Meanwhile, there is a statistically significant difference between the time it took the participants to find the word during the first trial ( $F(18)=1.705$ ,  $p=.000$ ), as well as during the second trial ( $F(18)=4.296$ ,  $p=.000$ ). At times, participants did not find the word within 1.5 minutes, at which point the word was terminated. During the first trial, participants were more likely to find the word within the allotted time on the P2G app, as opposed to SfY.

Qualitatively, all ten participants indicated a preference for P2G due to ease of operation, categorization, logical organization and color coded layout. They stated being confused by SfY and that they did not like the layout or operation. The symbols used in this app appeared to not make sense to someone that has no experience with such a device. However, one participant articulated that it was convenient to be taken back to the homepage after a button was accessed.



## **CONCLUSION**

Using alternative communication is accompanied by several barriers. Overcoming those barriers is necessary for effective implementation of devices. One barrier is the attitude of an individual and their family towards the device and software. It is therefore crucial to include individuals in the decision-making process of which type of software to use. Otherwise, the device may end up on the shelf without being implemented.

Another barrier includes knowledge and skill level of the person helping with maintenance, set-up and programming. This can be anyone interacting with the user without prior knowledge of AAC. It does not have to be a therapist that might be familiar with different devices. First successes and ease of access and programming of AAC can increase later use. We established a preference for linguistically based systems such as P2G. Participants learned to navigate more quickly through the software and were more successful in finding target words.

**Evidence Area:** AACcess education, AACcess the community

**Content Focus Area:** Research Evidence

## Non-formal Activities for Inclusive Groups Of Students – Non4mal 4 All

Mariana Meran | Alina Stefania Tutu | Daniela Madalina Constantin | Daniela Cara | Nicoleta Mihaela Radu | Stephen von Tetzchner

In 1998, the European Ministers, in the final declaration of their 5th Conference, decided that non-formal education should be a priority working area in the Council of Europe's youth field. Considering non-formal education as a means of integration into society, the ministers called for recognition and valorization of the competences and qualifications acquired through non-formal education.

Through the years, non-formal learning and education were repeatedly confirmed as key priorities of the Council of Europe. In 2005, the European Ministers responsible for youths expressed once more that recognition of non-formal education competencies should be reinforced. In Agenda 2020, the Conference of Ministers highlights that recognition of non-formal education and learning makes a strong contribution to people's access to education, training and working life.

UNESCO (2005) views inclusion as a dynamic approach of responding positively to pupil diversity, seeing individual differences not as disabilities, but as opportunities for enriching learning. Social inclusion aims to empower disadvantaged and marginalized students to take advantage of global opportunities. It ensures that students, also those with no speech, have a voice in decisions that affect their lives and that they have equal access to education, social life and physical spaces.

Social inclusion means respecting everyone's rights and statute within a community. All persons should have opportunity to participate in a relevant way in the life of their community and enjoy equal treatment to others. Teachers, parents, communities, school authorities, curriculum planners, training institutes and educational entrepreneurs are among the actors who may be resources in support of inclusion.

During the years 2016-2018, Special School Saint Nicholas Bucharest, coordinates The Erasmus+ European Project "NON4MAL 4 ALL", in partnership with schools and NGOs from Norway, Portugal, Turkey, Estonia and Hungary.

### AIMS

- . Increase active participation of students with special needs in school life and social life through non-formal methods
- . Increase communication in participation for students using augmentative and alternative communication (AAC)
- . Enable teachers to use non-formal education methods and strategies to develop inclusive games that involve all students in the social group
- . Support inclusion of students with special education needs in mainstream schools

### OBJECTIVES AND METHODS

- . Create a course curriculum for training teachers in using non-formal activities and inclusive games designed for a heterogeneous group of students
- . Train at least 25 teachers from each site in using non-formal activities and inclusive games in the curricular and extracurricular activities
- . Exchange information about good practices of non-formal activities and inclusive games for supporting inclusive environments in schools
- . Create a guide book for best practice of non-formal activities for all, to inspire others to implement these strategies.

## RESULTS

- . Two intellectual outputs: A course curriculum for teachers and a guide book
- . A collection of inclusive games and non-formal activities, free to download from the project website
- . Sixty teachers certified with Europass Mobility Document in International Training Events
- . More than 150 teachers trained in using non-formal activities for inclusive groups
- . Two transnational meetings, five joint-staff training events, one blended mobility, one international conference, and more than six local dissemination sessions
- . Ten per month/partner, from month 7 to 20, more than 840 inclusive non-formal activities developed by all partners.

## CONCLUSIONS

At the end of the project, there will be innovative inclusive non-formal strategies supporting inclusion, improved teaching skills (formal and non-formal) of teachers, more open attitude of the whole community towards the inclusion of children with special needs into mainstream schools, more active and increased participation in curricular and extracurricular activities of the children with special educational needs (including children using AAC), increased parent and other stakeholder satisfaction regarding the quality of education provided in the inclusive schools, and use of the intellectual outputs by teachers, schools and NGOs.

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**Evidence Area:** AACcess education

**Content Focus Area:** Professional Practice Evidence

## Online information access by families using AAC: A new application for usability testing methods.

Kate Anderson | Adam Wilson | Joanne Watson | Veronica Halupka

Under the National Disability Insurance Scheme (NDIS), Australian parents of children who use AAC are expected to make complex decisions about technology, intervention, implementation, and service providers. Faced with these choices, parents have described a range of information, networking, and capacity building needs. Specifically, parents desire greater information around communication development, device maintenance and programming, home practice ideas, goal setting, and working with professionals (Anderson, Balandin & Stancliffe, 2015; 2016). Parents of children who use AAC have described several common sources of information including peers, formal training, and online environment such as websites, discussion boards, and social media (Anderson, Balandin & Stancliffe, 2015; 2016). Some parents were unaware or wary of online information sources, whilst others used them frequently and with confidence.

In general, health consumers and their families report a range of benefits to online health information access including privacy, convenience, and the breadth of available information (Roche & Skinner, 2009), yet it is important to note that not all information seekers benefit equally from online information, and not all online information is equal. Results from internet scoping research suggests that online information about AAC is heavily commercial, often lacks recognisable indicators of credibility, and may be irrelevant to an Australian audience (Anderson & Andres, 2016). In addition, it is not clear how families who use AAC access or appraise this information online. Given the importance of knowledge for informed decision-making by families, the current study aimed to explore the online search strategies and search experiences of parents of children who use AAC.

### METHOD:

The study combined literature review findings with new survey, interview, and usability-testing (UT) data gathered with Australian parents of children who use AAC. Usability testing enables the practical evaluation of new or existing tools, hardware, software, and online environments, from a consumer perspective (Dumas & Fox, 2009). In the disability field, UT is frequently used to evaluate the accessibility of websites or products but to our knowledge has applied to the process of capacity building or online information seeking by end-users with disability and their families. Nonetheless, UT can offer insights into the responses and decision-making processes of users in real time and can capture important information on barriers and facilitators for use (Dumas & Fox, 2009).

In our study, we employed the traditional UT method of “thinking aloud” to investigate the ways that parents use the Internet to seek AAC information and services and to solve assistive technology problems. We combined these with surveys and interviews to explore parents’ information-seeking behaviours, as well as the barriers and facilitators for information access online.

### RESULTS AND DISCUSSION:

We analysed the results thematically and mapped them against Moreville’s user-experience honeycomb model. Using this model, we explored seven facets of parents’ experience in accessing information online: findability, accessibility, usability, usefulness, credibility, desirability and value. In our presentation, we will highlight key barriers and facilitators to each of these usability elements. We will also showcase potential implications and directions for online capacity building and marketing in the field of AAC. Finally, we also encourage viewers to experiment with user-testing methods, and we will provide practical guidance for getting started with this approach.

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**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Research Evidence

# Optimizing Communication Outcomes for South African Children with Developmental Disabilities: The Role of Mobile Technology

**Juan Bornman | MaryAnn Ronski | Rose Sevcik | Marika King | Kerstin Tönsing | Refilwe Morwane**

Children with neuro-developmental disabilities (NDD), such as intellectual and developmental disability, autism spectrum disorder, cerebral palsy and other genetic disorders, are at extremely high risk for developing speech and language disorders. The disorders typically manifest early in development, often before the child enters grade school, and are characterized by developmental deficits that produce impairments of personal, social, academic, or occupational functioning, therefore not only negatively impacting on the child's growth but also on long-term development (Olusanya, Ruben, & Parving, 2006).

Two hundred million children with disabilities live in low and middle income (LAMI) countries including South Africa (WHO and World Bank, 2011). Yet, in these countries service delivery for children with a range of neuro-developmental disabilities and their families is negatively affected by critical barriers such as the fact that these children and their families often live far from hospitals where speech therapy services are provided, these families have diverse linguistic backgrounds and the few therapists have overwhelmingly large caseloads that result in reduced access to interventions (Kathard & Pillay, 2013; Ronski et al., in press).

Therefore, in order to optimize communication outcomes for South African children with neuro-developmental disabilities, a mobile health technology app was developed to provide culturally and linguistically appropriate communication intervention training for primary caregivers of these children. It is hypothesized that this mobile health technology app will enhance the speech-language therapy services that these children and their primary caregivers currently receive, positively impacting the children's communication development.

## **AIM**

In this presentation we will provide an overview of the development process for the app including focus groups and technology development. We will also present pilot data on the caregiver use of the app and changes in the children's language and communication development.

1. To develop a mobile health technology app aimed at primary caregivers with diverse linguistic and low literacy skills to provide increased intervention opportunities for their children and measure child-caregiver interactions, caregiver satisfaction with child communication, and child-related caregiver stress;
2. To improve caregiver and speech-language therapist satisfaction with child communication intervention;
3. To continue building the infrastructure for culturally and linguistically appropriate evidence-based practice for children with neuro-developmental disorders.

## **METHODS**

In order to develop the content of the mobile health technology app, two different 60 – 90 minute focus groups were held – one with primary caregivers and one with speech-language therapists. This methodology stimulated discussion and helped participants conceptualize issues in depth. This was followed by the development of content for the mobile health technology app by a diverse team of clinicians (speech-language therapists and occupational therapists with backgrounds in early communication, AAC and cultural and linguistic diversity) and software developers and engineers.

## RESULTS

The presentation will focus on the results from the focus groups, which suggested a 12-week mobile health technology app intervention for primary caregivers of children with neuro-developmental disorders that includes three topics, namely creating communication opportunities, modeling communication and responding to the child's communication attempts. Each of these topics has four strategies and five daily activities (e.g., mealtime, bath time, dressing, play with toys, play with books). The content of the app is applicable and deliverable in culturally and linguistically diverse settings and the development procedures, using a web-based approach, will be discussed. The specific operational requirements when developing an app as well as the technical decision-making processes will be described as a platform for interventionists who are also interested in developing apps. The results from implementing the app with a pilot group of participants will also be included.

## CONCLUSION

This study shows that mobile-health technology apps can enhance existing speech-language therapy services by equipping caregivers of young children with neuro-developmental disorders with culturally and linguistically appropriate early communication strategies. This enhanced early intervention approach can positively impact the speech-language services children with neurodevelopmental receive and enhance their subsequent growth and development. The results also show that that a caregiver-implemented mobile health technology app increases the caregivers' satisfaction with child communication progress.

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**Evidence Area:** AACcess emerging technologies, AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence

## **Outcomes of delivering a customised non-electronic communication aid service for children**

**Hilary Johnson | Georgia Burn | Katie Lyon**

Children with complex communication needs (CCN) in Australia can access funding for a limited range of Speech Generating Devices (SGDs) dependent on the cost of the device through state based electronic aids schemes. However, SGDs are not appropriate for all people with CCN. There is some evidence that for people whose speech does not meet their daily needs, they are more likely to access non-electronic rather than electronic communication aids (Russel & McAllister, 1995; Sutherland, Gillon, & Yoder, 2005). Although there is a non-electronic communication aids scheme for adults (Iacono, Lyon & West 2011), there is no customised non-electronic communication aid service for children with CCN. To investigate the outcomes of a children's service a six month pilot research study was undertaken.

### **AIMS**

The aim of the research was to evaluate the outcomes of a customised non-electronic communication aid manufacturing service for children. The research questions were as follows (a) Who applies for the aids? (b) What are the number and types of communication aids requested? (c) How efficient is the communication aid service? (d) When, where and with whom do children use their aids received through KidsChat? (e) What are the benefits/limitations of the communication aids to the applicant of the aid? and (g) How might the service be improved?

### **METHOD**

Approval was obtained through Humans Ethics research Committee of a non-government organisation. A mixed methods design was used. Outcome data was collected through an online survey (open to all applicants but completed by 16 applicants) to evaluate the efficiency of the service. In addition, telephone interviews of 20 purposefully selected applicants were conducted to understand the impact of the aids. Descriptive statistics were used to present the quantitative results from the online survey and telephone interviews. A content analysis was conducted on descriptive comments and themes identified (Patton, 2002).

### **RESULTS**

The project provided 100 communication aids to 36 applicants whose roles varied. Speech language pathologists (SLP) (n=28, 78%), family members (n=6, 17%), and others (n=2, 5%) applied. Of the 100 communication aids there were 51 PODD communication books, 20 communication books, 11 object symbols, 9 My Day books, 4 communication boards/Aided language displays, 1 Book about Me, 1 Key Word Sign book, 1 Talking Mat™, 1 "First and Then" visual support and 1 magnetic monthly/weekly picture based calendar. The on-line survey participants confirmed the efficiency of the service with the majority receiving their aids in under 4 weeks. The telephone interviews revealed the aids were used frequently (n=16, 80%) with the majority of children using it at home or at school. The benefits of service included the service saving applicants' time and increasing their knowledge of range of communication aids (n=15, 75%) with 13 (65%) indicating their knowledge of how to select appropriate aids and how to choose vocabulary had also increased. The provision of this service enabled children to (a) communicate expressively; (b) reduce frustration/anxiety; (c) be better connected between home and school; (d) benefit from a funded service; and (e) benefit from a customised aid. There were few limitations of the service reported, one of these being a suggestion that wider promotion of the service was needed, in particular to engage families.

### **CONCLUSIONS**

Both recipients and applicants were appreciative of the service. The quality and timeliness of the aids were praised by parents and Speech Language Pathologists (SLPs), with SLPs reporting being relieved of the burden of making aids and being able to focus more of their time on intervention. The manufacturing service increased



communication aid knowledge of the applicants. Research participants suggested some adaptations to improve the service that included increased service promotion and explanations of the range of aids available through multi-media options, information sessions and improved knowledge of apps available. Evidence based, time efficient services and information are essential to ensure all types of AAC aids are costed and funded.

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**Evidence Area:** AACcess emerging technologies, AACcess education

**Content Focus Area:** Research Evidence

## **Paper-Based AAC FlipBooks: When, How, Why do they matter?**

**Deanna Wagner | Caroline Musselwhite | Gretchen Hanser**

### **SUMMARY:**

In our efforts to offer access to robust dynamic screen vocabularies, sometimes we forget to slow down and offer explicit feedback for page-changing. Parallel use of a printed FlipBook shows what item to select BEFORE the page changes. Talk about what the symbols mean and predict what items are linked to a symbol on his/her high tech system. Use paper displays with multiple partners, in the pool, with a flashlight. Simulating Hide/Show, VocabularyBuilder, and Progressive Language, paper-based examples will be shown for focused instruction of specific target vocabulary. We will share resources for downloading pre-made displays and making them indestructible.

### **LEARNING OUTCOMES:**

As a result of this activity, participants will be able to:

1. Identify ways in which AAC devices, well-organized paper-based symbol systems, and thoughtful implementation techniques can work together to improve communication skills.
2. Discuss successful strategies and materials for design of functional paper-based support systems.
3. Describe specific examples of when/where paper-based symbol flip books are superior to high tech options.
4. Discuss issues regarding vocabulary development, language acquisition, and/or literacy as they relate to multi-modal symbol supports.

### **INTERACTIVE COMPONENTS:**

This session will share our strategies and stories about using paper-based displays in parallel with high tech systems. We are definitely not proposing that this would be a pre-cursor to high tech systems, but a strategy to supplement learning. If selected as an Interactive Session rather than a Platform Presentation, we will share examples and encourage the audience to participate in discussions using various flip books that we pass around.

### **ESSENTIAL ELEMENTS/QUESTIONS ADDRESSED:**

1. What are paper-based flip books? Why do they matter?

There are a number of resources for printed displays that are available for purchase or download. Page-turning options that flip up or down are often a part of these systems. We will share a number of examples that use various symbol sets. We have found that using paper-based displays helps slow down the process of selecting a message and provides the communication partner with additional time to talk about what the symbol may represent and clarify the intent of the message. Use them for private conversations, or to support a partner with limited language proficiency. This is not to say that paper-based systems are a pre-requisite; rather, they are a supplement, and a critical element to multi-modal communication. We know that technology is not always available, sometimes for reasons of practicality (e.g., in the bathtub), sometimes due to restrictions in funding.

2. When to use them?

Use paper-based displays at the pool, in brightly lit rooms, and in darker rooms with a flashlight. Use them when the high tech device is low on battery, or when the user doesn't want to share his/her high tech device for aided language input. Use with overlays and cut-outs for target with complete access to the full vocabulary when needed – faster than using hide/show in TouchChat and much like turning on/off Vocabulary Builder, Exploring vocabulary in Proloquo2Go when Progressive Language is turned on, and Babbling with SpeakForYourself.

### 3. How do you make them?

Consider using tabs, color-coding, and numbered pages for navigation

Start with robust systems and then personalize. We will include resources for paper-based displays that use Mayer-Johnson PCS, SymbolStix and Pixon images.

Consider paper options that are waterproof and tear-proof.

We will share examples using different types of binding, symbols, paper, and laminate.

#### **RESOURCES:**

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Wagner, Deanna <http://aacgirls.blogspot.com/2017/05/paper-based-aac-flipbooks-when-how-why.html>

Zangari, Carol <http://praacticalaac.org>

. PrAACtical Resources: Video Examples of Aided Language Input –

. PrAACtical AAC: Why We Love Aided Language Input –

<http://www.assistiveware.com/assistiveware-core-word-classroom>

<https://saltillo.com/chatcorner/content/29> (Low-Tech Communication Board Options)

<https://store.prentrom.com/additional-software/the-pixon-sup-tm-sup-project-kit>

Pixon Project Kit

<https://www.teacherspayteachers.com/>

. AAC-Communication-Flip-Book-and-Boards-2431089 by Super Power Speech

. Motivate, Model, Move Out of the Way: How to implement AAC by Kate Ahern

. AAC Picture Communication Book with Core and Fringe Vocabulary by Susan Berkowitz

. AAC Flip Communication Book BUNDLE by RosieBeeSLP

. AAC Communication Book by Speech Me Maybe

. Core Vocabulary Binder Ring – Core Board Binder Ring AAC by Mrs Ds Corner

. Low-Tech, Core Vocabulary Based, AAC Flip Boards by Speechy Musings

Latest handout available at: [www.aacgirls.blogspot.com](http://www.aacgirls.blogspot.com)

**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community, AACcess diversity, AACcess culture, AACcess relationships, AACcess the world: Developing nations in AAC

**Content Focus Area:** Personal Experiences and Preferences

# Parent Communication During Shared Reading with Girls with Rett Syndrome: The Impact of Print Referencing

Allison Dennis

## AIM

Parent communication is a support for language development in young children with and without disabilities. Shared book reading is one strategy that promotes parent-child interaction (e.g., Hargrave & Sénéchal, 2000). Although parent communication during shared book reading has been explored in the past, it has yet to be explored when mothers engage in shared reading of electronic books with and without print referencing with daughters with Rett syndrome (RS).

This study investigated parent communication during shared reading with girls with RS (a genetic disorder characterized by difficulties with hand use, cognition, motor planning, communication, and language) before and after a print referencing intervention with familiar and unfamiliar books. Identifying parent communication during multiple conditions revealed important information about parent language and communication.

## SHARED READING AND PRINT REFERENCING

One study investigated parent communication during shared with daughters with RS (see Skotko et al., 2004) and found meaningful parent communication increased child communication outcomes. This important study was conducted nearly 2 decades ago and did not include print referencing.

Print referencing is a research-based intervention designed to increase child attention to print during shared reading (Justice & Ezell, 2004). The use of print referencing with young children who are typically developing or have language disorders leads to increased child outcomes in oral language, and phonological and print awareness (e.g., Allor & McCathren, 2003). The current study aimed to extend these findings to include girls with RS and the impact of print referencing on parent

## METHOD

Using the website TarheelReader.org parents were able to access 67 preselected electronic books. A software program called Minimal Eye Reader was developed at UNC and used by parents during the shared reading interactions. The purpose of the Minimal Eye Reader was to link together several programs (i.e. TarheelReader.org, Tobii GazeViewer, Dropbox) in order to minimize the steps required for families to participate in the shared readings.

Three girls with a diagnosis of RS, aged 60-96 months, and their mothers were selected from a larger study that focused on child visual attention to print during shared reading. The parents of girls with RS were recruited through rettsyndrome.org. The author spoke directly with interested parents to provide an overview of study procedures. Interested parents provided written consent (approved by the IRB at the University of North Carolina at Chapel Hill) before completing the Inventory of Potential Communicative Acts (Sigafoos et al., 2000) and a structured interview that included the Activity Recall Literacy Orientation (Needleman et al., 1991) and Parent Reading Belief Inventory (DeBaryshe, 1995).

A laptop with a Tobii PCEyeGo eye-gaze system was shipped to each family. Mothers learned to use the computer with the eye-gaze software and two collections of Tarheelreader.org books. After completing six shared readings with unfamiliar electronic books, parents were given a short parent development session where they learned a print referencing strategy. Parents then completed six more shared readings.

While mothers and children interacted during each phase of shared reading, audio recordings were gathered using the Tobii Gaze Viewer software. These recordings were transcribed, coded and analyzed as described below. Transcripts from reading sessions were coded to determine: (a) total number of words, (b) length of interaction,

(c) number of spoken words from text and (d) number of spoken extra textual words. Transcript were also coded to determine the frequency of use of various extra textual comments (e.g. questions, comments, real-life connections, feedback on behavior, redirections, etc.). Data from coded transcripts were compared to determine the similarities and differences in parent communication before and after parents were taught a print referencing strategy.

#### **RESULTS**

This presentation will report the results of a study that is currently underway. All of the data collection has been completed, and is currently being analyzed. The final written report of this project will be completed by December of 2017.

It is anticipated that there will be differences in parent communication before and after using the print-referencing strategy. Early results reflect increased communication and variation in the types of things parents say to their child with RS during shared reading after learning a print referencing strategy.

#### **CONCLUSION**

The current study was designed to extend our current understandings of parent communication during shared reading of electronic books before and after implementing a print referencing strategy with girls with RS. This information will be used to explore the use of electronic books and guide future practice regarding the types of communication parents use when engaging in shared reading with girls with RS.

**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence

## Parent Instruction in Partner Augmented Input

Jill Senner | Kathleen Post | Matthew Baud

AAC can be invaluable in helping children with complex communication needs express themselves at home. However, providing the appropriate piece of technology alone does not ensure successful communication (Douglas, 2012). Rather, the success of a communication interaction between an AAC user and a communication partner will depend heavily on the skills of the communication partner (Kent-Walsh & McNaughton, 2005). “Being an effective communication partner or AAC facilitator is not intuitive. It often requires one to change long-established, unconscious ways of communicating” (Blackstone, 2006, p. 12). Research indicates that training an AAC user’s significant communication partners (e.g., parents, teachers, teacher aides, friends) can be of great benefit in increasing participation in daily interactions by individuals using speech-generating devices (Light et al., 1992; Douglas, McNaughton, Light, 2013).

Recent analyses of communication partner training programs suggest that there is consistent evidence that communication partner instruction not only improves the skills of communication partners but also has a positive impact on the communication of people who use AAC (Kent-Walsh, Murza, Malani, & Binger, 2015; Shire & Jones, 2015). Young children spend most of their waking hours at home, making family members (e.g., parents, siblings) key communication partners.

The importance of family-centered practice has been recognized in the provision of AAC services (Angelo et al., 1996a; Angelo et al., 1996b; Starble, et al., 2005). Family-centered practice is characterized by recognizing family diversity, respecting families, treating them with dignity, sharing information and engaging in professional/parent collaborations (Barr, McLeod, & Graham, 2008; Dunst et al., 2007). Well-informed, well-trained parents can be valuable to a child who is learning an AAC (Berry, 1987; McNaughton, 2008; Goldbart, Marshall, 2004). “The primary interventionists in implementing AAC are often the parents, and the primary context for evaluating the effects of the AAC intervention is the family. Parents and siblings are not only interventionists, but they are also important interaction partners of the child who requires AAC” (Granlund et al., 2008, p. 207). Family involvement is frequently the only constant in public school systems facing critical shortages of speech-language pathologists and frequent staff changes (Edgar & Rosa-Lugo, 2007).

In studies designed to assess family perspectives on AAC, mothers and fathers rated the need for increasing knowledge of assistive devices as a priority (Angelo et al., 1995; Angelo et al., 1996). Family satisfaction has been found to increase when clinicians recognize parent needs regarding AAC (Angelo et al., 1996; Starble et al., 2005). Parent and family support has been identified as a contributor to positive outcomes for individuals who use AAC (Lund & Light, 2007; Gona, Newton, Hartley & Bunning, 2014).

Parent training in AAC has been linked to positive changes in children’s communication (Bruno & Dribbon, 1998; Ronski, Sevcik, Adamson, Cheslock, Smith, Barker & Bakerman, 2010). Parent training in AAC has been shown to increase family comfort level with operating a SGD and in supporting communication (Bruno & Dribbon, 1998; Starble, et al., 2005). “Additional problems may occur when families are not provided training on ways to integrate the use of the assistive device in naturally occurring activities. As a result, the device may be seen as a burden as opposed to a facilitative tool to increase participation of their child in daily activities” (Lesar, 1998, p. 147). “Supporting children who are learning language using an AAC system requires the adult to have specific skills in the communication mode, in addition to having strategies for modeling and responding to children’s communication” (Kaiser & Wright, 2013, p. 38).

Partner-augmented input (PAI), also referred to as aided language stimulation, is a modeling strategy whereby communication partners use the child’s AAC system themselves by pointing to the symbols on the child’s

communication board or device while simultaneously talking. Overall, use of this strategy has been associated with meaningful gains in pragmatics, semantics, syntax and morphology (Sennott, Light & McNaughton, 2016). In 2005, Kent-Walsh and McNaughton proposed an 8-step instruction model specifically for use with communication partners of PWUAAC. This instruction model has been used successfully to train instructional assistants in school environments (Binger, Kent-Walsh, Ewing, & Taylor, 2010; Sennott & Mason, 2015) and parents (Kent-Walsh, Binger, & Hasham, 2010; Kent-Walsh, Binger, & Malani, 2010). Increases in AAC use following partner training were reported. In 2016, Senner & Baud successfully used this instruction model to teach school staff to provide PAI throughout the school day on a child's existing SGD.

In this presentation, we will discuss the use of this training model with parents of children using AAC and will share results from a research study

**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence

## Parent Perspectives on an AAC Camp Experience

Wendy Quach | Karen Pollock | Jessica Klassen | Brianne Simpson

Augmentative and alternative communication (AAC) camps provide intensive communication training and support for children who use AAC and their families, along with the opportunity to interact with other individuals who use AAC, all in the context of fun and authentic camp activities. A variety of AAC camp formats have been offered, including day camps, overnight camps, and school-based summer programs with camp duration ranging from one to two weeks (Bruno, 1998; Kuhlmeier & Johnson, 2012). According to Bruno (1998), AAC camps serve three purposes: to help children communicate using AAC with each other and staff; to help parents learn to facilitate functional use of AAC at home; and to provide opportunities for professionals to gain experience working with children using AAC devices.

Parents play a critical role in their child's language development. For children with complex communication needs, parents are encouraged to incorporate intervention strategies into natural daily routines leading to one or both parents generally assuming the role of interventionist (Roberts & Kaiser, 2011). Parents identify the importance of training regarding language intervention strategies (Kent-Walsh, Murza, Malani, & Binger, 2015). Family camp environments offer an opportunity to provide parents with training and to practice strategies in varied naturalistic social contexts (Bruno & Dribbon, 1998; Dodd & Hagge, 2014).

### AIM:

The present study examined the experiences and perspectives of parents who attended at a weekend family AAC Camp. Parents participated in 2-3 training sessions during camp, with a particular focus on aided language stimulation.

### METHOD:

34 parents completed pre – and/or post-camp surveys regarding their child's and their own camp experiences, use of the AAC device, and use of various communication strategies. Semi-structured individual and small group interviews (6 and 18 months after camp) are underway and will allow for further exploration of themes identified in the survey responses and longer-term outcomes of the camp experience. Data from open-ended survey questions and interview transcripts will be analyzed using conventional content analysis, a qualitative method that does not impose preconceived categories. First, data will be reviewed repeatedly to achieve immersion and obtain a sense of the whole. Next, open coding will be performed, where descriptive labels are used to summarize portions of the data. Codes will then grouped into categories or themes. Codes and categories will be refined as needed.

### RESULTS/CONCLUSION:

Preliminary results from the parent surveys indicate that participation in an AAC camp resulted in positive outcomes, including increased use of the child's device (by the child and the parent), reinforcement of strategies for facilitating communication, and learning from the experiences of others. In addition, parents expressed the need for additional parent training and support, particularly with programming their child's device.

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**Evidence Area:** AACcess the community, AACcess culture, AACcess relationships

**Content Focus Area:** Research Evidence

# Parent perspectives on augmentative and alternative communication (AAC) applications and interventions in Sri Lanka

Nimisha Muttiah-Fonseka | Kathryn Drager

Augmentative and alternative communication (AAC) can allow children with severe communication difficulties to communicate effectively and be engaged in school and community. Traditionally, AAC approaches are introduced by professionals, but parents may also implement these systems. Studies conducted internationally indicate that parents are often disappointed with the knowledge, expertise, and responsiveness of professionals regarding AAC, some reporting that they were left to find, fund, program, and/or learn to use their child's AAC systems independently (Goldbart & Marshall, 2004). With the increasing use of technology around the world, including in Sri Lanka, more parents have access to smart phones and tablets; therefore, more families and children have potential access to AAC by using a communication app on their phones or tablet devices.

Parents of children with communication difficulties are often actively involved in their children's interventions including speech therapy. Provision of speech therapy in Sri Lanka is generally family-centered with the parent playing a vital role. It has been reported that parents using AAC in other countries use it with the expectation of it increasing their child's independence, communicative competence, and communication opportunities (Bailey et al., 2006). However, these same goals may not be foremost for parents in Sri Lanka. The primary purpose of this study was to obtain parents' perspectives on the use of AAC with their children in Sri Lanka. This is one of the first studies of its kind looking at understanding how parents in Sri Lanka perceive their children's use of AAC, the benefits of using these kinds of communication methods, the challenges, and their overall experience with it.

## **METHOD**

The current study employed a qualitative semi-structured interview design. Qualitative research methodology can be used to better understand phenomenon about which we know very little (Strauss & Corbin, 1990, as cited in Hoepfl, 1997). Qualitative research allows for a rich description of real-life contexts including the nature of the therapeutic relationship between clinicians and the individuals with whom they work (Eastwood, 1988). Interviews may be effective tools for determining the needs and priorities of families and designing family-centered assessments and interventions (Dunst, 2002).

Interviews are conducted in person at participants' homes, places they attend for speech therapy, or by phone. Interviews are ongoing; between 8-10 participants will be recruited for this study from Colombo (Sri Lanka's largest city) and its surrounding suburbs. The semi-structured interviews address the communication means and skills of the child and the family, the parents' and others' reactions to using the communication apps, the benefits and challenges of this type of communication, and recommendations parents have for the process.

## **RESULTS**

Recorded interviews are transcribed verbatim into Microsoft Word, with all identifying information removed, and analyzed thematically using procedures adapted by McNaughton and colleagues (McNaughton et al., 2001). Responses are broken down into thought units, or the smallest amount of meaningful information that expresses a complete idea. Thought units are then analyzed and organized into themes based on content using operational definitions. Full results and findings will be discussed at ISAAC 2018.

## **CONCLUSION**

The results of this project will provide insight into parents' perspectives of the impact of the use of AAC with their children in Sri Lanka. It would be the first study of its kind looking at the use of AAC in Sri Lankan families. It

contributes toward increasing awareness among speech and language therapists regarding the use of AAC with children who have complex communication needs in Sri Lanka.

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**Evidence Area:** AACcess diversity, AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence

## **Parents' perspectives in supporting children with complex communication needs using key word sign.**

**Elizabeth (Liz) Allan | Leigha Dark | Elizabeth (Libby) Brownlie**

Key Word Sign (KWS) is an unaided augmentative and alternative communication (AAC) strategy and incorporates the use of both manual sign and gesture while speaking (Bloomberg, 2014). It can be effective for children with a disability and complex communication needs (CCN) as a primary mode of communication and as part of a broader multimodal communication strategy (Toth, 2009). To promote communicative competence and participation, children with disability and CCN need access to consistent modeling of KWS across a range of settings and communication partners (Ronski & Sevcik, 2005). Parents are integral to the process of teaching signs, selecting appropriate vocabulary, encouraging the functional use of KWS in daily settings, and cultivating signing environments across multiple contexts.

### **AIM**

A qualitative study was undertaken to explore the lived experience of parents and families learning, implementing, and using KWS with their children, so as to better understand and inform innovative, family-centered service delivery and training. Specific research questions were:

1. What are parents' and families' experiences of learning KWS?
2. How do parents and families predict, select, and support appropriate KWS vocabulary for their child?
3. How do parents and families create signing environments for their child?
4. What are parents' and families' experiences and expectations of liaising with professionals when learning and implementing KWS?

### **METHOD**

Six mothers and one father of children with a disability and CCN aged 0-8 years who had learned or used KWS in the last two years participated in semi-structured, in-depth interviews about their experiences of learning, implementing, and using KWS. The interviews were transcribed verbatim and analyzed thematically (Braun & Clarke, 2006).

### **RESULTS**

Five interrelated themes described the experiences of parents: 'Drivers' to sign, Learning KWS, Selecting vocabulary, Creating a sign environment, and Using KWS. Subthemes reflected common and unique aspects of parents' experiences and will be discussed in detail in this presentation.

### **CONCLUSION**

The parents in this study discussed various motivations for using KWS with their children that were shaped by their initial exposure to the strategy and their developing understanding of KWS as an immediate and effective form of communication. Family supports and personal attributes, such as determination, resilience, and thinking about their children's future were also key drivers. As they built their knowledge and skill to encourage the use of KWS across a range of environments and contexts, parents accessed a variety of resources and supports to aid their learning and discussed how these were essential to the process of learning and using KWS effectively. Parents discussed ways in which they responded to their children's needs, interests, and development when acquiring a sign vocabulary and how they managed their own learning via a graduated process.

A key finding that emerged was a need for additional supports and resources to assist parents in implementing KWS to support communicative competence and participation. This has implications for service delivery within the field of early intervention and unaided AAC. Opportunities for speech-language pathology practice will be discussed in depth.

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**Evidence Area:** AACcess relationships

**Content Focus Area:** Research Evidence

## **Partner Assisted Scanning: Enable the Unexpected**

**Helen Bayldon | Sally Clendon**

Many AAC devices and systems utilise switch access for those individuals who cannot directly select. Switch access to AAC requires coordination of cognitive, sensory-motor and linguistic skills and may be challenging for individuals with complex needs. Partner assisted scanning (PAS) is an access method that is suited to supporting individuals with complex cognitive, physical or sensory needs who are learning language (Burkhart, 2016; Farrall, 2015; Porter, 2012; and Zangari, 2016). PAS is a potentially useful strategy to meet current and future communication needs and skills. It enables expressive communication and encourages active participation and learning.

There are a number and variety of reasons to use PAS including: when introducing an aided language system or a more complex selection set; when motor skills have not (yet) developed to allow direct access; when sensory processing challenges distract individuals from focusing on their message; and when individuals have visual or auditory impairments. There is much anecdotal and clinical evidence to suggest it is a strategy works for this population giving them access to language without placing excessive demands on sensory-motor skills.

This paper:

- describes the process of partner assisted scanning and it's key components, including presentation options, the selection set and selection method,
- explains how to incorporate PAS into aided language modelling with an outline of direct, full and partial modelling of the strategy,
- and encourages practitioners and communication partners to be open to the unexpected things that AAC users may say.

This is a dynamic presentation with photos and practical demonstrations to support understanding of how to partner scan.

**Evidence Area:** AACcess language and literacy, AACcess education, AACcess relationships

**Content Focus Area:** Research Evidence, Professional Practice Evidence

## **Past, Current, and Future AAC Practice in Taiwan**

**Meng-Ju Tsai | Tzu-Ting Yu**

### **CONTENT**

Taiwan is a developed country with a population of approximately 550,000 people with different types of communication disorders in 2015 (Department of Statistics of the Ministry of Interior, 2015). Yang and Chung (2009) estimated approximately 300,000 people with communication disorders may benefit from augmentative and alternative communication (AAC).

Several changes of AAC practice in the past two decades in Taiwan included the provision of university AAC courses; the founding of assistive technology vendors; the establishment of the Speech Therapists Act (Ministry of Health and Welfare, 2008); the initiation of Type B assistive technology evaluators (i.e., SLPs) (Ministry of Health and Welfare, 2012); the initiation of ISAAC-Taiwan (The Taiwan Society for Augmentative and Alternative Communication, 2013); the increased number of international AAC conferences; the decreased period for paid intervention (e.g., AAC practice) in hospitals (National Health Insurance Administration, 2016); the increased funding for AAC practice in non-hospitals (e.g., centers, foundations, and schools) (Ministry of Health and Welfare, 2015); and the establishment of the Long-term Care Services Act (Ministry of Health and Welfare, 2007).

### **FOCUS OF THE PRESENTATION**

This professional practice presentation focuses on the past, current, and future AAC practice by Speech-language pathologists (SLPs) in Taiwan. SLPs play a leading role in overall AAC practice in Taiwan as stated in the works of the American Speech-Language-Hearing Association [ASHA] (1989); Beukelman and Mirenda (2013).

In the years between 1994 and 2005, some SLPs received university dedicated AAC courses, while others who only received the six-month training program provided by Taiwan Speech-Language-Hearing Association (TSLHA) gained AAC knowledge possibly through colleague contact, on-the-job training, or in-service learning from a local assistive technology vendor, Assistive Technology Engineering Lab (ATEL).

Currently, Speech Therapists Act has defined the AAC evaluation and training as the practice of SLPs, and AAC practice in hospitals is supported by the National Health Insurance Program (Ministry of Health and Welfare, 2008). Consequently, AAC practice is assumed to be mainly provided by SLPs in hospitals with a small portion in non-hospitals. Gradually, SLPs working in non-hospitals in Taiwan have considered recommending AAC. Unfortunately, due to the decreased period of paid intervention (National Health Insurance Administration, 2016), AAC practice in hospitals is possibly reduced. Both high-tech and low-tech communication devices are usually recommended.

These changes (e.g., promulgated Long-term Care Services Act) in Taiwan might make AAC practice more inclusive and expanded into hospitals and non-hospitals. In next 5-10 years, first, SLPs might be compelled to earn AAC certificates. Second, AAC practice might be greatly increased in non-hospitals, but decreased in hospitals. Third, AAC practice in community-based services, institutional services, and family caregiver support services might be greatly needed. Fourth, more international scholars and practitioners might be invited to hold workshops and/or conferences related to AAC practice. Finally, public awareness of AAC practice provided by SLPs accordingly should be promoted in Taiwan.

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**Evidence Area:** AACcess the world: Developing nations in AAC

**Content Focus Area:** Professional Practice Evidence



# Perception of Ewha-AAC Graphic Symbols for Verbs and Adjectives in Children with Intellectual Disabilities

SeokJeong Yeon | YoungTae Kim | EunHye Park

## AIM

Perception of graphic symbols is influenced by a variety of factors, including age, intellectual abilities, language & communication skills, and context. The purpose of the study was to investigate graphic symbol perception of the two symbol types(context-free symbols vs context-bound symbols) of school-age Korean children with intellectual disabilities.

## METHOD

Fifteen school-age children with intellectual disabilities(ID) and two groups of typically-developing children matched for chronological age(n=15, CA-TD group) and for receptive-vocabulary abilities(n=15, RV-TD group) completed the AAC graphic symbol naming task, graphic symbol identification task, and graphic symbol preference task.

A Samsung Galaxy Tab S tablet PC with a 10.1-inch touch screen was used to enable tasks. Task were delivered using Microsoft PowerPoint. For the symbol naming task, participants were asked to name each symbol. A total of 46 stimulus, including 23 symbols from each type, were randomly presented to each participant one at a time. In the identification task, participants were asked to indicate symbols in three context conditions(context-symbol matched condition, context-symbol mismatched condition, and non-context condition). In the preference task, two symbol types were presented to participants to determine preference between CFS(context-free symbols) and CBS(context-bound symbols) via a paired-stimulus procedure. A location of CFS(context-free symbols) and CBS(context-bound symbols) in each page of the stimulus slides was randomly presented during each trial.

## RESULTS

Data for graphic symbol naming were analyzed using a 3(groups) × 2(symbol types) two-way analysis of variance(ANOVA). Results revealed a significant main effect for two symbol types and three groups. Post hoc analyses using Scheffe's method revealed that accuracy percentage of symbol naming for ID and RV-TD were significantly lower than CA-TD. However, there was no significant difference between ID and RV-TD. Accuracy percentage of CBS naming was significantly higher than CFS. There were no significant interactions for symbols types and groups.

Data for accuracy of identification were analyzed using a 3(groups)×2(symbol types)×3(context condition) three-way analysis of variance(ANOVA). There were significant two-way and three-way interactions for groups, symbol types, and context-condition. All children correctly identified more symbols in the context-symbol matched than context-symbol mismatched and non-context. Percentage mean accuracy of identification scores was higher for CBS than CFS. These interactions revealed that context condition and symbol types affect identification of symbols.

Data for graphic symbol preference were analyzed using a 3(groups)×2(symbol types) two-way analysis of variance(ANOVA). This analysis revealed a significant main effect for symbol types. All children prefer CBS to CFS. However, there was no a significant main effect for groups. There were no significant interactions for symbols types and groups.

## CONCLUSION

This study revealed that Korean children with intellectual disabilities have difficulty with perceiving graphic symbols representing verbs and adjectives. To select the best matching graphic symbols for children with intellectual disabilities, special educators, speech-language pathologists, and/or AAC specialists should consider the symbol type, conversation context and receptive-vocabulary abilities.

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**Evidence Area:** AACcess language and literacy, AACcess culture

**Content Focus Area:** Research Evidence

## **PODD implementation in Brazil as an AAC Resource**

**Mariane Alves Graciano Malatesta | Alessandra Gomes Buosi**

Although we have several professionals in many areas working with Augmentative and Alternative Communication (AAC) in Brazil, the costs related to upgrading and using resources, even in low technology, in some regions of our country are still a barrier to increase the effectiveness and use of more structured methodologies.

After knowing some Brazilian expertise in AAC, a pediatric neurologist, who is responsible for Rett Syndrome Center at The Children's Hospital at Montefiore NY/USA, invited in 2014 some professionals to visit and to know PODD and other resources used to work with children at the hospital. Two Speech Language Pathologists (SLP) knew the Pragmatic Organization of Dynamic Displays (PODD) as an AAC tool, both started working on their private practice with this tool as an intervention in AAC for several disabilities, among them Rett Syndrome; Cerebral Palsy; ASD; Childhood Apraxia of Speech; Rare Diseases and disorders with Complex Communication Needs (CCN) associated.

After having both professionals trained in basic and advanced levels, in 2017 the first Brazilian PODD Introductory Workshop occurred with more than 50 people, among them parents and some of the main AAC replicators in the country such as Occupational Therapists (OTs), SLPs and professors at Brazilian universities. To spread out this knowledge to the population, the intervention was planned in some levels in order to achieve many environments where those children could be, such as school, house and community.

The families and teams of professionals, who worked with children assisted by both SLPs trained, were guided about how to use PODD in their interaction to provide enough language stimulation. Schools' peers were instructed in practice with activities to guide their expressive and receptive communication with children who use AAC.

Other immersion strategies for modeling language functions had been scheduled to increase partners and users habits, abilities and confidence, some of them are: AAC camping; partners groups; parents meetings in which parents can know the tool, learn how to use and model its use and share knowledge and experience; siblings dynamics; professional orientation; combined sessions with SLP, Occupational Therapist (OT), Physical Therapist (PT), Psychologist, Assistants and Pedagogue; group sessions; school's staff capacitation; consultancy of professional who will locally reply PODD; new Introductory Workshops.

PODD was also presented as a strategy to some governors in a city in São Paulo state as a tool to support children's inclusive process, understanding communication is the essence of human interaction and it is a human right, the plan of training schools staff in the city to incorporate PODD in special and regular schools.

The focus of this presentation is to describe the process we went through while implementing PODD as a new AAC tool in Brazil; to highlight the well-succeed practices and expose failures in the process with appropriated examples to illustrate their reasons; to motivate and maybe facilitate other communities to reply their knowledge, even if this means a whole practice change in their environment as it was in ours.

Most of all we believe sharing this information could promote reflection on how powerful is the wish and dream of improvement, how single positive changes can affect positively the whole society.

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**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community, AACcess the world: Developing nations in AAC

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

## Practical Strategies for Providing Basic AAC Intervention for Very Early Communicators with Autism

**Cynthia Cress**

Although there are no prerequisites to AAC, it is difficult for us to decide how to plan AAC interventions for basic communication interactions, particularly for children with ASD. The process of developing effective intentional and symbolic AAC is complicated in children with ASD who may not easily initiate social interactions with partners for shared communicative purposes. Introducing new communicative functions or complexity of interactions can address too many “hard things” at once (Cress, 2001), so we may need to introduce new strategies, functions or symbols through behaviors, tasks, and partner behaviors at first. We need to be aware of the implications of our intervention approaches that are applied to ASD that differ in their focus on social/communication, language/cognitive, or behavioral/speech skills. Capitalizing on the strengths and limitations of each of these types of approaches can maximize the effectiveness of our multimodal interventions, and provide mechanisms for adapting intervention when breakdowns or limited progress occurs (Cress, 2002). It can be relatively easy to determine why intervention approaches have been unsuccessful, but difficult planning alternative strategies particularly for very early communicators with ASD who already have limited communication strategies. While all of the primary approaches to intervention for children with ASD have effectiveness at addressing the skills for which they are designed, only some of those approaches are effective at helping children with ASD initiate their own communicative messages for practical and meaningful social purposes. Socially-based intervention strategies can be critical for getting past prompt-dependency in children who may wait for partner prompting or specific environmental contexts to convey communicative messages.

This workshop session will present a variety of strategies for assessing and facilitating basic augmented communication in children and adults with ASD, focusing on the challenging development of intentional and symbolic communication skills. We will include specific strategies for getting past situations where we may feel stuck or experience unexpected difficulties in meeting communication goals of basic communicators and their partners, and for incorporating intervention strategies that take advantage of interactive strengths of children with ASD, including AAC strategies that take advantage of visual, predictable, and social routine aspects of early interaction. The focus will be on multimodal interaction and meeting the communicative goals of the communicator and partner, rather than on matching specific modalities or standardized intervention programs to children or purposes. Commonly used intervention approaches for children with ASD will be compared and adapted systematically to address specific communication goals in video and live demonstrations. Additional intervention approaches that enhance the social interaction deficits that are central characteristics of early communicators with ASD will be demonstrated and practiced (Cress et al., 2016).

### **LEARNER OUTCOMES:**

- Identify common sources of difficulty for AAC intervention with basic communicators with ASD
- Compare and contrast theoretical approaches and intervention models applied to children with ASD
- Plan communication goals in small and achievable steps for basic communicators
- Identify strategies for working around complications introduced for children with both ASD and CCN
- Apply intervention strategies for planned basic communication and symbolic goals in ASD including multiple behavioral and augmented modes

**INTERACTIVE COMPONENTS:**

Case studies, live demonstrations and videos will illustrate building on children's existing behavioral skills and simplifying the complexity of children's uses of AAC, to gradually scaffold their understanding of the multiple layers of complexity in AAC use, even when beginning with prelinguistic communication skills. Participants will practice applying information from the handouts and presentation to these interactive samples of basic communication in a variety of children with ASD and CCN. Participants will be challenged to bring home practical strategies to meet the needs of individuals with ASD and CCN on their own caseloads.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Professional Practice Evidence

## Pragmatic evolution of six children with cerebral palsy after one year of PODD implementation.

Alessandra Gomes Buosi | Mariane Alves Graciano Malatesta

### AIM:

This study aimed to assess after one year of implementation and intervention with PODD (Pragmatic Organisation Dynamic Display), a group of six children with cerebral palsy (CP) regarding the evolution of their pragmatic profile.

### METHOD:

Six children (4 boys aged 4, 5, 7, 8 and 2 girls 3, 5) with CP (GMFCS scale IV and V) were assessed individually for pragmatic profile "Communication Assessment in Preschool Children with Physical and Multiple" (Porter & Iacono, 2007). The forms of communication used for each intention were ranked 0-5 based on most independent mode reported 0 – function not observed; 1 – informal modes not directed to partner; 2 – Informal modes directed to partner; 3 – Conventional gesture; 4 – Whole word mode 5 – Sound /letter mode. A PODD book was suggested, for each child, according to the general description of the books versus the child's evaluation data. The families and team were oriented every three months (four times in total) on strategies for immersion and modeling the patterns of functions to be stimulated for their children. After these 12 months, we reevaluated the pragmatic profile.

### RESULTS:

All six children obtained an increase in the number of pragmatic functions, as well as the quality and frequency of the communicative initiative. Nine of the twenty evaluated functions had a more significant increase in intention, increasing in 3 points: answering questions, naming, expressing opinion, accepting, rejecting, requesting action, requesting information, commenting and greeting. With the exception of the "giving information" function, the remaining ten improved by at least 1 or 2 points.

### CONCLUSION:

Given the results obtained during this year of specific intervention using PODD as the main communication tool, we believe that the work of counseling the family and team in a systematic way has been crucial to this results. Only this way, we can guarantee the use in every environment frequented by children, with consequent generalization of stimulated patterns. Therefore, there was a pragmatic evolution in all cases attended during this period with consistent reports from the family about the repercussion in the autonomous communication of children in their daily lives.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences



# Preferences of South African patients and nurses on the content requirements of ICU communication boards

Ariné Kuyler | Ensa Johnson

Patients admitted to intensive care units (ICUs) require mechanical ventilation that could result in communication difficulties (Carruthers, Astin, & Munro, 2017). This causes patients to experience emotional distress, increased frustration, fear and decreased participation or involvement during patient-centred care (Carruthers, et al., 2017). As a result, frequent misunderstandings during nurse-patient interaction may occur due to patient's unclear communication and nurses experiencing difficulty in interpreting patients' communicative attempts.

The successful use of augmentative and alternative communication (AAC) strategies to assist patients in the ICU with communication, has been documented (Bradbury-Jones, Rattray, Jones, & MacGillivray, 2013; Carruthers et al., 2017; Costello et al., 2010). ICU patients reported that they were more satisfied with their treatment, and less stressed when AAC strategies (low or high tech) were implemented (Bradbury-Jones et al., 2013; Costello et al., 2010; Hemsley & Balandin, 2014).

Patak, Gawlinksi, Fung, Doering & Berg (2004) developed a low tech communication board, based on the preferences of mechanically ventilated patients in the ICU. However it is unclear whether this communication board could be implemented in South African ICUs. As a result, it was important to explore the preferences of South African mechanically ventilated patients and ICU nurses. Participants' perceptions on the vocabulary, symbol selection (picture based symbols with text or text only) and other components of the suggested communication board were investigated.

## AIM

In this presentation, the aim is to explore and provide clarity regarding the following questions:

- . What are the preferences of mechanically ventilated patients on the content and format requirements of an ICU communication board?
- . What are the preferences of nurses working in the ICU on the content and format requirements of a communication board?
- . What recommendations or considerations should be implemented concerning ICU communication boards?

## METHOD

This qualitative study was based on the studies by Patak and colleagues (2004; 2006). Upon ethics approval from the intuitional research ethics committee, and permission from the relevant authorities, participants were recruited from private hospitals in Gauteng (a province in South Africa) for inclusion in two participant groups: patients who received mechanical ventilation and ICU nurses. With the input from an expert panel (five nursing lecturers with ICU and research experience), a custom-made interview script was developed to be used during semi-structured in-depth interviews with patient participants. Upon written consent, participants were screened to confirm that they met the selection criteria. A biographical questionnaire was completed before the retrospective interviews. To determine ICU nurses' perceptions on the content of ICU communication boards, the nurses completed a questionnaire containing similar open-ended questions asked to the patient participants.

## RESULTS

Biographical information of both participant groups obtained from the biographical questionnaires will be shared. Verbatim transcriptions of the interviews were done and checked by a second person. These transcriptions as well as the nurses' responses in the questionnaires were transferred to an Atlas-Ti for thematic analysis. The findings will be discussed during the presentation with reference to the findings of Patak and colleagues on the Vidatak EZ Board designed by them (2004; 2006).

## **CONCLUSION**

This study reports the preferences of mechanically ventilated patients and ICU nurses, concerning the content requirements of an ICU communication board suitable for the South African context. Recommendations for future research as well as clinical application will be shared.

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**Evidence Area:** AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence

# Preservice Student Perspectives on an AAC Camp Experience

Karen Pollock | Wendy Quach

Augmentative and alternative communication (AAC) camps provide intensive communication training and support for children who use AAC and their families, along with the opportunity to interact with other individuals who use AAC, all in the context of fun and authentic camp activities. A variety of AAC camp formats have been offered, including day camps, overnight camps, and school-based summer programs with camp duration ranging from three days to two weeks (Bruno, 1998; Dodd & Gorey, 2014). According to Bruno (1998), AAC camps serve three purposes: to help children communicate using AAC with each other and staff; to help parents learn to facilitate functional use of AAC at home; and to provide opportunities for professionals to gain experience working with children using AAC devices. Students in speech-language pathology and related programs are often utilized as counsellors at these camps and receive supervised hands-on clinical experience with children who use AAC (Bruno, 1998; Dodd & Gorey, 2014; Kuhlmeier & Johnson, 2012). Such experience is highly valuable given that many SLPs rate the education they received in AAC as part of their professional program and their confidence and comfort level with AAC systems as limited/poor (Marvin, Montano, Fusco, & Gould, 2003). In addition, only a small percentage of SLP students receive focused clinical practicum hours in AAC as part of their professional program (Blockberger & Haaf, 1995). AAC camps offer a unique opportunity to supplement existing academic and clinical training in AAC by providing short-term, intensive practical experience for students in SLP and related programs. They also offer opportunities to model and practice interprofessional collaboration and family-centered care.

## AIM:

The present study examined the experiences and perspectives of speech-language pathology, occupational therapy, and physiotherapy students who participated as counsellors at a weekend family AAC Camp.

## METHOD:

30 student counsellors (25 SLP, 3 OT, and 2 PT) completed pre – and post-camp surveys addressing knowledge, skills, and attitudes in the area of AAC four weeks before and one week after camp. Data were analyzed both quantitatively (rating scales) and qualitatively (open ended questions). Descriptive labels were used to summarize portions of the data. Codes were then grouped into categories or themes. Codes and categories were refined as needed.

## RESULTS:

Five themes emerged from the analysis: increased knowledge of AAC devices (e.g., “I learned more about specific AAC devices, particularly Nova Chat with Word Power”), acquisition of strategies for facilitating communication (e.g., “[I learned] numerous strategies to engage with and model language for those who use AAC”), comfort interacting with individuals using AAC (e.g., “In general, I feel much more comfortable in my ability to interact with people who use AAC!”), positive attitudes about communication access and advocacy (e.g., “Communication is a vital part of our lives and getting to help these children build that ability with AAC devices really taught me to appreciate and advocate for what the devices can be and do for a child”), and enhanced appreciation for functional intervention in naturalistic environments (e.g., “[I learned about] using AAC devices for functional communication”).

## CONCLUSION:

Participation in an AAC camp resulted in positive outcomes for preservice students, beyond those that had previously been acquired through classroom and lab activities. Given that most SLPs and other rehabilitation professionals will be required to provide AAC services at some point in their professional careers, such camps provide an effective and efficient method to fill gaps in preservice preparation and to develop positive attitudes towards communication access for all.

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**Evidence Area:** AACcess the community, AACcess culture, AACcess relationships

**Content Focus Area:** Research Evidence

## **Primary and secondary violence prevention programmes for persons with communication disabilities**

**Robyn White | Amanda Nyberg | Juan Bornman | Ulrika Ferm | Ensa Johnson**

A quarter of adults' worldwide report having been physically abused as children (WHO, 2014). According to the same report, one of five women report having been sexually abused as a child. Violence can take many different forms and can affect both adults and children. Children with disabilities are 3 to 5 times more likely of being victims of violence than children without disabilities, and they are also more likely of being repeat victims of violence (Fluke, Shusterman, Hollinshead & Yuan, 2008; Jones et al., 2012) and research shows that adults with disabilities are also at higher risk of both becoming victims of violence and repeat victims of violence (Bornman, 2014). Children and adults with communication disabilities are particularly vulnerable of becoming victims of violence because they cannot rely on traditional methods of communication, such as speech, to disclose this victimization.

According to the Convention on the Rights of the Child (United Nations, 1989) Article 19, children should be protected from physical and mental violence, injury or abuse, neglect, maltreatment or sexual abuse while in the care of parents or any other person who has the care of the child. Article 13 of the Convention on the Rights of Persons with Disabilities (CRPD) specifically reports on 'Access to Justice' and states that all "States Parties shall ensure effective access to justice for persons with disabilities on an equal basis with others, including through the provision of procedural and age-appropriate accommodations, in order to facilitate their effective role as direct and indirect participants, including as witnesses, in all legal proceedings" (United Nations, 2006). However, it was found that persons with communication disabilities, and their families, find accessing the criminal justice system overwhelming and distressing because they feel that they are not offered the relevant and appropriate support in terms of their communication disability (United Nations, 2014). Primary prevention of violence can be defined as programmes that aim to prevent violence before the individual has been harmed and secondary violence prevention are programmes and resources that intervene early after violence has occurred to avoid reoccurrence (Dartnell & Gevers, 2015).

To reduce the risk of being a victim or a repeat victim of violence, primary and secondary prevention is crucial. Primary prevention involves implementing guidelines, strategies and programmes to prevent persons with disabilities from being victims of violence. Violence prevention programmes carried out in schools have been found to be effective, but this research has not included children with communicative disabilities in need of AAC. Secondary prevention that has been found effective for persons with disabilities involves equally participating in the legal proceedings as a witness and testifying in court (Bryen & Wickman, 2011).

### **AIM**

In this presentation, we have two aims:

1. To discuss the development of a primary violence prevention programme that includes the use of AAC-strategies for children with communication and/ or cognitive disabilities.
2. To discuss the development of a secondary violence prevention programme for persons with communication disabilities who have been victims of violence.

### **METHOD**

A mixed method design consisting of qualitative and quantitative data will be used to address the aim of this presentation. A needs analysis will be discussed, consisting of two components namely a literature-based study (in the form of a systematic review) as well as in-depth interviews and focus groups to develop the primary and secondary prevention programs.

## **RESULTS**

The results will be discussed at the presentation.

## **CONCLUSION**

Research within the field of primary and secondary violence prevention is scarce. This important topic and issue has been addressed since the 1980's and yet, it is sadly still an on-going issue in our societies and communities. The researchers have taken on the responsibility to provide alternative programmes and methods to assist in ending the violence against persons with communication disabilities.

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**Evidence Area:** AACcess justice

**Content Focus Area:** Research Evidence, Research Methods and Theories

## **Private speech and aided communication**

**Kristine Stadskleiv | Stephen von Tetzchner**

### **INTRODUCTION**

Vygotsky (1986) distinguished between speech-for-others (social speech) and speech-for-oneself (private speech), and regarded the purpose of the latter as ‘talking for thinking’. The use of overt private speech has been found to help solving of difficult tasks (Fatzer & Roebers, 2012), possibly because it aids executive functions like organizing and planning (Fernyhough & Fradley, 2005).

Private signing has been found in deaf children (Jamieson, 1994). It is not known if children with severe motor impairment and little or no speech similarly use aided communication functionally in the same way as overt private speech. They are restricted in independent access to their vocabulary and may not be able to construct graphic sentences for themselves when encountering a difficult problem. This offers an opportunity for exploring the relationships between executive functioning and private speech, or rather executive functioning in the absence of private speech.

### **AIM**

The present study explores the relationships between severity of speech impairment and executive functioning in children with cerebral palsy (CP), and its relation to the role of private speech.

### **METHOD**

Participants were 51 children with a diagnosis of CP who were part of a larger study of cognitive functioning in children and adolescents with CP. Twenty-seven (52.9%) were girls and the mean age was 9;5 years (range 6;0–17;7 years). Thirty-eight children were using natural speech, and in the AAC group, four were classified as belonging to the expressive language group, and nine as belonging to the language support group. On the Viking Speech Scale (VSS), 37 were classified at level I, nine at level II, two at level III and three at level IV.

Executive functioning, specifically abilities related to self-regulation, feedback utilization, concept formation and efficiency, was assessed with the computerized version of the Wisconsin Card Sorting Test (WCST; Heaton, 2007), an established measure where the tasks can be answered by pointing to one of four cards. Testing was adapted so that the participating children could respond regardless of degree of speech and motor impairments. Three children were unable to point an answer alternative with the finger, used an eye gaze board with the four answer alternatives. The parent, who was seated behind the computer screen and hence did not know the correct answers, told the test administrator which alternative the child looked at. The administrator entered the child’s answer into the computer.

### **RESULTS**

The mean standardized conceptual level score on WCST was 93.5 (16.2) for VSS level I, 88.8 (8.3) for level II, 74.5 (8.5) for level III and 94.2 (3.9) for level VSS IV. The differences were not significant. The mean standardized score for children with CP who had never used AAC was 94.6 (15.7), for the expressive group 90.8 (7.5), and for the language support group 81.3 (7.2). The difference between the support group and the group never using AAC was significant ( $p = .040$ ), while the difference between the expressive language group and group using natural speech did not reach significance.

### **CONCLUSIONS**

Some of the children with little or no speech who had a lifelong need for aided communication performed as well as peers without speech impairment on tests of executive functioning. As none of the children in the expressive language group had ever been able to use speech, the results suggest that the children may have bypassed the phase of overt private speech and entered the phase where inner language performs the regulating function.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence, Research Methods and Theories



## Providing repurposed technology and educational coaching to diverse learners across the globe

Kati Skulski | Dan Phillips

Students with special needs including limited communication skills exist all of the world, in some areas of the globe with very limited resources. Most of these students have a very limited method of communicating and responding to demonstrate their knowledge of the material as well as build essential language vocabulary skills necessary to develop content knowledge. As a result, many teachers have a “repeat” method of teaching – students repeat what a teacher says in order to indicate knowledge of material. It goes without saying that this method of teaching does not benefit students and demonstrate their true knowledge of content, but it also limits how a teacher is able to teach content. Teachers without a method of measuring student’s response are reduced to very limited information that can be delivered.

The Nika Project was developed to help special needs schools and communities to overcome this challenge of limited resources including books and paper but address the lack of training for teachers that special education requires. This project started at Khulani, a residential school with over 300 severely communicatively impaired students. Many students are non-verbal and the language of instruction was a combination of Zulu and English; most of the students did not speak English. This school had dedicated and motivated teachers, most of which had very little if any special education training. There were no IEPs and the ability to evaluate student’s progress was relatively non-existent.

A group of 8 SLPs and special education teachers spent two weeks with an intervention project at Khulani, bringing donated digital cameras, iPhones and iPads. Our mission was simple: to see how teaching can be elevated when providing students a method of response. Targeted apps were selected that had recording capabilities so they were able to be programmed in ANY language with ANY content. With a limited time frame, the apps needed to be easy to learn and quick to modify. Khulani did not have access to any internet in the classrooms.

Results of intervention were staggering. It was revealed that students had much more knowledge of the material than their teachers thought. Students were able to not only respond to specific vocabulary being taught, but were able to acquire core vocabulary language skills to be able to retell and explain their understanding. With a method of student response, teachers were able to elevate their teaching to address much more complex ideas and concepts. We watched typical teaching strategies of repetition be replaced with question/answer and explanation and elaboration. In a limited time with donated materials, we saw an immediate and drastic change in the communication and learning that was happening in the classroom.

The Nika Project has grown out of this first intervention to be a global mission to support language, communication and education in special needs communities around the world. We have had intervention projects in Brazil, Dubai and are currently putting together projects in Malaysia, Indonesia, Mongolia and Nigeria. Because our intervention uses apps that are not content or language specific, it is a structure that demonstrates incredible results in teaching students of ANY age, in ANY language, with ANY content. Whether traveling across the globe or across the street, the desire to learn and the motivation to teach and share information stays consistent.

At Nika, we are excited to share how some very simple donated tools can show remarkable results in changing the face of education. We have such diversity in our classrooms we visit every day and often face similar challenges: limited access to resources, diversity of languages, limited verbal abilities, and lack of specific technology or special education training. Participants will leave with feeling empowered to be able to reproduce this model to work with teachers and students that communicate in ANY language.

**Evidence Area:** AACcess language and literacy, AACcess education, AACcess culture, AACcess the world:  
Developing nations in AAC,

**Content Focus Area:** Professional Practice Evidence

## **Provision of AAC services in Malta**

**May Agius | Sharon Borg Schembri | Antoine Cauchi | Jamie Said | Martina Zarb**

Augmentative and Alternative Communication (AAC) services are provided by Access to Communication and Technology Unit (ACTU) in Malta. Malta is a bilingual country where both the Maltese and English languages are officially recognised thus education is conducted through both languages. The team which is transdisciplinary was set up 10 years ago and is based within an education setting. Team members include speech and language therapists (SLTs), occupational therapists (OTs) and educational staff. A British model of AAC service was initially followed and this was an assessment based service with the difference that it was based within an Education system. As SLTs and OTs in Malta are not typically based in educational settings, implementing AAC successfully within the classroom has its challenges found in other studies (Calculator, 2009). This has resulted in a shift in the service which has started to include the implementation of AAC in the classroom. Due to recent team expansion it was felt that service re-evaluation was beneficial to strategically plan future services.

### **AIMS**

The rationale of this submission is to evaluate and discuss the benefits and challenges of implementing AAC systems in educational settings in Malta,

1. To discuss the benefits of working in an educational setting and continue to build on the strengths of this current service
2. To explore and address the challenges that come from working in an educational setting
3. To evaluate current service delivery and identify the way forward

### **METHOD**

The review of this service, commenced with a four-step SWOT analysis process (Harrison, 2010). The first step consisted of a team discussion to describe the service. Then the team met on a second occasion to gather data which was then sorted into four categories: strengths, weaknesses, opportunities, and threats. Step 3 involved the development of a SWOT matrix. Finally, step 4 involved incorporating the SWOT analysis into the decision making process to determine potential options for the way forward. This was followed by a force field analysis to identify forces that were driving or hindering change. Analysis was supplemented by review of local literature (Borg, 2010) and foreign literature that evaluated similar services (Calculator, 2009).

### **RESULTS**

The results will be presented visually in a SWOT matrix. Identified strengths included the transdisciplinary nature of the team, a good network of AT suppliers willing to support AAC in Malta, good links with research and educational institutions, and being based within an Education system. In contrast, however, being within an Education system was also perceived as a weakness because of differing views on how the team should work which are not fully compatible with the values of the team. Despite being in an inclusive mainstream educational system there is a lack of understanding of the importance of communication. This is reflected in the approach to funding and setting of individual goals for the child. Furthermore, yearly changes of educational support staff creates an increasing burden on team members who are required to support staff to implement the AAC systems. Opportunities identified included EU funding for resources and the possibility of new online AAC training for educational staff. A threat to the service is public demand for recommendations for mainstream technology to be utilised as AAC devices creating an increasing waiting list while increase in staff resources is minimal.

Force field analysis revealed a number of helping factors including an enthusiastic team across a range of disciplines, parents who are very open to the use of AAC systems and are willing to self-fund, and access to the possibility to trial devices from suppliers in the UK. Furthermore, team members have easy access to the educational

settings and are accepted as part of the educational team. Hindering factors include bureaucracy which delays the successful implementation of support services, a lack of governmental funds for AAC devices which affects families who are not in a position to self-fund, and lack of vocabulary packages which support the Maltese language. Furthermore, a superficial view of inclusion which focuses mainly on the child present in the class rather than participating is prevalent.

#### **FUTURE IMPLICATIONS AND CONCLUSIONS**

The results of this evaluation indicate that further analysis is required. Strategic planning would be more comprehensive if other stakeholders including educational staff, SLTs, OTs, families and service users are involved in this process. This would be followed by a gap analysis in order to refine these analyses even further.

All authors contributed equally and are presented in alphabetical order.

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**Evidence Area:** AACcess education

**Content Focus Area:** Professional Practice Evidence

## Public Patient Involvement: Promoting a partnership rather than consultation model

Liz Moulam | Stuart Meredith | Yvonne Lynch | Juliet Goldbart | Janice Murray

Children who are non-speaking may benefit from symbolic communication aids. Identifying the most effective communication aid for individual children is a complex decision making process. Currently there is a lack of understanding of the most valuable aspects of clinical expertise and a poor understanding of child and family values within the clinical decision process (Scherer et al, 2007). Without research evidence to reinforce clinical expertise there is no means of determining the actual quality of provision (Batorowicz & Shepherd, 2011).

The Identifying Appropriate Symbol Communication (I-ASC) study is a 3 year National Institute for Health Research (UK) funded project to improve the outcomes for children who need symbol communication aids to communicate. The specific aim is to influence current practice by improving the consistency and quality of clinical decision making in the provision of symbol communication aids. It will result in decision-making resources to support communication aid assessments.

The conceptualisation and development of the I-ASC methodology adopts a Participatory Action Research (PAR) model. PAR recognises the wealth of knowledge that comes from experience, advocating an approach where people who are the focus of a study are equal partners and contribute to all aspects of the research process rather than being merely research subjects (Baum, McDougall and Smith 2006). The project has included co-researchers with lived experience of AAC as core contributors to all aspects of the project from developing the funding bid and research questions through to data collection and dissemination of findings. IASC has two co-researchers with lived experience of AAC as well as an advisory board which includes three members with lived experience of AAC. While the project has been commended from the funding body for achieving the gold standard by ensuring people with lived experience of AAC are equal partners in the IASC project, the team has encountered many barriers in the research context to achieving meaningful involvement of people with lived experience of AAC.

Involving people who are the focus of studies in research design and delivery may be termed as public and patient involvement (PPI). The concept of PPI is now firmly embedded at a policy level in the United Kingdom (Denigri, 2016). However, despite both political and policy level support for PPI involvement, the practical realities of service user involvement remains challenging (Ocloo & Mathews, 2016; Green, 2016). The systems underpinning clinical research appear to be designed to support PPI consultation instead of parity of co-researcher input (Ocloo & Mathews, 2016) with an emphasis on the mainstream population rather than vulnerable groups (Denigri, 2015).

This poster will explore the experience of PPI partnership during the I-ASC project, including the benefits of co-researchers with lived experience contributing to the research agenda, design and delivery. It will outline the challenges and barriers when working within a PAR model and will offer recommendations on how meaningful PPI engagement beyond consultation can be supported.

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**Evidence Area:** AACcess employment, AACcess justice, AACcess relationships

**Content Focus Area:** Research Methods and Theories

## Recast Type, Repair, and Acquisition in AAC Mediated Interaction

Gloria Soto | Michael T. Clarke | Renee Starowicz

Recasts are one of the most commonly utilized intervention strategies in programs designed to facilitate grammatical development for children with language disorders (Cleave et al., 2015). Recasts have been used in most forms of language interventions, either as the sole or main intervention strategy, or as part of a set of intervention techniques. A recast is an adult reformulation of a child's utterance, in which the adult extends, repairs, and models more complex linguistic structures while maintaining significant overlap in meaning and original elements of the child's utterance (Bohannon, Padgett, Nelson, & Mark, 1996), as in the following example from Clarke, Soto, and Nelson (2017): Child: dolly jump; Adult: yes, dolly is jumping.

Despite its wide use there is limited evidence on their efficacy. In a recent meta-analysis, Cleave and her colleagues found that recasting produced better results than comparison treatments or no-treatment conditions. Across the studies, there were differences in the types of recasts used. Recasts can take many forms, and can vary in terms of their length (e.g., partial recast or expansion), mode (e.g., interrogative or declarative), number of targets (e.g., simple or complex), linguistic focus (e.g., morphology or syntax), and contrast (explicit or implicit). In addition, recasts can be corrective as when the adult reformulation corrects an erroneous child utterance, or non-corrective as when it adds or modifies a correct but perhaps incomplete or immature child utterance. Most studies are not explicit about what type of recast is included or include a mix of recast types. No study to date has compared the effectiveness of different types of recasts on the acquisition of linguistic targets. Cleave et al (2015) concluded that additional research into the efficacy of recasting as well as the relative efficacy of different recast types is therefore needed.

Evidence for the facilitative power of recasts typically come from three different measures: (a) the child's immediate reformulation of his/her original erroneous or incomplete utterance, incorporating parts or whole of the adult's recast (i.e., self-repair); (b) spontaneous use of forms presented as recasts but then used by the child at later points in the conversation; and/or (c) evidence of production or comprehension of targets days or weeks later in spontaneous conversation or on specific language tests. While immediate child repair is not by itself irrefutable evidence of language acquisition, we have argued elsewhere (Clarke et al., 2017) that for children who rely on aided AAC, repair allows for the practice and retrieval of the targets, which in AAC, is linked to motor plan and automatization, and thus operational and linguistic competence. That is, children who use aided AAC become more accurate and more automatic by virtue of practice.

While there is preliminary evidence that points to a relationship between recasting and acquisition of novel vocabulary in users of aided AAC (e.g. Binger, Mauire-Marshall, & Kent-Walsh, 2011; Soto & Clarke, 2017), the relationship between type of recast and acquisition remains elusive. The following two research questions guided this study:

1. What is the relationship between type of recast and frequency of child repair?
2. What is the relationship between child repair and acquisition of linguistic targets?

The present study involved the secondary analysis of 32 language transcripts from a larger dataset described in detail in Soto and Clarke (2017). The study by Soto and Clarke (2017) investigated the effects of a conversation-based intervention on the use of pronouns, verbs, bound morphemes, and spontaneous clauses in eight children with motor-speech disorders who used SGDs. After a baseline period, each child participated in a conversation-based intervention where clinicians used recasting as part of their intervention strategies. Intervention sessions

were implemented for 50-60 minutes, twice a week for up to 12 weeks. All intervention sessions were video-taped, transcribed and analyzed using the Systematic Analysis of Language Samples (Miller, Andriacchi, Nockerts, Westerveld, & Gillon, 2012).

Eight children (3 girls and 5 boys) between the ages of 8 – and 13-years of age participated in the study (see Table 1 for participant characteristics). All had speech and motor disorders that affected their ability to use speech functionally, and used a speech-generating device to communicate. Their SGDs included linguistic structures that would afford the generation of grammatically correct utterances.

The analysis involved several steps. First, we examined each turn to identify recasts used by the adults immediately following a child's erroneous or incomplete utterance. A recast was defined as an adult reformulation, that maintained the child's meaning, and provided a grammatically correct version of the child's utterance. Next, we identified the type of adult recast according to the following classification. Last we examined the child's immediate response to the adult's reformulation and noted whether this utterance incorporated parts or whole of the adult's recast.

The relationship between recast type, repair and acquisition of linguistic targets will be presented in this platform presentation.

**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence



## Remember that we shall be able to communicate off-line

Jeppe Forchhammer

### BACKGROUND

We have come to a time when our communication aids become more and more electronic. I see that starting earlier and earlier, giving children who need AAC a voice output computer. I would like to question that! In this lecture I will come across why I think you should learn children who need AAC to express themselves with their body early on. Then they get the communicative relationship directly to another person in place first.

### BODY LANGUAGE

All people communicate 83% with the body. That is, the remaining 17% can be remedied with a machine. We still have to remember having a way to communicate with each other when we get into situations where we cannot have a computer or a machine with us.

### FACE-TO-FACE

I think it's important that AAC-users learn to interact with another person face to face. It is of course important for all babies and especially if you do not develop a spoken language. I think the babies naturally begins to communicate extensively with their eyes. At least I began to observe what was happening around me and slowly I began to communicate with my eyes by looking at things and the people around me. That way, I began to contact people around me early.

### WE CAN COME A LONG WAY WITH YES AND NO

We must start by finding out how the child can express a yes and a no with their body / eyes. Now we can ask yes / no questions and give the child options. With this we begin to teach the child to interact with another human being. Now, for example, we may ask: "Do you want juice or milk?" And then we have to ask again: "Do you want milk, yes or no? Do you want juice, yes or no?" We need to get an answer to each question. In this way, the child learns to make a choice.

### WHAT AM I SO WORRIED ABOUT

I'm afraid that AACusers in the future will lose some communication skills with their bodies and mimics if you start too early with technical aids. I think we can risk, the child gets inward. We may risk giving the child some social problems unless they learn to use and read the body. I'm sure the child needs to get out of his wheel-chair and down on the floor to play to make a good communication. That will not happen just because the child is sitting in his wheelchair and has some pre-made sentences on the computer that he or she can say. Thus we begin to anonymize and automate the child's communication. I think that it will have some negative consequences later in the child's life.

### TO READ BODY LANGUAGE

A "normal" child automatically says things with the mouth that others respond to it. They look at each other and the child learns to read other people's body language. I do not think that one can learn in the same way if they get a speech output computer early on. We have to look at each other so that we can learn to read body language and feelings with each other. We have to remember that the good relationship is created face to face and not by voice computer.

We all know that you have to climb before you can walk. In this way, we also have a natural development in the way we teach a child with a speech / disability to communicate. I think we are about to forget that with all the technological opportunities we have today.

We need to give the child some physical communication tools too, because the physical relationship with another person may still be more important than 1000 pages in the child's communication program. We talk so much

about the fact that “normal” children must have limited screen time. Is that the same for an AAC child? I will answer no, because we cannot remove the child’s ability to say something. Therefore, we must remember to find a way for all children to communicate “offline”.

**MY PERSONAL DEVELOPMENT**

I have now been a little critical of giving AAC users a voice output computer too early, but I wish I had my eye gaze computer in my primary school time. Then I think my professional development would have gone faster and maybe I could have taken a 9th grade graduation test earlier. I had a good time school, but I do not think I was challenged enough in my folk school. I think that a speech output computer could have contributed positively. So, of course we need to use the new technology, but we must remember the personal aspect of communicating with each other “offline”.

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Presentation at ISAAC 2016 “Gatherings for AAC-users”

**Evidence Area:** AACcess the community, AACcess relationships

**Content Focus Area:** Personal Experiences and Preferences

## **Removing Barriers: The AAC Lending Library**

**Karen Baca**

San Francisco and the Bay Area of California is a culturally and linguistically diverse area. Support for Families of Children with Disabilities (SFCD) is a parent-run San Francisco-based nonprofit organization founded in 1982. The purpose of Support for Families is to ensure that families of children with any kind of disability or special health care need, and the providers who serve them, have the knowledge and support to make informed choices that enhance children's development and well-being. All services are provided free of charge. Support For Families served 1,028 families and 296 professionals (unduplicated numbers) in 2015. Of those served, individuals identified themselves as Hispanic (26.9%), African American (5.3%) and Asian (14.0%). The breakdown of primary languages of those served was 58.9% English, 19.4% Spanish, 8.8% Cantonese, and 12.9% identified other languages.

Parents have to know what augmentative and alternative communication is before they can request an evaluation for their child. This information is not readily available in Spanish and Cantonese. Parents have to know their rights regarding their child's education and their input needs to be included in considering AAC (Parette, Brotherson, & Huer, 2000). Parents' request for an evaluation can be denied or may be completed without identifying robust AAC systems. Families need access to AAC systems in their home language (Dukhovny & Kelly, 2015). Parents and professionals need to be aware of issues when providing services to bilingual children (Soto & Yu, 2014). The cost of AAC devices can also be prohibitive, as well as the costs and resources for creating low tech systems.

### **AIM**

In this presentation, we aim to explore the following questions around AAC resources, training, and support:

1. What resources are available for families and professionals to try and use AAC systems, both electronic and non-electronic, and in multiple languages?
2. How do you provide AAC systems, training and support to culturally and linguistically diverse communities?

### **METHOD**

To identify needs in the community, focus groups were held in English, Spanish, and Cantonese. Trainings about AAC were developed in multiple languages and conducted in our offices as well as at our sister agencies located in outlying communities. A lending library of iPads was purchased as well as numerous robust AAC apps. AAC apps in Spanish and Chinese, both Cantonese and Mandarin, were added once they became available. An Assistive Technology Lab was developed in our office, to provide a space to meet with families and professionals and demo equipment. The lab includes a station where professionals and families can create low tech supports and communication systems. An Introduction to PODD training with Linda Burkhart to teams (50 people total) was offered free of charge to parents and professionals. A lending library of one page opening PODD books was created and made available to parents and professionals.

### **RESULTS**

In one year's time, 243 individuals attended trainings about AAC by providing trainings in multiple languages and by partnering with neighborhood sister agencies. Support was provided to monolingual parents by teaming with trained family resource specialists who are bilingual. The Introduction to PODD training was attended by 50 individuals, and 10 were waitlisted. Methods were developed for the creation of PODD books that could be replicated by other agencies to develop their own libraries. Professionals and parents have begun borrowing PODD books and receiving support with implementation.

## **CONCLUSION**

Offering trainings in our office did not initially reach the targeted communities, and this required partnering with neighborhood agencies in order to reach Cantonese and Spanish speaking families, as well as African American families. Despite finding some AAC apps in Cantonese and Mandarin, there is a lack of AAC systems in these languages, both low tech and high tech. The Introduction to PODD training was hugely successful and additional training was requested. The impact of the training will be monitored in the upcoming year to measure its impact on the number of children that begin using PODD. Methods for the development of a PODD lending library are being shared with other agencies and school districts.

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**Evidence Area:** AACcess education, AACcess the community, AACcess diversity, AACcess culture, AACcess relationships

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

## Report on the First East Asian Regional AAC Conference

Menglin Sun | Xiuyin Fu | Yong Liu | Mei Liu | Kristine Stadskleiv | Shula Friedrich Shilon |  
Xueyun Su | Stephen von Tetzchner

In all countries there are children and adults with severe motor impairment, learning disability, autism spectrum disorders or severe language disorder who have very little or no speech. In many countries augmentative and alternative communication (AAC) is used as a supplement to, or a substitute for, spoken language, in order to improve communication and language development in these children and adults. Studies have demonstrated the usefulness of AAC, and in many countries AAC is generally known among professionals and in the society. In other countries, children and adults may not get AAC intervention because families and professionals are not aware of the possibilities of AAC, or because the necessary competence is lacking.

The «First East Asian Regional Conference on Augmentative and Alternative Communication (AAC): Discovering Resources» was held in Beijing November 20–22 2017. It was inspired by the presence of regional conferences in Eastern and Central Europe, Brazil and other countries. The background for the conference was that AAC is being used in most East Asian countries but the general knowledge about AAC is still limited. There are centers of competence within each country but most people have hardly heard about AAC. The conference brought together researchers and professionals working with AAC, families of children and adults needing AAC, and producers and service providers within this field from several East Asian countries, and was also attended by researchers from Australia, North America and Europe. ISAAC was represented by Meredith Allan and Aldona Mysakowska-Adamczyk. The scientific committee was Professor Xiao Fei, Beijing Normal University, Associate professor Xueyun Su, East China Normal University, Shanghai, Vice Director for the Specialized Committee of Autism Menglin Sun, China Association for Rehabilitation of Disabled Persons, and Professor Stephen von Tetzchner, University of Oslo.

The conference made visible the resources and competence that exist in East Asian countries, and established new connections and possibilities for collaboration and sharing of knowledge and ideas. The future regional conferences will contribute to improving the possibilities of children and adults with severe speech and language disabilities in this region.

**Evidence Area:** AACcess the community, AACcess culture

**Content Focus Area:** Professional Practice Evidence

## **Research Methods for Engaging with Aboriginal Australians from Remote Locations about AAC**

**Rebecca Amery | Julie Wunungmurra | Joanne Gondarra | Rachel Baker | Anne Lowell | Pammi Raghavendra | Ruth Barker | Libby Massey**

### **ABSTRACT**

This workshop explores research methodologies and methods for Augmentative and Alternative Communication (AAC) assessment with Aboriginal Australians living remotely in the Northern Territory. The presenters will share their experiences working with Yolŋu families living with Machado Joseph Disease (MJD), a neurodegenerative genetic disease that affects muscle coordination and control. Yolŋu are the Indigenous people of northeast Arnhem Land and are the largest population of Aboriginal Australians at risk of MJD. The research aims to better understand the complex communication needs for Yolŋu with MJD and their interest in engaging with AAC.

### **BACKGROUND AND RATIONALE**

MJD, also known as Spinocerebellar Ataxia Type-3 (SCA3), results in progressive dysphagia, dysarthria and anarthria in the severe stages of the disease, but cognition is unimpaired. It is the most common form of Spinocerebellar Ataxia globally<sup>1</sup>. The prevalence of MJD amongst Aboriginal people in remote areas of the Northern Territory is 100 times the global average<sup>2</sup>.

Yolŋu with MJD may benefit from AAC systems in moderate and severe stages of the disease. However, most existing AAC assessment tools and systems have been developed for people who speak English and live in Western cultural contexts. Many Aboriginal families who live remotely have never seen aided AAC systems and have a limited understanding of what options are available. Furthermore, most Yolŋu have little input regarding the modes or focus of speech pathology services, if they are available at all. There are many challenges and barriers in providing AAC services to Aboriginal Australians living in remote locations. There is a need for more research to explore the experiences, perspectives and resources needed to improve AAC access for diverse individuals and families.

### **WORKSHOP CONTENT AND FOCUS**

This workshop will be co-presented by Balanda (non-Aboriginal) and Yolŋu co-researchers. Aspects of Yolŋu worldview and the cultural context of the research will be discussed. The researchers will also share their experiences of using culturally-responsive, qualitative research methods and their reflections on working together.

Yolŋu co-researchers were employed as part of a bilingual, bicultural research team which partnered with organisations to collaborate during each phase of the research. The researchers are supported by a network of established relationships with participants, and are responsive to these relationships through the research process. This valuing of relationality and accountability to relationships is a core principle of Indigenous Methodologies<sup>3</sup>.

Small group interviews and mapping of Yolŋu participants' social networks was conducted using the Circles of Communication Partners from 'Social Networks: A Communication Inventory for Individuals with Complex Communication Needs and their Communication Partners' as a framework to gather data<sup>4</sup>. Data collection was flexible, and methods were modified, responding to Yolŋu participant and researcher preferences and timeframes. This included working in open interviews, with participants and researchers moving in and out of group interviews as they were available. The social networks of Yolŋu participants were scribed through conversation, exploring factors whilst talking, drawing and writing.

The interviews were translated and transcribed from the participants' primary languages to English using meaning-based translation. Collaborative analysis of transcripts began concurrently with data collection, following

principles of Constructivist Grounded Theory<sup>5</sup>. The stories participants have shared relate to three main areas: Yolŋu kinship relationships and communication strengths, their experiences of MJD and communication difficulties, and their ideas about speech pathology services.

#### **LEARNING OUTCOMES**

Workshop participants will have the opportunity to:

1. Develop awareness of some of the ethical considerations when working with Aboriginal Australians
2. Discuss informal assessment and adaption of AAC assessment tools for use with Aboriginal Australians and other culturally and linguistically diverse people
3. Reflect on their research or professional practice when engaging with diverse client groups
4. Identify areas of need for future AAC research relating to Aboriginal Australians and other culturally and linguistically diverse people.

#### **INTERACTIVE COMPONENTS**

- . Discuss and analyze case examples with videos from the research
- . Participate in small group activities, including ‘talk-and-draw’ methods and ‘reverse’ role play

**Evidence Area:** AACcess diversity, AACcess justice, AACcess culture, AACcess relationships, AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Methods and Theories

# Response to Augmentative and Alternative Communication-based intervention and expressive language outcomes

Veronica Rose | David Trembath | Deb Keen Jessica Paynter

## BACKGROUND:

Augmentative and alternative communication (AAC) is a commonly recommended intervention for children with autism spectrum disorder (ASD) who have minimal spoken language, and is frequently incorporated into comprehensive early intervention programs for this population. There is evidence for the use of AAC for supporting communication development for children with ASD when used in isolation (Ganz, 2015), and as part of a comprehensive intervention approach (Kasari et al., 2014), but little research exists examining the mechanisms underpinning individual differences in response to AAC-based interventions. It is possible that children's response to AAC might impact on their response to interventions in which AAC is a core component. For example, three variables that might contribute to outcomes include, children's visual attention to AAC (Trembath, Vivanti, Iacono, & Dissanayake, 2015), manipulation of the system (i.e., object play) (McDuffie, Lieberman, & Yoder, 2012), and ability to derive symbolic relationships between symbols (pictures) and objects, actions, and events they represent (Allen, Hartley, & Cain, 2015).

## AIM:

The aim of this study was to investigate the relationship between children's response to AAC (visual attention, object play, and symbolic word learning) at intake and expressive language gains 12 months later in a group of children with ASD receiving a community-based intervention in which AAC was a key component. Additionally, this study will investigate whether these three variables explain variance in expressive language gains, above and beyond previously reported predictors of outcome (chronological age, nonverbal IQ and ASD symptomatology).

## METHOD:

Participants were 48 children with ASD aged two to five years. Visual attention to AAC was gathered during a simulated teaching activity whereby children watched a series of videos in which an adult delivered a set of eight instructions using picture-based supports. Visual attention was captured using eye tracking and calculated as time spent looking (ms) to pictures. Object play was gathered during a 5-minute free play task and coded as the number of times the child used an object in a purposeful manner. Symbolic word learning was determined by children's ability to learn a novel word paired with a target photograph (associative learning), and then extend learning to the three-dimensional target object (referential learning). Nonverbal IQ and expressive language was captured using Mullen Scales of Early Learning (MSEL). ASD symptomatology was determined using the Social Communication Questionnaire (total score). For this preliminary investigation, correlation analysis was used to determine the relationship between each of the three predictors and expressive language gains using MSEL expressive language age equivalents to calculate change scores.

## RESULTS:

Time 2 data collection is in progress, with preliminary results suggesting a medium positive correlation ( $r = .365$ ) between visual attention and expressive language, though results were non-significant,  $p = .165$ , and a small positive correlation ( $r = .214$ ) between object play and expressive language, though results were non-significant,  $p = .46$  (Spearman's rank-order correlations). Using a Mann-Whitney test to compare groups, we found a non-significant ( $p = .376$ ) medium effect ( $d = 0.31$ ) of word learning on expressive language. Following completion of data collection, multiple regression will be used to determine the effect of these three predictor variables on expressive language gains, while controlling for putative predictors of outcome.



**CONCLUSION:**

Preliminary findings suggest that factors such as visual attention to AAC, object play, and symbolic word learning may be useful for predicting children's expressive language gains within interventions in which AAC is a core component. The findings of this study have important implications for both research and clinical purposes, in particular, for understanding mechanisms underpinning individual differences in expressive language gains in children with ASD.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence

## **Responsiveness of the Family Impact of Assistive Technology Scale for AAC Interventions**

**Stephen Ryan | Tracy Shepherd | Anne Marie Renzoni | Michelle Servais | Shauna Kingsnorth | Kim Bradley | Karen Ward | Carrie Laskey**

Authorities in outcomes research recommend that effectiveness studies consider the influence of AAC along a time continuum that includes the selection and acquisition of the AAC system, its introductory and longer-term use, and the interaction of an array of functional and contextual factors (Fuhrer et al., 2003; Scherer et al, 2007). To enhance the credibility of the measured outcomes, measurement scales must have adequate psychometric properties and be able to detect change along this continuum. Yet, few parent-report measures exist that are designed to detect AAC outcomes in young people with complex communication needs. An alliance of clinicians and researchers developed and tested the multidimensional, parent-report FIATS-AAC questionnaire to fill this gap in AAC outcomes measurement.

The purpose of the FIATS-AAC is to detect the functional effects of AAC interventions for young people with complex communication needs. Earlier research studies involving more than 150 parents showed that the scale has acceptable levels of reliability and validity (Delarosa et al, 2012). However, evidence of its responsiveness to change following an intervention would provide much needed support for its adoption as an AAC outcomes measure.

### **AIM:**

Our primary aim was to answer the research question: “Is the FIATS-AAC responsive to functional change in children with AAC system needs, aged 3 to 16 years, and their families 12-16 weeks following the receipt of a high-tech communication system?” It was hypothesized that parents would generally report small improvements in their child’s functional communication over this period. Our secondary aims were to study the responsiveness of the FIATS-AAC over a shorter 6-8 week follow-up period and re-estimate its test-retest reliability.

### **METHOD:**

The research ethics board at the authors’ hospital provided approval to conduct the study. A convenience sample of 50 parents of children with complex communication needs consented to join a repeated measures, pre-/post-intervention research study. We recruited parents of children, ages 3 to 16 years, who were prescribed and awaiting a high-tech communication device. We considered any electronic communication device to be eligible if it stored more than one page of graphic-based vocabulary. We initiated a recruitment and consent process after initial assessment and when the family and AAC team made a shared decision to acquire an AAC device.

Participants took part in 4 phone interviews over a 5-month period: 2-4 weeks before their child received the AAC device (T1); near or on the device dispense date (T2); 6-8 weeks after receiving the device (T3); and 12-16 weeks after receiving the device (T4). A one-way, repeated measures ANOVA and post-hoc paired t-tests were used to assess the responsiveness of the FIATS-AAC using T2, T3, and T4 data. The reliability analysis included T1 and T2 data to estimate the intraclass correlation coefficient (ICC) using a mixed effects model for absolute agreement.

### **RESULTS:**

Forty-five parents completed T2, T3, and T4 interviews. Participants were mostly (86%) mothers of children with AAC needs. Children were aged 3 to 16 years ( $M=7.8$ ,  $SD=3.3$ ) and 76% were male. Primary diagnoses included autism spectrum disorder, cerebral palsy, developmental delay, other genetic syndromes, and acquired brain injury. Eighty percent of the children received their first high-tech device; whereas, the others received a replacement high-tech device for the study intervention. Most children (78%) were context-dependent communicators and most (93%) accessed their device by direct selection.

Results of the repeated measures ANOVA showed a significant mean difference in FIATS-AAC scores over time ( $F(2,88)=4.93, p=.009$ ). Paired t-tests indicated a significant increase in functional outcomes from T2 ( $M=52.1, SD=8.2$ ) to T4 ( $M=53.8, SD=8.2$ ),  $t(44)=2.5, p=.015$ , as well as from T2 to T3 ( $M=53.9, SD=8.1$ ),  $t(45)=2.77, p=.008$ . Effect sizes using standardized response means were .38 and .41, respectively. The test-retest reliability for the FIATS-AAC was  $ICC=.94, 95\%CI[.88,.97]$ .

**CONCLUSION:**

The study provides evidence of the FIATS-AAC as a reliable, parent-report measure that can detect functional change following AAC interventions for children and youth with complex communication needs. Further intervention research using the FIATS-AAC will provide clinical meaning to the effect sizes measured.

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**Evidence Area:** AACcess emerging technologies, AACcess relationships

**Content Focus Area:** Research Evidence

## **Retail inclusion – the problem of complaining**

**Sue Taylor | Susan Balandin | Erin Wilson | Kevin Murfitt**

### **AIM:**

To consider the social justice and clinical practice implications of evidence gained from the retail experiences of people who use AAC systems and who shop independently. Particular attention will be given to the challenges of complaining to retailers after a difficult shopping experience. This research examined the factors that contributed to decisions about whether to complain after a negative shopping experience, the factors that facilitate or impede customers who use AAC complaining, and the impact of either making or not making complaints.

Social inclusion involves sharing equally 'the ordinary places that involve community life' (O'Brien, 1987 p.177), experiencing autonomy and personal choice, having opportunities to perform valued activities, receiving respect as individuals and belonging to networks of personal relationships (O'Brien, 1987). The implications for social inclusion when people who use AAC are discouraged or prevented from complaining will be discussed.

### **METHOD:**

The first researcher interviewed six adults with a range of lifelong or acquired disabilities who shop independently, with or without physical support, and who use speech generating AAC devices. Using Charmaz' grounded theory methods, data analysis produced themes common to the accounts of all participants. This paper develops an understanding of one of those themes, that of complaining about customer service. Experiences of complaining differed across participants but all were affected.

### **RESULTS:**

Our results indicated that the retail environment is a key site for experiences of social exclusion or inclusion. Shopping contributed to some people feeling strong, independent, and in control. Thus, taking on the identity of customer can be a positive experience. However, negative experiences led to feelings of exclusion, and challenged the confidence some participants, possibly contributing to self-protective behaviour, for example increasing dependence on support in future shopping transactions. Some people who use AAC devices may overlook negative customer experiences because they are frequent occurrences. Those who feel unable to complain may do so for a number of reasons, including low expectation of being understood and the perceived unlikelihood of redress.

### **CONCLUSION:**

The act of making a complaint and seeking redress after a negative shopping experience requires confidence and determination on the part of the customer using AAC. AAC systems must be robust enough to enable people to assert themselves in sometimes unexpected situations. Decisions need to be made quickly so that the opportunity to complain is not lost. Retailers need to be equipped to respond to complaints that may be difficult to understand and that challenge their conceptions of satisfactory customer service.

Light (1989) defined communication competence of people using AAC systems in terms of linguistic, operational, strategic and social competence, all of which are relevant to communication with retailers. Yet despite the person using AAC acquiring skills adequate 'to function within the environment' (Light, 1989 p.138) they may still not have equal access to 'the ordinary places that involve community life' (O'Brien, 1987 p.177) such as shops. There is little emphasis in AAC literature on communication with casual communication partners (Collier, Blackstone, & Taylor, 2012; Teachman & Gibson, 2014). This research may contribute to understanding the relationship between the communication competence of customers using AAC, the adequacy of their AAC devices, and the current and potential capacity of the retail industry to become systematically more inclusive of customers with little or no speech.

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**Evidence Area:** AACcess the community

**Content Focus Area:** Research Evidence

## **Rett Syndrome: time to move and time to communicate**

**Linda Burkhart | Fiona Beauchamp**

Individuals with Rett Syndrome face a variety of challenges to communication and learning. After an initial deterioration phase, they are often able to slowly regain forward momentum and learn some limited motor control. Efferent dyspraxia, challenges with autonomic nervous system regulation and involuntary stereotypies, become their greatest disabilities. This combination can make it very challenging for these individuals to move their bodies when they desire to move. Getting from thought to action takes extended time and effort. The result is often limited ability to show others what they know and to communicate their thoughts, feelings and ideas to others (Burkhart & Selegman-Wine 2010).

Typically developing individuals operate within a narrow range of a natural pacing speed for social interaction. People may find it awkward and difficult to slow down and provide sufficient time to communicate with individuals with Rett Syndrome. It is easy to make negative assumptions about capabilities and/or to feel tempted to speak for these individuals. Statements, such as, “she speaks with her eyes” or “I know what she is saying by her facial expressions”, assume that these are enough. While these are absolutely an essential component, they do not enable autonomous communication. Implementation of Augmentative and Alternative Communication (AAC) needs to address the specific challenges faced by individuals with Rett Syndrome.

Often, these individuals are not given time to find and execute movements and may be inadvertently interrupted by communication partners cueing and promoting them. This frequently results in the individual having to initiate the movement again. At other times, partners have moved on to different topics or activities because of the extended time needed, and may miss the actual completion of the movements. Both result in communication breakdown and reduction of motivation for the individual. It also becomes important to recognize that these movement challenges may vary greatly, causing inconsistency and inability to respond upon demand. The time and effort required for these individuals to find their movements needs to be motivating and physically worth the effort. Motivation isn't just helpful, it is essential for more coordinated neural functioning (Djukic, 2010). Real and meaningful opportunities for autonomous communication, without pressure for speed, must be experienced for success. Supporting individuals with Rett Syndrome requires a shared understanding by the individual, family and support workers that ‘it's ok and essential to take the time needed’.

In addition to time, these individuals benefit from direct teaching of movements that incorporate; weight-shift, weight-bearing, disassociation, symmetry, stability, rhythmical intention, and self-talk. The development of automaticity to increase the speed of initiation and intelligibility of movements requires practice with thousands of repetitions, with intent, purpose and variation (Burkhart, 2009).

This interactive workshop will explore specific challenges faced by individuals with Rett Syndrome and present strategies found to be effective in teaching movements for autonomous communication. A variety of access methods will be considered, including: eye-gaze, head movements, partner-assisted scanning, electronic and non-electronic forms of AAC. Case studies and videos will be utilized to illustrate both challenges and effective strategies. We will focus on ways to support the individuals to initiate, and execute more controlled movements and ways to teach others to respect the needed wait time.

### **OUTCOMES**

- . Discuss specific challenges faced by individuals with Rett Syndrome that impact their abilities to communicate.
- . Explain the challenges of timing and the importance of wait time in working with and communicating with individuals who have Rett Syndrome.
- . Discuss motor learning strategies for teaching movements for communication.

### **INTERACTIVE COMPONENTS**

- . Participants will have an opportunity to experience through simulation, the challenges faced by individuals who have Rett Syndrome. They will have the opportunity to practice appropriate strategies to meet these challenges in order to teach skills that will enable autonomous communication.

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**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community, AACcess relationships

**Content Focus Area:** Personal Experiences and Preferences

# Reviewing the Current Language Assessment Tools in Taiwan for AAC users

Ming Chung Chen | Shu Ching Lee

## 1. INTRODUCTION

AAC has been regarded as an effective intervention for children with complex communication need (CCN), e.g. autism, cerebral palsy, or developmental disabilities. However, most of the intervention studies focused on request functions, e.g. I want to drink, I want noodle, in the Taiwan (Wu, Chen, & Wang, 2011). These studies seldom explored the improvement of spontaneous novel utterance generation (SNUG) and literacy for AAC users. Therefore, most of these previous studies did not report the language abilities.

However, improving AAC user's language ability is good for their communication. Although communication through AAC does not require language ability, effective communication does need. Eventually, language assessment is one of the essential capabilities assessment to selecting a proper AAC for people with CCN if we want AAC users to learn to say what they want to say. Therefore, we might need to develop proper language assessment tools (Smith, 2015).

But we need to review the current language assessment tool we already had in Taiwan to check if these tools could be used in language ability assessment before initiated a new assessment developing process. In addition, we also want to propose a framework of language assessment tool that could be used to assess children with CCN.

## 2. METHODOLOGY

The authors searched the introduction of language assessments on the websites of Center of Special Education in Universities, assessment publishers, Resource Center for Special Education in local education agents. Then the authors borrowed the assessment from the abovementioned centers. 14 language assessments were reviewed finally. Two senior students of Department of Special Education were trained to review the assessments individually on an online Google form which was a well designed checklist.

## 3. RESULTS

Fourteen Chinese language assessments were reviewed. The major results of analysis were described below:

### 3.1 Published year

Four assessments were published in 1994 to 2000, 8 assessments were published in 2001 to 2010. Only 2 were published after 2011.

### 3.2 Language competences

Two major dimensions were used to classify the assessments. One was expression and another is comprehension, both comprised of oral and written. Some assessment might include two or more competences. Therefore, the total amount of assessment here was more than 14. 8 assessments assess abilities of oral expression, 3 assess abilities of written expression. Four assess auditory comprehension, and 7 assess abilities of reading comprehension.

When we looked at the components of language, six assessments test phonic, 8 test vocabulary, 10 assess syntax, 8 assess sentences, 6 test essay, and 8 assess pragmatic.

### 3.3 Targeted users

2 assessments could be used to evaluate the young kids below 5-years old, 8 assessments focus on students from 6-year old to 18-year old, 3 assessments could be used to evaluate kids from preschool to elementary school, e.g. kids from 3-year old to 12-year old for PPVT-R. Only one assessment is for adults. Since these



language abilities assessments were developed for evaluating the language abilities or screening language difficulties for the kids, students, or adults, only one assessment was developed for kids with language disorder or learning disabilities. The other 13 assessments do not focus on kids or students with specific disabilities.

### 3.4 Methods for executing assessment

9 assessments require individual test, while only 2 allow group test. Meanwhile 3 assessment allow group or individuals test both. Since these assessments did not consider communication abilities, the participants were asked to speak or write to respond the tests in expressive abilities assessment, while they were asked to answer the tests in receive abilities assessments through point to targets, speak, or write.

### 3.5 Norm

Only an assessment is a criterion-referenced test, which is used to diagnose problem of articulation. The other 13 assessments are norm-referenced tests, including percentage level, T score.

## 4.CONCLUSIONS

According the abovementioned results of review, we found that all of these assessments aimed to assess the language abilities or difficulties, however, none considered the participants' motor or speech limitation, which might affect their expression performance. Therefore, we need to develop proper assessment that could meet the participants' limitations.

Key words: AAC assessment, language assessment.

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**Content Focus Area:** Professional Practice Evidence

## **Schools' organisational factors and participation for students using AAC**

**Signhild Skogdal | Anne Nevøy | Susan Balandin**

Despite the international advocacy of inclusive education at the policy level, regular schools struggle to facilitate participation in the regular classroom for students using AAC (Carter, Moss, Hoffman, Chung & Sisco, 2011). Research has demonstrated that barriers to participation are not primarily related to individual characteristics of the students using AAC, but are connected to practices within school contexts (Carter, Bottema-Beutel & Brock, 2014). For example, participation and communication in the regular school community is impossible when the education of students using AAC is organised in self-contained separate classrooms, segregated from the regular class (Jorgensen, McSheehan & Sonnenmeier, 2009). Hence, how education is organised reflects processes that can promote or inhibit participation for students using AAC (Skogdal, 2017).

The present paper reports on a study exploring enablers and barriers to participation for students using AAC. The research question is:

- How do the AAC students' participation in the regular classroom relate to organisational factors?

The study is conducted in Norwegian lower secondary schools, in six regular classrooms each including a student using AAC. The data comprises information from introduction meetings with the head special education teacher at each school and the principal from two of the schools, and classroom observations. Sociocultural theory, highlighting participation, interaction and communication as central dimensions of learning (Vygotsky, 2001) is the theoretical basis in the study. Participation, interaction and communication are understood as being and doing together.

An overall finding in the study was that the schools supported the principle of inclusive education, where all students could participate in a regular classroom. Still, observations revealed that participation in a regular classroom for students using AAC was a challenge for the schools. The findings indicated that three factors are related to the AAC students' opportunities to participation in the regular classroom: (a) The schools' preparation for having a student using AAC, (b) The schools' organisation of the timetable, and (c) The AAC students' seating in the regular classroom.

Collaboration and shared knowledge between the primary and secondary schools was highlighted as central to prepare for having a student using AAC. However, these transition processes were limited at the schools. A pattern was that there had been little or no systematic training or courses in AAC as preparation for the teachers, assistants and peers. For example, all the SETs commented that learning through personal experience had been their primary way of acquiring AAC knowledge.

The schools' organisation of the timetable for the students using AAC was another factor central to these students' opportunities to participation in the regular classroom. In average, the students attended the regular classroom in approximately 30% of the lessons and 9% of the breaks. Social history, Religion & ethics, and Norwegian, were the dominant subjects when the students using AAC attended the regular class. The instructional formats used in these lessons were mostly teacher dominated, with minor student interaction. The AAC students rarely or never attended lessons of practical and more interactional subjects, such as Music or Sport.

The seating within the regular classroom for the students using AAC also appeared to relate to opportunities to participation. Most of the classmates in five of the classes were seated in pairs or in groups of three. As such, the classmates had easy access to cooperation and interaction with each other. Four of the AAC students were seated in a corner, in the front or in the back of the classroom, "hidden" behind or beside their SET or assistant. Due to

this seating, the students using AAC were deprived the possibility to participate and interact with classmates.

The three factors presented, reflect that the schools' organisational practice served as barriers to participation for the students using AAC and are contradictory to their desire of an inclusive school.

**Evidence Area:** AACcess education

**Content Focus Area:** Research Evidence

# Scoping review: Augmentative and alternative communication (AAC) interventions and training partners in low-and-middle income countries

Nimisha Muttiah-Fonseka | Kathryn Drager

Individuals with disabilities are overrepresented in low and middle-income (LAMI) nations (Maloni et al., 2010). An estimated 85% of children with disabilities live in LAMI countries (Helander, 1993). Worldwide prevalence numbers for individuals with specific disabilities such as communication disabilities are scarce; however, there are some estimates. For example, Hartley and Wirz (2002) reported that between 38-49% of people who sought rehabilitation services in Pakistan, Uganda, and Zimbabwe had communication difficulties.

The challenges with providing communication services in LAMI countries are significant. By definition, LAMI countries have a largely rural population, limited health, education, and technology resources, and a poorly performing economy (World Bank, 2012). Providing any kind of rehabilitation services under these conditions is challenging (Wylie, McAllister, Davidson, & Marshall, 2013). This is even more so for individuals with communication disorders.

The field of augmentative and alternative communication (AAC) has grown exponentially in the last few years. However, most research has been conducted in developed countries. As a result, these findings may not be applicable in LAMI countries where there are significant differences in culture, economy, education, healthcare, and technology. There is an urgent need for LAMI countries to provide individuals access to AAC services.

Currently, a small number of studies exist that discuss AAC interventions in LAMI countries. In addition, there is a significant need to conduct research studies in these countries to determine the most appropriate and feasible methods to train individuals providing these types of interventions for children with CCN (Muttiah, McNaughton, & Drager, 2015) There are only a handful of studies that have explored training individuals living in LAMI to provide AAC services to children with CCN (a few examples include Bornman & Alant, 1999 in South Africa; Bornman, Alant & Lloyd, 2007 in South Africa; Bunning, Gona, Newton, & Hartley, 2014 in rural Kenya). Although these are limited in number they provide preliminary evidence that AAC interventions can be successfully conducted in LAMI countries. It is important to consider the current state of research on AAC interventions in LAMI countries prior to determine how to further the field in this area.

The primary purpose of this scoping review was to evaluate the current evidence base on AAC interventions and partner training in LAMI countries and consider any gaps in the research.

## METHOD

This review used a scoping review methodology. A scoping review is a type of preliminary assessment to understand the scope and amount of available research on a particular topic (Grant & Booth, 2009). The primary purpose of a scoping review is to capture the current state-of-the-art on a topic that in turn may help to initiate new research (Hanson, Beukelman, & Yorkston, 2013). The following inclusionary criteria were specified: (a) published between 1995 and 2015; (b) published in English or translated into English; (c) published in peer-reviewed journals; (d) included at least one participant reported to have complex communication needs or at least one communication partner trained on AAC; (e) study was implemented in a LAMI country (one of 84 countries defined by the World Bank as those with a low-income economy or a lower-middle-income economy); and (e) implementation of an aided or unaided AAC system. A multifaceted search strategy was implemented to identify all studies that met the inclusionary criteria. An electronic search and a hand search were conducted. This search is currently on going.

## **RESULTS**

Studies identified will be coded according to: (a) LAMI country, (b) intervention, (c) type of training provided (e.g., online) (d) who provided the intervention, (e) to whom the intervention was provided to, (f) what type of AAC intervention (e.g., low-tech or high-tech), and (g) outcome. Full results and findings will be discussed at ISAAC 2018.

## **CONCLUSION**

There are a limited number of research studies that have been conducted in LAMI countries. However, it is in these countries that AAC resources are most scarce. Therefore, it is a priority to identify the current research base on AAC interventions in LAMI countries as well as to consider the gaps in research.

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**Evidence Area:** AACcess diversity, AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence

## Selecting vocabulary for a diverse population

**Jose Perez**

When designing an AAC system, vocabulary selection is one of the most important considerations. A robust vocabulary that gives the user space to grow and satisfies their own personal needs is a great starting point that's already setting the right direction for the future.

Nowadays most modern vocabularies present in AAC systems are based on Core Words. These are the high frequency words that make up most of what we say on a daily basis. This group of words is identified by performing frequency analysis of spoken language. While the number of core words is small (200 – 400 words make up around 80% of what we say), the words need some kind of prioritization or layering to fit into the physical space available in an AAC system, whether paper or screen. This prioritization is usually informed by the order in which the words are acquired by typically developing children, but there is also a great deal of clinical experience involved in the process. This clinical experience can, and does, produce great results when creating vocabularies that are meant to be used by people that match the creator's culture, background and language. But when targeting a diverse population that may not share those attributes with the person making the decision about vocabulary selection, a vocabulary may be created that doesn't fit the user's needs and has a higher chance of being rejected.

Along with Core Words, most vocabulary systems also include a selection of fringe words. These are highly specific nouns, adjectives and verbs that are needed to communicate specific messages like "dog", "bored" or "Julia". Ideally these words are selected based on the personal needs of each individual user, but in practice most systems come with a relatively large quantity of fringe words pre-programmed to ease the burden of vocabulary customization in the beginning stages. This group of words is even more susceptible to mismatches between the creator's culture, background and language and those of the user, as the relevancy of items like foods, places or games is very different across countries and cultures.

While creating the Spanish, French and Dutch versions of Proloquo2Go we were confronted with this problem, and we had to find a way to develop vocabularies that would be useful and effective for very diverse populations that don't necessarily have the same background, culture and native language as we do. To do this we took different approaches for core words and fringe words, but both approaches were motivated by the same idea – put the communication needs of the AAC system's user first.

For core words, the key idea was to include communication functions (a person's reasons or intentions when communicating) in the mix, allowing us to more systematically target the user's needs without so much dependency on clinical experience. We also employed full sentence analysis and frequency of spoken language and typical grammatical forms needed to fulfill each communication function, among other techniques.

For fringe words we worked closely with people native to the country and culture target who has regular contact with typically developing children of different ages (teachers, mothers with multiple children, etc.) and interviewed them about the words the children use in various situations. We also relied on full sentence analysis and cross-checked our selection with communication function considerations. For example, you don't just need the words for the food you really like, but also the food you hate or are allergic to.

In this presentation we will describe all the techniques that we used during the creation of the Spanish, French and Dutch vocabularies (including their variants for different countries and bilingual use), as well as the findings, lessons learned and the usefulness of each of them. We hope to begin a conversation and for these findings to serve as a starting point for the audience to find more ways of creating ever more inclusive AAC systems.

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**Evidence Area:** AACcess language and literacy, AACcess diversity, AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence, Research Methods and Theories

## **Selection of assistive technology to children in a low resourced environment: Perspectives from rehabilitation professionals**

**Karin van Niekerk | Shakila Dada | Kerstin Tönsing**

### **INTRODUCTION:**

The selection of assistive technology, including augmentative and alternative communication, is a complex process. When the assistive technology is selected for young children within a context with limited resources such as South Africa, research is needed to determine the factors influencing the selection process. This is necessary, as these factors could either facilitate, or hinder the accessibility and availability of assistive technology that is adaptable, affordable, acceptable and of high quality (World Health Organization & USAID, 2011).

### **AIM:**

To identify the factors perceived by rehabilitation professionals to influence the selection and provision of assistive technology to young children within the South African context.

### **METHOD:**

Two asynchronous online focus groups were conducted, each with eight rehabilitation professionals. Participants included four physiotherapists, four occupational therapists, four speech language therapists, and four speech language therapists with a dual qualification in audiology. Participants providing services in different settings (e.g. rural and metropolitan), employed in different contexts (e.g. educational settings and hospitals) were included to increase the diversity of perspectives in the group.

Participants in both groups were asked a series of four questions in a secure online forum, that they could answer over four days, at any time(s) convenient to them. The researcher facilitated interaction within the groups in order to encourage in depth discussions.

### **RESULTS:**

The data was first analysed through a process of deductive thematic analysis that was followed by inductive analysis of the data (Braun & Clarke, 2013). Components of the Assistive Technology Device Selection Framework (Scherer, Jutai, Fuhrer, Demers, & Deruyter, 2007) were utilised to guide the deductive analysis. Eight themes originating from the framework were utilised with an additional two identified inductively from the data. Three of the themes pertained to environmental factors (cultural & financial priorities, policies & legislation and attitudes), four themes related to personal factors of the professionals or the users of the assistive technology (resources, knowledge and information, expectations and preferences & priorities), assistive technology itself was a theme, as well as assessment and decision making. Inductive thematic analysis was utilised to create subthemes in order to unpack all of the themes. As example, subthemes for the resource theme included financial resources, families as resource, professional and paraprofessional support, the support of an expert or mentor as well as the resource of time.

### **DISCUSSION:**

The complexity of the selection of assistive technology as well as the important role that the professional plays in negotiating all the factors to consider in the selection and provision process was highlighted. Participants appeared to be quite aware of several environmental factors that influenced the assistive technology selection, including practice barriers specific to their settings. The availability of financial resources was mentioned as a very important factor, but professionals indicated certain strategies that may be used to overcome financial barriers. These included, for example, the use of low cost assistive technology, or using technology already available to the family. Professionals also indicated that their own creativity and resourcefulness were important factors they



often relied upon. The adaptation of the assistive technology selection framework to include the additional themes and subthemes is suggested in order to facilitate application to contexts with limited resources, such as South Africa.

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**Evidence Area:** AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence

## Sensengage: Sensory engagement for people with severe and profound intellectual disabilities

Andy Smidt | Sheridan Forster | Sinead Quinlan | Lauren Yuile

People with PIMD typically rely on others for all activities and interactions, and function within a smaller social network relying on family members and paid staff for interaction. Interaction includes sensitive responsiveness, joint attention, co-regulation and an emotional component (Hostyn & Maes, 2009). Partners need interactive strategies and a clear sense of their own role and knowledge of the communication of the person they are supporting. People with PIMD frequently lack interaction and meaningful relationships and have less positive staff affection and contact. They may be offered fewer stimulating activities and staff may find it difficult to offer meaningful engagement. Staff may find it difficult to feel connected and responsive to their client's needs.

Numerous researchers have investigated sensory based therapy with people with self-stimulating behaviours (Bunning, 1998) to improve engagement. Sensory based interventions for people with PIMD facilitate interaction and engagement including multi-sensory environments (MSE), music, sensory stimulations, and Intensive Interaction. Smith, Press, Koenig, and Kinnealey (2005) trialled an intervention based on active participation of the individual, where sensations were applied that were individual to the person and required an adaptive response. This differs from other sensory integration approaches in that the sensations are individualised and the sensations were varied according to the responses of the person. Although communication was mentioned by Smith et al. (2005) it was not the focus of the intervention. Clearly there is interest in using sensory programs to increase engagement and interaction but to date the results of these programs are not conclusive and are mostly based on small scale studies providing limited evidence of their efficacy.

It is unsurprising that carers of people with PIMD wish to be able to provide a positive environment for people supported. Given the limited repertoire of skills that people with PIMD have, and their frequent lack of engagement and alertness, it may be difficult and disheartening to work with people at this level. Interaction between people with PIMD and their partners has the potential to increase the happiness of the person with PIMD (Lancioni, Singh, O'Reilly, Oliva, & Basili, 2005).

For people who are not yet intentional communicators, one approach is to assign meaning to behaviours that can be considered is that of potential communicative acts (PCA) (Sigafoos et al., 2000). Prelinguistic behaviours (including reaching, leading, gestures, facial expression, eye gaze and body movements) may serve the function of requesting or rejecting.

Sensengage provides a specific, individualised program of sensory stimulations to a person with PIMD building on the concept of attunement (Forster & Iacono, 2014) to facilitate ongoing interaction between the person and their communication partner. Once attunement has been established between communication partners, the aim of Sensengage is to enable the person to request to continue the interaction by using PCAs (Sigafoos et al., 2000). Building on the work of Bunning (1998) we use sensory stimulations which are individualised to the person, to create an engagement bubble where the dyad is connected by and with a sensory stimulus. If the communication partner withdraws the stimulus and effectively breaks the bubble, the client can use their behaviours to request continuation of the interaction. This is the very beginning of requesting for more (Sigafoos et al., 2000)

This presentation will present a rationale for the development of this approach and present preliminary results of a trial of this intervention with school aged children.

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**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Research Methods and Theories

## **Setting up new loan service for eye gaze devices in hospital in Singapore**

**Xuet Ying Tan | Zenne | Kuan Chen T'ng | Jia Wen Lee | Xing Tong Yong**

### **BACKGROUND INFORMATION:**

Amyotrophic lateral sclerosis (ALS) affects around 3 in 100,000 people worldwide (Chiò A et al., 2013). As the disease progresses, many lose their speech and other body functions for access to communication means. Their eyes are often what remain as the window to their inner thoughts.

Low technology eye gaze communication systems can be tedious and partner-dependent (Iacono, Lyon, Johnson, & West, 2013), yet high technology eye gaze devices are high in cost. In Singapore, patients often exhaust their savings and funds for purchase of medical equipment like ventilators, hospital beds and other daily necessities. This leaves many of them stranded without any means to communicate or connect to the outside world (Teo, 2017).

With the growing awareness of the needs of these patients and push towards quality of life, the team at Tan Tock Seng Hospital received funds to set up a new service, called the 'Help Me Speak Programme', for the loan of high technology eye gaze devices for these patients.

### **AIM:**

In this presentation, we aim to explore and discuss the following:

1. The challenges faced in the new loan service of eye-gaze devices in Tan Tock Seng Hospital
2. The process, and workflow for the new loan service of eye-gaze devices in Tan Tock Seng Hospital
3. The benefits of the new loan service of eye-gaze devices in Tan Tock Seng Hospital

### **METHOD:**

Setting up a new service in an acute hospital in Singapore holds its challenges. There is lack of awareness of what augmentative and alternative communication (AAC) is, also lack of understanding from the medical team and healthcare professionals that these patients are cognitively intact and have the potential to communicate. Apart from healthcare professionals, many carers are fearful towards new technology, and concerned that they are unable to cope with the care of their loved ones given the daily complex medical needs. Thus, training and reassurance need to be rendered along the way.

In order to identify patients who are suitable for this new loan service for eye gaze devices, we have developed an inclusion criteria work-list. Once suitable patients were identified, a few sessions were set up to discuss, and be familiarized with the use of the eye-gaze device with the attending speech therapist. Paperwork such as rental terms, and conditions were also completed during the session. Reassurance, and help were also the soft skills needed to support the patients, and their family members at this time.

The outcome measure, TOM, adapted for AAC services (Murphy, Boa, & Enderby, 2015) was used to evaluate any changes that the individual experienced with the loan of the eye-gaze device. This scale consists of 5 major categories – impairment, activity, participation, and wellbeing. These were rated by the attending speech therapist before the loan of the eye-gaze device, and the session subsequent to the loaning of the eye-gaze devices.

### **RESULTS AND CONCLUSION:**

This new loan service has been set up for >12 months, and the eye-gaze devices have been successfully loaned out to 7 patients thus far. Some patients have also shown to improve in 2-3 of the 5 categories in TOM, adapted for AAC services. However, as with all exploratory services, improvements must be made. In terms of outcome

measure, the use of a self-rating scale could provide a richer measurement on the quality of this new loan service for eye-gaze devices. Also, there is little information on the sustainability of the new loan service for eye-gaze devices. As such, future research could further address the challenges and examine sustainability of the loan service for eye-gaze devices.

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**Evidence Area:** AACcess the world: Developing nations in AAC

**Content Focus Area:** Professional Practice Evidence

## **Sisterly love**

**Rhiannon Hopton | Kim Hopton**

Kim and Rhiannon, are sisters from Melbourne. Kim is 24 years old and Rhiannon is 21 years old.

Kim was born with severe Cerebral Palsy, resulting in wheelchair dependence and inability to speak.

Communication was learned through compic communication books and via computer generated speech devices.

Kim attended CPEC for many years and had regular speech therapy. Kim accesses her technology with a one click switch scanning method which can be slow but very reliable. She currently attends university to concentrate on being a writer and improving her skills .

Rhiannon learnt all about different communication methods along with her sister. Early Intervention exposed her to various types of disabilities and communication methods, and she often helped in groups. Rhiannon has a Pathology Certificate and intended to go into nursing but now works as a disability support worker.

When they were young Rhiannon would always try to play with Kim and would modify the way games were played so that Kim could play with her. Rhiannon learnt how to communicate with Kim using her communication book, but eventually over time using the communication book they found their own way to use it and got faster at communicating.

Kim got her first Dynavox, they managed to use technology so that they could both play games on the computer together, like a Harry Potter game or the Sims.

Kim also having the Dynavox gave her the freedom to say what she wanted when she wanted. They could now fight like normal sisters in their teenage years and they still do fight to this very day over small things. Kim is usually the bossy mean one and is always instructing her sister what to do and when and how to do it.

**Evidence Area:** AACcess relationships

**Content Focus Area:** Personal Experiences and Preferences

## **Social Communication Equation – introducing a framework to organise clinical practice around social communicative competence**

**Shannon Hennig**

When interacting with and teaching people with complex communication needs (CNN), we need to observe, reflect, and act upon complex sets of information. Frameworks can help organise our thinking and planning in such situations.

AAC and related fields have developed a variety of taxonomies and assessments to clarify our thinking and actions. We have functional behavioural analysis, (Hanley, Iwata, & McCord, 2003), Light's (1989) areas of communicative competence (i.e., social, strategies, operational, linguistic), and her interactive communication functions (1997, namely wants/needs, social closeness, sharing information, and etiquette). Blackstone and Berg gave us social network inventories (2009). Wetherby and Prizant's Communication and Symbolic Behavioral Scales (2002) and Rowland and Fried-Oken's Communication Matrix (2010) helped focus our observations.

These tools have been enormously influential on my professional practice, however clinically I have been increasingly concerned about how to systematically consider social pragmatic skill development in a way that incorporates our collective knowledge, avoids overly simplifying pragmatic dynamics, and respects the rate of social interaction.

Social dynamics can be unforgiving and challenging to understand. Within seconds, expectations change. Sometimes it is all or none; socially mishaps are likely if even a few aspects are "off". Further, as we consider the role of prediction skills with regard to social communication difficulties (Sinha, Kjølgaard, Gandhi, Tsourides, Cardinaux, Pantazis, Diamond, & Held, 2014), children with CNN may need our support predicting visible and invisible social outcomes of their actions in a given context.

In the past two years, I have been developing a simple framework to organise my thinking, planning, and understanding of current evidence-based practice during AAC assessment and intervention.

I call it the Social Communication Equation. It includes 3 sets of skills: 1 reading the social and communicative situation, 2 knowing what to say/do, how to say/do it, and what not to say/do, and 3 predicting the possible visible and invisible outcomes of a given social action.

Much of our AAC intervention techniques and assessments focus on the second set of skills – symbolic and non-symbolic communication skills – but increasingly I have felt the need to consider all three areas simultaneously:

Reading social context: Are we providing meaningful clues to help individuals notice the shifts in social context? Are we adjusting the degree of subtlety and complexity of the social dynamics? Are we highlighting our own intuitive observations and sharing what we attribute cultural and social meaning to?

Knowing what to say/do: Are we considering linguistic and operational competency as well as ensuring that the person has ample opportunities to practice and develop fluency with their communication system.

Regarding prediction – Can the person anticipate social outcomes? Can they think of (and compare) multiple outcomes of their actions? Are they imagining both visible and invisible outcomes (e.g., internal thoughts and judgments of conversational partners and observers)? Are they thinking about which actions might have contributed to a social outcome? Can they seek information about the internal states of others? Are social interactions feeling predictable?

In this talk, I introduce the social communication equation framework as it relates to AAC and lead a group discussion around what challenges, facilitative techniques, tools, and theories relate to each skill set. As a group we will

discuss two case studies in relation to the framework. I will also share my clinical impressions of how using this framework has clarified my thinking and assisted my clinical work.

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**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community, AACcess justice, AACcess relationships

**Content Focus Area:** Personal Experiences and Preferences



## **Social Language and AAC: Accessing Social Language Intervention for School-Aged Children with Complex Communication Needs**

**Julie Maurer | Jacqueline Rowland**

Social interaction plays a significant role in learning language and developing emotional competence for typically developing children, as children frequently interact with new conversation partners in their homes and other environments (Na, Wilkinson, Karny, Blackstone, & Stifter, 2016). However, children who are learning to communicate with alternative means do not always get the same opportunities to interact socially. More specifically, many children with physical disabilities who require AAC spend their early language-learning years working to meet their basic medical needs, rather than socially engaging with their world. Due to environmental factors, children with complex communication needs (CCN) may not experience the same level of exposure to models of social communication using AAC that verbal children receive in their mode of communication. As a result, their language development may be delayed in multiple areas, including, but not limited to, social/pragmatic communication skills (Na, Wilkinson, Karny, Blackstone, & Stifter, 2016). Traditionally, AAC intervention has focused on the individual's ability to express his/her basic wants and needs. Developing a communication system and most appropriate access method often require so much time and focus, that intervention may not move past these early receptive and expressive vocabulary goals. However, within the context of social interaction, these skills can naturally develop, as they do in typically developing children. There are several benefits to performing AAC intervention and modeling AAC usage within the context of social communication, specifically related to motivation of child and family to participate in therapy and carryover. (Sennott, Light & McNaughton, 2016). Children who use AAC may also benefit from direct social language instruction traditionally used with other populations in order to develop their social language skills (Crooke, Hendrix, Rachman, 2008; Light & Therrion, 2016).

This interactive workshop will not only outline the importance of including social language within AAC-based intervention, but also discuss techniques for how to implement this into practice. Presenters will demonstrate the effectiveness of including social language intervention within AAC-based therapy for children with CCN with intervention strategies developed for their own students. Presenters will discuss case-study examples of 3-4 students who have social language goals within their AAC intervention. Each of these students have CCN, evidenced by physical/motor impairments, intellectual disabilities, and extraneous factors such as cortical visual impairment.

Presenters will identify key strategies used within a holistic setting to implement social language based therapy within a school setting. Presenters will discuss techniques for carryover to home and community settings. Discussion will include specific information related to training new team members, family members, etc. for populations outlined. The presenters will open the topic for participants to discuss their own experiences with various populations in speech and language intervention.

### **LEARNING OUTCOMES:**

Participants will be able to:

- Identify the need for social-language based intervention for children with complex communication needs
- Discuss current challenges in implementing social-language based intervention for children with complex communication needs
- Problem solve ways to overcome challenges within inclusive environments
- Take away specific examples and social-language intervention strategies to best serve their own clients within populations identified

-Feel empowered to adapt traditional language intervention techniques in order to successfully blend AAC intervention with Social-Language intervention

**INTERACTIVE COMPONENTS**

Case study examples of students will be presented in order to demonstrate the effectiveness of social-language based therapy within AAC intervention. Participants will see collaborative strategies utilized, specific student goals, and outcomes over the course of treatment. Interactive components of the presentation will include the following:

**SMALL/LARGE GROUP DISCUSSION AND PROBLEM SOLVING SESSIONS**

Video of students before and after integration of social-language strategies into AAC intervention

Crooke, P.J., Hendrix, R.E., & Rachman, J.Y. (2008). Brief report: measuring the effectiveness of teaching social thinking to children with Asperger syndrome (AS) and high functioning autism (HFA). *Journal of Autism and Developmental Disorders*, 38, 581-581. doi: 10.1007/s10803-007-0466-1

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**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community

**Content Focus Area:** Research Evidence, Professional Practice Evidence, Personal Experiences and Preferences

## **SPAACES: Systematic Planning for AT/AAC Application in the Educational Setting**

**Betsy Caporale | Emily Murchison**

Students with complex communication needs (CCN) require a variety of accommodations and modifications to assist them in accessing the curriculum, participating in academic activities and interacting with peers and adults. The tools and strategies required to include these students in learning and social events are determined based on the unique strengths and challenges of the individual. This consideration process is ongoing and will continue throughout the student's educational career and beyond. Implementation of Augmentative and Alternative Communication (AAC) and Assistive Technology (AT) tools and strategies requires careful planning and needs to occur across all environments of the day. This calls for a collaborative team effort that is time-efficient and provides frequent consultation among designated instructional support providers so that everyone is on the same page. Many IEP teams are ill-prepared to provide relevant, meaningful instruction for students with CCN due to factors such as:

- Lack of experience working with students who have CCN
- Limited knowledge of AAC systems and strategies
- Difficulty assessing students to determine learning profiles and academic skills
- Lack of familiarity with adapted educational tools and curriculum
- Challenges differentiating instruction for diverse learner populations
- Time constraints
- Financial constraints

This presentation will describe a straightforward, systematic program, called SPAACES, designed to assist classroom teachers and IEP teams in providing an inclusive environment for students with complex communication and learning needs using a research-based teaching framework. SPAACES provides educators with a wealth of differentiated instructional and independent learning activities. All lessons are standards-based and can be modified to meet the unique needs of each individual student. The presenters will review in detail specific units of instruction, including low-cost tools and free resources. Participants will learn how to provide meaningful instruction for learners of all ages and abilities applying the principles of UDL while implementing no-tech, lite-tech and high-tech solutions. Participants will also become familiar with instructional methods that are evidence-based for students with disabilities including: Autism, Cerebral Palsy, Intellectual Disability, Language Based Learning Disability, Social Communication Disorder, Specific Learning Disability and Multiple Disabilities. Examples of lessons will be demonstrated, focusing on collaborative teaching and an interdisciplinary approach to instruction. Participants will walk away with a comprehensive list of SPAACES instructional units categorized by subject area, topic, and ability level.

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**LEARNING OUTCOMES:**

- . Describe five strategies to differentiate instruction for students with complex communication and learning needs.
- . Identify five different tools and resources for instructional materials that can be used to differentiate instruction.
- . Explain how the principles of UDL can be applied in the general education setting to accommodate students with complex communication and learning needs.

**INTERACTIVE COMPONENTS**

- . Participants will be asked to choose a topic or theme and select appropriate learning activities for a specific student with whom they work.
- . Participants will be invited to share their ideas with the group.

**Evidence Area:** AACcess emerging technologies, AACcess language and literacy, AACcess education

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

## **Speak Up and Be Safe from Abuse – A Communication Toolkit and Training Package**

**Hilary Johnson | Naomi Rezzani | Ruby Yee | Katie Lyon | Liz Weston | Denise West**

The evidence gathered over the past 15 years clearly demonstrates that people with disabilities and complex communication needs (people with little or no speech) are 2-6 times more likely to suffer physical, emotional or sexual abuse than others in their community, as a consequence of their inability to communicate effectively (Bornman, Bryen, Kershaw & Ledwaba, 2011; Bryen, Carey & Frantz, 2005; Collier, Mc Ghie-Richmond & Odette, 2006). Current research and literature indicates that effective strategies to reduce the incidence of abuse include developing staff skills and knowledge about human rights, what constitutes abuse, protective factors to prevent abuse and how to provide information and resources that support people with disabilities to communicate abuse (Wilczynski & Connolly, 2014).

In Australia, the Department of Health and Human Services (DHHS) has recognised a need to strengthen safeguards and provided funding in 2015-2017 to develop resources and deliver training. The funding was to (a) evaluate the effect of staff training on supporting people with communication support needs to identify and report abuse and (b) examine the appropriateness and usefulness of the project's resources as evaluated by survivors of abuse with communication support needs and social network members.

The project comprised the development and provision of 205 communication toolkits, the establishment of a website for the resources, and the delivery of 15 state-wide training sessions to frontline DHHS staff. In addition, a research component to evaluate the effects of the training three months post training and the opinions of people with complex communication needs and their supporters regarding the resources was set up with ethics approval.

The aims of the workshop are to

- . Present an overview of the content of the toolkit and development rationale
- . Assist workshop participants to become familiar with the resources and to practice using the resources
- . Discuss issues and themes that have been raised through the evaluation and research process
- . Discuss appropriateness of toolkit for use with children and suggested adaptations
- . Consider relevance of resources to international audience, input to website and the development of an international community of practice.

An outline of the process of developing the resources through a literature review, advisory group and individual consultation with people with complex communication needs will be presented. The toolkits will be displayed and discussed regarding relevant vocabulary, ease of use and practising scenarios outlined in the training. The toolkit includes two communication boards (picture and alphabet); a multi-paged communication book with extensive vocabulary; three factsheets including where to get support, communication aids available and additional supports (national and international); two posters one with key word signs for targeted vocabulary and the other to raise staff awareness of ways to support people with communication difficulties to speak up and be safe from abuse; a record sheet to assist staff/supporters to take brief notes of an allegation of abuse; a Police easy English version of reporting crime. All tools except the multi-level communication book and police book are available for free download on [www.speakupandbesafe.org](http://www.speakupandbesafe.org). Workshop participants are encouraged to become familiar with the website tools prior to the workshop.

**INTERACTIVE COMPONENTS:**

- . Hands on, small group activity with practice using communication aids in key scenarios and
- . Small group discussion around 5 key questions to feed back to all workshop participants : –  
What are the legislative requirements of reporting abuse in different countries?  
What specific issues related to abuse disclosure internationally?  
What are the similarities /differences in support workers' understanding of abuse internationally?  
How useful are the resources presented and what is missing?  
How useful are the resources to children?  
Learning outcomes will include knowledge of
  - . a range of resources that are available to support people with complex communication needs to report abuse
  - . reporting requirements related to abuse in different countries
  - . practical ideas to include in training support workers around abuse awareness and complex communication needs
  - . different considerations and requirements when supporting children and adult to report abuse.

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**Evidence Area:** AACcess justice, AACcess relationships

**Content Focus Area:** Professional Practice Evidence

## Speaking of Silence: Questioning silences in AAC use

Renee Starowicz | Gloria Soto

This paper examines AAC user's AACcess to language and literacy through a critical examination of silence and AAC that situates it within existing models from Classroom Discourse Analytic Methods. Scholarship is growing in the study of silence in communication (Tannen & Saville-Troike, 1985). No longer do assumptions regarding the meaninglessness or monolithic translation hold up to critiques regarding alternative contextualized understandings of the more in depth meaning making processes of silence (Jaworski, 1992). Within the study of Augmentative and Alternative Communication (AAC), silence has been most readily discussed as the resulting time it takes a user to generate their response. Unfortunately, it is commonly taken up and filled by verbalizations from their interlocutor or results in communication breakdown (Light & McNaughton, 2014). Through an analysis of conversation excerpts from research evidence involving an AAC user, peer, Speech-language pathology student and aide, this paper will demonstrate the variability in meanings of interactional silence. This work suggests further analysis into the multimodal texture of conversation for AAC research and classroom interaction. Suggestions regarding future research projects and classroom programming will build off of these multifaceted examples of silence involving and an adolescent AAC user.

### AIMS:

In this presentation, I will explore:

- 1 The process of meaning making and multimodal communication in conversations involving AAC
- 2 How silence is utilized by an AAC user for emphasis and in response
- 3 How silence is utilized by adolescent students in resistance

### METHOD:

This analysis comes from a segment of video-recorded conversation held in a classroom that was part of a larger intervention data corpus. Inclusion criteria for the initial study required that the AAC using student had basic proficiency skills with their communication system. This allows for may of the technical forms of long-term silence to be mitigated by her existing skills, strategies and pre-existing experience with her device.

The specific video session examined in this paper involves two adolescent female teens, a speech-language pathology student, Bee, and an aide. The focal adolescent teen, Lily, uses an iPad with the app LAMP Words for Life as her AAC device. She has been meeting biweekly with her peer, Christie, and Bee who serves as a facilitator for their discussions.

Analytics involved a look into both the composition and position of silences within their contextual frames were examined to discern the patterns and interactions occurring through a line-by-line analysis (Clift, Drew & Local, 2013). Most relevant for this project was a close look into five minutes of video data and a delineation of the multiple forms and silences that emerged. This segment of data offers both an analysis that engages with the AAC specific literature and incorporates more broadly discussed notions of our understandings of silence and meaning making.

### RESULTS

Three key excerpt examples are brought forward to discuss how the focal student utilizes silence with AAC to develop responses, as well as, how the student uses silence in resistance to conversational contexts that she does not want to participate in with her AAC device.

### CONCLUSION

These examples of silence in an AAC-specific conversation highlight additional ways that silence emerges and functions in interactions beyond issues of access. In continuing to think through the importance of how to best

support students in continuing to develop skills with their devices, it also becomes critical to expand our understanding of the make-up of interactional patterns and how young people may utilize agentive silence. As other groups of historically marginalized students have done (Losey, 1997; San Pedro, 2015a; 2015b), students with complex communication needs also utilize silence as resistance to interactions and expectations as is evidenced here.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Research Evidence



## **Speech impairment: Deep Neural Network (DNN) to enhance voice banking process for everyone**

**Nicolas Mazars**

Deep Neural Networks have revolutionized the synthetic voice creation process. This machine learning technique is holding its promises as it enters the Text to Speech arena and take over with better performance, accuracy and consistency throughout our cutting-edge service, my-own-voice.

The technology can now offer to patients with speech impairments new alternatives for voice banking, creating a voice signal and persona from scratch and in many languages, based on only a few minutes of speech recordings.

This major innovation for AAC (Augmentative & Alternative Communication) is the result of Acapela R&D which is actively working on Deep Neural Networks (DNN) and has developed Acapela DNN, an engine capable of creating a voice using a limited amount of existing (messages banking based) or new speech recordings (voice banking creation process).

We have worked on voice recordings of well-known people. We have also created voices for individuals who cannot speak correctly anymore due to surgery or disease. They are the first ones to speak with voices created with Acapela DNN.

Acapela DNN-based voices open the path to a new chapter of my-own-voice, that makes possible for patients to keep a synthetic version of their voice and use it on their own favourite assistive device. It makes it possible with even more patients, who can preserve their voice identity event if their voice is damaged no matter if they cannot spend energy on recordings.

In the presentation, we will demonstrate voices already created for patients, based on a very small number of speech recordings. We will show how 'my-own-voice' can go further based on DNN technology and provide users with digital copy of their voice that will provide them the ability to keep speaking.

Acapela DNN engine is a major component of the new updated version of my-own-voice.

**Evidence Area:** AACcess emerging technologies, AACcess language and literacy, AACcess the community

**Content Focus Area:** Professional Practice Evidence

## **Speech pathologist perspectives on parent rejection and abandonment of AAC systems: A qualitative study**

**Alison Moorcroft | Nerina Scarinci | Carly Meyer**

Despite the benefits of AAC systems for children with complex communication needs, these systems are not consistently accepted by their parents. For example, a survey of 275 speech pathologists reported that of all high and low tech AAC systems introduced, only 39.35% were used by clients for more than one year (Johnson, Inglebret, Jones, & Ray, 2006). The remaining systems were rejected or abandoned by families.

While studies have explored the views of speech pathologists on the barriers and facilitators to AAC use, these studies have limitations that warrant further research in the area. For example, Lindsay (2010) considered high tech AAC systems only, however these represent a small portion of AAC systems used by preschool children (Binger & Light, 2006). In addition, Johnson et al. (2006) used a survey methodology consisting primarily of closed questions, which may have limited the depth and breadth of responses provided by speech pathologists. Furthermore, these studies did not seek to specifically include clinicians who had experienced the rejection or abandonment of systems by parents. Therefore, further research is required to further explore and better understand the rejection and abandonment of AAC systems from the perspective of speech pathologists.

### **AIM**

The aim of this study was to explore the experiences and perceptions of speech pathologists who have introduced an AAC system to a child with complex communication needs that was rejected or abandoned. Key research questions were (1) why do speech pathologists perceive that AAC systems are rejected or abandoned?; and (2) what do speech pathologists perceive supports families to accept and use AAC systems?

### **METHOD**

Participants were 16 speech pathologists who had previously introduced one or more AAC systems to a child aged 6 months to 6 years that had been rejected or abandoned by the family. Participants were sampled to purposively include a range of workplaces and experiences, and were primarily recruited via Facebook groups. Participants completed a survey containing demographic information and the Measure of Processes of Care for Service Providers (MPOC-SP), a tool which is used to measure the extent to which professional behaviours are family-centred (Woodside, Rosenbaum, King, & King, 2001). The principal investigator then conducted individual semi-structured in-depth interviews with participants, utilising a topic guide. Interview recordings were transcribed, then analysed using thematic analysis, which is an established method used frequently in health research (Braun & Clarke, 2006).

### **RESULTS**

The results of this study suggest that the rejection and abandonment of AAC systems for children with complex communication needs is a complex and multifactorial issue. Qualitative analysis revealed 7 themes which reflected the experiences and perceptions of speech pathologists: (1) AAC is not what parents pictured for their child; (2) parent acceptance of their child's disability leads to acceptance of AAC; (3) the impact of parent exposure to and experiences with AAC; (4) family resources and skills required for AAC; (5) family values and beliefs conducive to AAC use; (6) speech pathologists must support families through the process; and (7) influencing factors specific to the type of AAC.

### **CONCLUSION**

This study found that speech pathologists perceive parental grief and loss to play a significant and overarching role in the rejection and abandonment of AAC systems for children with complex communication needs. Speech pathologists may need to give consideration to how to best identify and address the grieving process in order

to increase the acceptance and use of AAC systems, whilst providing supports within their scope of practice as speech pathologists. Importantly however, further research is required to explore the perspectives of parents regarding the rejection and abandonment of AAC systems for their children.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence

# Strategies Used by Aided Communicators in a Task of Object Description with Different Partners

**Debora Deliberato | Stephen von Tetzchner**

## **BACKGROUND**

Aided communicators may find it difficult to develop and express their messages and even to select the vocabulary they need during a task. Researchers have found that many aided communicators may use telegraphic messages, regardless of age and their understanding of spoken language (Light, 1997; Udwin & Yule, 1990; von Tetzchner & Martinsen, 1996). The onset of expressive aided language will depend on the attitudes and aided language competence of the people in the environment. Many children and adolescents may develop ways of communicating with their families through gaze and hand pointing, symbolic gestures, vocalizations and facial expressions, but rely on aided language intervention to learn to use a linguistic system (Ronski & Sevcik, 2003).

The utterances produced by graphics systems are often described as reduced, or telegraphic, when compared with spoken sentences. Both reduction and variation in word order have been noted in children and adolescents using communication aids with graphic systems (Kelford-Smith et al., 1989; Smith, 1996), although with different profiles and use of augmentative and alternative systems. The present study investigates strategies used by Brazilian young aided communicators to describe objects their partners could not see in such a way that the partners could name the objects.

## **METHOD**

The study is part of an international project project, approved by the Brazilian committee ethics number 615/2008 and CONEP number 14968. Participants were eight aided communicators, aged 9-14 years, and a reference group of eight children using natural speech. The children were shown 12 drawings of common objects, first three practice items (comb, horse, ear) and then nine trial items (book, boat, bread, apple, chair, balloon, ladder, bicycle, mirror). The children were told to describe the objects so that the partner could infer name of the object. Each child had three different partners (parent (mother or father), teacher or professional, peer (a friend)) and described one practice item and three trial items with each partner. The interactions were filmed with two cameras, one focused on the communication aid, the other one the whole situation, and the interactions were transcribed for content analysis.

## **RESULTS**

The descriptions of both groups included things, actions, people, time and places, as well as seemingly irrelevant or idiosyncratic elements. The reference group used a significantly larger number of elements in their descriptions than the aided group. The aided communicators used non-aided communication expressions more often with family members than with teachers from the school or with the peer. For example, when the mother was the partner, many of the children used non eye or hand pointing, symbolic gestures and vocalizations.

## **CONCLUSIONS**

Both groups used some variety strategies to describe the objects to the partners. The use of non-aided communicate expressions probably reflect that they were used to communicate without the aid with their parents. The reference group seem to provide more descriptive elements that made it possible to infer the name of the object.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence

## **Supporting Effective use of AAC with Young Adults with ASD in the Community Setting**

**Sarah Houlahan**

For people with Autism (ASD) with limited ability to communicate verbally, AAC provides a communication system to support effective communication (Beaukelman & Mirenda, 2013; Ganz, 2015).

The transition into the community setting; with a variety of new communication partners and a range of different environments, presents a unique set of challenges for individuals with ASD and their support team. Exploring the enablers and barriers for supporting communication systems, from the perspective of parents and support staff of young adults with ASD in the community setting, provides essential information around effective supports. The support of communication partners is critical to ensure successful use of AAC (Trembath, Iacono, Lyon, West & Johnson, 2014).

Gathering narratives from parents and support staff around interacting and supporting young adults with ASD on a daily basis, provides the opportunity to learn more about the barriers and enablers for supporting young adults with the use of AAC. This focuses on the effective support of communication systems as a voice for the young adults with Autism to interact with others in their daily environments and in the wider community.

### **AIM**

In this presentation, the aim is to explore and clarify the following questions on supporting young adults with Autism in the effective use of AAC:

Q1: How do adult communication partners, both at home and in a day-based setting, support the use of AAC with young adults with ASD?

Q2: How can adult communication partners be supported to enhance the use of AAC with young adults at home and in day-based settings?

### **METHOD**

To investigate supports for communication partners working with young adults with Autism in the community setting, eight communication partners were interviewed using semi-structured interviews. The interviewees consisted of four parents and four day-based support staff working with young adults with ASD using an AAC device. The young adults were identified due to previously having been assessed and provided with an AAC system through TalkLink Trust in the Canterbury district, of the South Island of New Zealand. Participation was voluntary and adhered to the Massey University Code of Ethical Conduct (Massey University, 2015). Interview data was then analysed using thematic analysis, which was directed by the interview questions.

### **RESULTS**

The interviews highlighted both the enablers and barriers for supporting young adults with ASD to use AAC, at home and in a day-based community setting. The communication partners identified the following key themes around useful strategies for supporting AAC in their environment; focused communication time, support during transitions and using AAC based language strategies to support communication development. Recommendations for new communication partners included the importance of familiarity with the communication system, the need for established relationships and the benefits of using a structured routine to facilitate communication. Ongoing input from Speech and Language Therapists, support from management and other team members, and technical support, were identified as the key enablers for supporting AAC with this population. The challenges identified with supporting AAC with Young Adults with ASD were lack of time, behavioural issues and inconsistent use of the communication system across environments. Quotes from the participants are shared and these findings and their possible implications for practice will be discussed in-depth in the presentation.

## **CONCLUSION**

This study shows that the communication partners of young adults with Autism using AAC have awareness of key strategies to support their interactions, and useful information to be shared with new communication partners. The enablers and barriers identified provide a tool for reflection for people working in the AAC field with young adults with Autism, as well as other clients with complex communication needs.

As with most small research inquiries this paper presents more questions that it does answers. Due to the small sample size of this study, definite conclusions for practice cannot be formed, however this information is useful for further reflection and informing future research.

Future research directions include a quality evaluation of AAC intervention practices for young adults with Autism, and the impact of the amount and scope of support provided for communication partners. Finally, it would be valuable to explore the benefits of further training for communication partners regarding supporting AAC across all environments and with a range of communication partners.

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**Evidence Area:** AACcess relationships

**Content Focus Area:** Research Evidence

## Supporting Participation for Individuals with Complex Communication Before, During and After Recreational Activities

**John McCarthy | Jamie Boster | David Hajjar | Christina Corso | Alyson Spitzley**

The arts and recreational experiences can serve as a context for communication for individuals who use augmentative and alternative communication (AAC) strategies. Recreational settings also provide a natural context for fostering social closeness with familiar and unfamiliar partners. For people with complex communication needs (CCN) there can be a focus on wants and needs to the exclusion of other communication purposes (e.g., information sharing, social closeness). Recreational settings offer rich opportunities to make and maintain friendships through participation in activities of shared interest. Adults and children with CCN may engage in a range of activities such as musical theater, adapted sports and photography. Each of these activities offer meaningful opportunities for participation and can support engagement with communication partners. Even though we may consider leisure and recreational activities to be a break from our everyday work and purpose, there is a consistent infrastructure that can support more opportunities for participation and enhancement across the entire experience. In order to capitalize on these contexts, it is important to consider how to facilitate communication and participation throughout the activities. The authors will present a framework for considerations before, during and after recreational activities (McCarthy & Hajjar, in press). The authors will present a series of case studies that demonstrate these considerations across recreational contexts and provide strategies developed from professional practice and supported by research evidence.

When considering how to support communication before activities, strategies such as connecting with caregivers, establishing signs and signals, and providing choice making activities will be further discussed. Partners in recreation (e.g., volunteers, program directors) need to be able to interpret and recognize subtle yet consistent communication signals. Before activities, partners need to ensure they understand how participants with CCN communicate yes/no or other basic needs, such as pain, hunger, or requests for hygiene.

During activities, it is important for individuals with CCN to participate as fully in the experience as possible. The authors will discuss the importance of incorporating multiple modalities to ensure individuals with CCN are able to participate in the activity as desired and as appropriate for the context. Multimodal communication is a factor in supporting these relationships as volunteers and participants with CCN engage in activities that require trust, skill, and patience. Volunteers typically rely on multimodal methods to communicate with people with CCN as they prepare equipment, make decisions, and share stories after the experience (Hajjar et al., 2016). Current technology may make it difficult to include high-tech aided AAC in adaptive sport experiences because of durability, screen glare, or the attentional divide potentially created. The authors will offer suggestions to reduce such barriers for volunteers and individuals who use AAC.

After activities, there are often many opportunities for communication that are not taken such as sharing experiences during the activity. Caron & Light (2015) recently discussed how social media has become a part of multimodal communication and is a critical outlet for people with amyotrophic lateral sclerosis (pALS) who use AAC. Photos can be shared instantly with other volunteers via mobile devices and applications on cameras such as GoPro or Polaroid. Visual artifacts can be an excellent supplement to multimodal communication as volunteers, caregivers and participants interact and share stories. The authors will present strategies for supporting social media use for sharing experiences of individuals with CCN. Additionally, the authors will discuss new technologies and cameras that may be helpful for collecting experiences.

The authors will provide recommendations for those involved in educational and health care settings that include promoting individuals with CCN and their caregivers to discuss past and current leisure activities they enjoy,



determining individuals' potential interest in the arts or sports and considering how to support participation and involvement in these communities, recognizing communication opportunities before, during and after interactions in leisure or sport and capitalizing on social media as a rich platform to share experiences and build relationships.

**REFERENCE:**

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**Evidence Area:** AACcess culture, AACcess social media

**Content Focus Area:** Research Evidence

# Supporting Participation for Individuals with Complex Communication Needs through Art: A Systematic Review

**Jamie Boster | John McCarthy | Christina Corso | Alyson Spitzley**

## **INTRODUCTION**

Artistic activities are often looked upon as relaxing and creative hobbies for people around the world. The arts encompass a wide range of mediums including drawing, painting, sculpting, acting, singing and photography. The benefits of participating in artistic activities have been explored in the medical realm, particularly in rehabilitation settings. In speech language pathology, the arts have been incorporated into treatment for children with specific language impairment (Fujiki et al., 2013), autism spectrum disorder (Grey et al., 2007), children with complex communication needs (CCN) (Boster & McCarthy, 2016), and adults with aphasia. The arts may be a particularly supportive context for individuals with CCN as they can provide a creative space for participation. It is necessary to explore the outcomes associated with arts-based interventions for both adults and children with CCN to further determine how to capitalize on potential benefits of the arts.

## **AIM**

The aim of this project is to explore the research literature to determine how arts-based activities have been incorporated into speech and language therapy to address social and participation skills for individuals with CCN. The research question for the project is: What are the social and participation outcomes for individuals with complex communication needs who receive arts-based interventions?

## **METHOD**

A systematic review methodology has been undertaken to address the aims of this project. This methodology allows for a comprehensive search of the literature related to the topic of interest. The primary search terms identified to collect the initial yield of articles were Communication Disorder, Therapy, and Art. Synonyms, additional spellings and MESH terms will also be accounted for as search procedures are continued. The databases for the review include PubMed, Cochrane, Web of Science, CINAHL and the following EBSCO databases: PsychINFO, Medline, Academic Search Complete, ERIC.

Following the collection of an initial yield, unrelated titles and duplicates will be removed. The remaining articles will be compared to inclusion and exclusion criteria and coded by three trained reviewers. To be included for the review, articles must 1) include a speech therapy intervention for an individual with a communication disorder as defined by the American Speech-Language and Hearing Association, 2) report social and/or participation outcomes, 3) identify the study design and form of art incorporated, 4) be published in a peer reviewed journal, 5) be published or translated into English. Hand searches of grey literature will also be conducted. Title and abstract reviews will be completed to obtain a final yield of studies.

After a final yield of accepted studies is obtained, further analysis will be conducted to identify a subgroup of studies specifically addressing individuals with CCN as participants in the intervention. Qualifying studies for the CCN subgroup are required to specify participants used augmentative or alternative communication (AAC) or had CCN (with either speech intelligibility data lower than 80%, mention of AAC systems, or mention of severe and/or profound communication, language, and or cognitive impairments).

## **RESULTS:**

Collection of articles for an initial yield is currently underway. This total will be further refined as duplicates and irrelevant works are removed. Further analysis will be conducted to obtain a final yield and identify studies addressing individuals with CCN. An overview of the results of the complete systematic review will be presented and will include discussion of the primary methods of arts-based interventions being used and populations that

have been explored in the literature. The majority of the discussion at ISAAC 2018 will focus on the results of the analysis of the interventions for individuals with CCN. The session will detail the forms of art used, social and participation outcomes measured and trends identified such as differences between such interventions for pediatric or adult clients.

#### **CONCLUSION**

Conclusions will be drawn from the analysis of a final collection of studies. Discussion will explore how interventions are being used to support individuals with communication disorders, specifically individuals with CCN. Arts-based interventions for children and adults with CCN can potentially serve as a creative context to improve social and participation skills. This review of the literature will further identify how such interventions may be further developed and refined to promote successful use of AAC and quality interactions across the lifespan.

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**Evidence Area:** AACcess culture, AACcess relationships

**Content Focus Area:** Research Evidence

## Supporting the AAC User's Authentic Voice in Therapy, the Classroom, Community, and Life

**Pati King-DeBaun**

This session is for anyone interested in improving the quality of instruction available to students who use alternative and augmentative communication (AAC) with a range of student ability levels and devices, (light to high-tech). Too often in therapy or educational programs designed for children who use AAC systems the skills (linguistic, literacy and social) are taught in isolation rather than in an integrated manner. Learning in isolation fragments communication and often one or more component of communication is underserved. An examination of the integrated communication model focusing on literacy, conversation, and linguistic skills for successful AAC use and competence will be examined. (Light, 1989, Erickson, 1997) The demonstration of a variety of practical and creative strategies including; video modeling, interactive scripts and explicit instructional strategies for linking core linguistic and literacy skills. Highlights of this session will include, video case examples, the selection of motivating and engaging content for school-age students 5-18 years.

The first area to be discussed in the area of conversational skills. Clarke and Wilkinson, 2008 when looking at peer to peer interactions found that AAC students play a passive role, the interactions were dominated by speaking peers, used their AAC devices very little, and had fewer turn-taking opportunities. This is not surprising, however, what is shocking is nearly twenty years ago both Kratt (1987) and Light (1989) found similar results and just recently in (2016). Focus groups comprised of adults who use AAC and AAC facilitators discussed several research priorities in AAC and identified "preparing people who use AAC to succeed in situations such as maintaining friendships, dating and finding jobs as priorities (O'Keefe et al., 2007, p. 89). First a discussion of ideas and strategies to make conversation a part of therapy and education programs and build the confidence level of the communicators. Strategies to build those skills without dismissing the importance of literacy/linguistic skills but enhancing overall communication and motivation. Case video examples will demonstrate teaching techniques for teaching conversational skills through video modeling, exploring, learning within an interactive story format and finally opportunities to practice those skills.

The next area to be discussed is the teaching of literacy and linguistic skills. Although many students with Complex Communication Needs successfully learn to read words in isolation and understand text when someone reads it to them, estimates are that no more than 10% can read with comprehension above a second-grade level. A discussion of core words that are selected for their strong literacy and communicative base (Clenden, 2006) will be discussed. An instructional model that suggests students learn how to identify those words, read them and use them to spell other words within a framework of motivational, and interactive activities for students who typically begin to fall significantly behind their peers will be demonstrated. Through demonstration and video examples explicit teaching strategies will focus on activities and materials that are motivating and age-appropriate, yet teach the core skills necessary for developing literacy. Participants will learn how to use the core words that have been taught in the literacy area to help students build simple sentences, participate in meaningful activities including written communication opportunities and tasks that are relevant to their learning. Ideas and suggestions to teach curriculum vocabulary using device lists to generate ideas and demonstrate knowledge will be discussed. Furthermore, the interaction between both literacy skills/language, and conversational skills will be highlighted.

Finally, the goal of this session is to help others help AAC users become as independent and competent as possible. As discussed by (Bransford, Brown, & Cocking, 1999, p. 61). The Instructional Conversation Model and Strategy Instruction (Vygotski, 1981) zone of proximal development with regards to AAC will be stressed with an understanding that "the goal of schooling is to facilitate students' learning how to learn, or strategic competence,

so that they can “transfer what they have learned in school to everyday settings of home, community, and work-place” We must ensure that learning does not become a de-contextualized, stimulus-response activity, that holds little utility and meaning for its greater application and generalization in learning to skills.” This session will give therapists and educators suggested tools for students to achieve and provide them with an enriched AAC curriculum and also strategies to plan for successful implementation in all environments with all partners so that the AAC students truly achieve authentic communication.

**Evidence Area:** AACcess education, AACcess relationships

**Content Focus Area:** Professional Practice Evidence, Research Methods and Theories

## **Supporting users around with world with communication through Grid 3**

**Maggie Mahoney | Julia Scott**

Smartbox Assistive Technology's award winning Grid 3 communication software is currently available in 25 languages with 5 presently in development. This presentation will provide an overview of the translation process, required steps to offer a fully translated and commercially viable product in a new language, accommodation for language specific grammar requirements, voice synthesis, and a review of current language offerings. It is our aim to continue to offer new languages and collaborate with partners to deliver the benefits of Grid 3 to more users around the world.

**Evidence Area:** AACcess the world: Developing nations in AAC

**Content Focus Area:** Professional Practice Evidence

# Symmetry: Measuring Augmented and Mouth Speaker Performances across Four Communication Tasks

Jennifer Seale | Jeff Higginbotham | Ann Bisantz

Communication dynamics in two-person interactions are either symmetric, in which individuals share relatively equal talk times and offer similar contributions, or asymmetric. Fluctuations in symmetry patterns reflect adaptations to context (e.g., goal/task) (Clark, 1996; Higginbotham et al., 2009). For example, symmetric interactions commonly occur when two individuals have equal role relationships and shared experiences. In contrast, asymmetric interactions occur when partners have unequal roles, and/or experience (Clark, 1996; Higginbotham et al., 2009). Interactions with augmentative and alternative communication (AAC) are frequently asymmetric (Higginbotham et al., 2009; Higginbotham, Fulcher, & Seale, 2016). As a result, individuals are often judged to be inexperienced, passive and/or partner dependent (Bedrosian, Hoag, Calculator & Molineux, 1992; Finke & Quinn, 2012; Light & McNaughton, 2014). These designations fundamentally neglect to account for the impact of AAC in face to face (F2F) interactions.

This study aimed to understand and describe how AAC contributes to augmented interaction dynamics. To do so, symmetry changes in response to tasks were recorded as talk time and contribution dynamics; changes were expected across tasks for both groups. Differences across tasks were also compared between two groups. Completion times were expected to be longer for participants in interactions involving AAC relative to those that did not. Narrative and sequencing task performances were expected to take the longest to complete and appear most symmetric, while the map and story retell performances were expected to be relatively shorter and more asymmetric.

## METHODS

One group of participants represented mouth speakers only; the second group was comprised of dyads that included one individual with Amyotrophic Lateral Sclerosis (ALS) who used AAC (Luo, 2009). Participants reminisced about a shared experience in the narrative task. Participants created a fictional storyline for the sequencing task. The map task imposed an inherently asymmetric relationship (i.e., direction giving/following). Likewise, the story retell task involved participants reading a story and then telling it to partners. Task times, cumulative talk times and contribution frequencies were recorded in these four tasks.

Contribution frequency counts were converted into rates using given task time as the denominator. Contribution rates and individuals talk time durations were transformed into symmetry ratios. Ratios were calculated using the difference between participant behaviors and dividing that number by the cumulative sum of those behaviors. Mixed, repeated measures analyses of variance (ANOVA) evaluated differences across tasks and between groups.

## RESULTS

Significant group and task effects, as well as interactions, were found ( $p < .05$ ). Task completion times and symmetry observations changed across tasks and were different between groups. With few exceptions, augmented speaker group performances took longer and were relatively more symmetric for three of the four tasks than the mouth speaker group. Overall, mouth speaker group performances were more variable across tasks, which validated the effectiveness of task constraints.

## CONCLUSION

If AAC technology is an effective speech alternative, similar task performances could be expected between groups in this investigation. Results from this investigation indicate otherwise. Symmetry was sensitive to task and modality performance differences in otherwise comparable interactions. Objectively identifying contexts that illustrate fundamental performance shifts in response to the presence/use of AAC is important. Representing

communication dynamics using symmetry could inform understanding and approaches to interactions with, through and around AAC. Replication is warranted.

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**Evidence Area:** AACcess emerging technologies, AACcess the community, AACcess justice, AACcess culture

**Content Focus Area:** Research Evidence, Research Methods and Theories



## **Systemic Change for AAC**

**Rosie Clark**

Bringing about whole school change is a complex process. Rayner et al (2017) discussed the need for attitude change in policy makers and a system redesign, rather than simply bringing in policies to be adhered to.

When introducing a whole school approach to developing autonomous AAC use, it is clear from both experience and research, that immersion in a full language system is essential to the development of all elements of communication in pupils, Sennott et al (2016).

This presentation will discuss the need for developing a way of bringing about the attitude shift and system redesign needed in a UK school for pupils who have complex learning and communication needs. It will talk about challenges and successes in the implementation of a whole school total communication approach, including ideas for a School Development Plan to ensure strategic planning.

The importance of staff training, especially the support staff working on a day-to-day basis with the pupils, must be recognised, Binger et al (2010). The presentation will look at methods used for engaging support staff and teaching staff in learning to use an aided language learning approach, as well as ways staff ownership and engagement were developed. It will also discuss ways of developing parental buy-in to the approach to support and further develop autonomous communication in the wider community.

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**Evidence Area:** AACcess education, AACcess the community

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

## Talking about death and dying with a communication disability – a research protocol

Liqing Zheng | Kate Anderson | Joanne Watson

Talking about death and dying is a significant issue in the world. People may face so many decisions at their end of life, such as what kind of end-of-life care they wish to receive. People often want to make their own care decisions. However, many individuals cannot decide their own care at the end of life, due to physical and cognitive impairment (Australian Centre for Health Research (ACHR) 2016). Too many patients suffer pain and sorrow during their final days and die in a way they don't want to. End of Life Care has a low profile in Australia. Conversation about death and dying is a simple but useful method increase public awareness of end-of-life care.

Acquired Brain Injury (ABI) refers to any brain damage acquired after birth, which might be caused by trauma, infection, stroke, tumour and poisoning (Brain Injury Australia 2016). This might result in physical disabilities, cognitive impairment, emotional dysfunction and a decrease in independence (Brain Injury Australia 2016). People with ABI might have communication difficulties if their social skills and communication domains in brain are damaged. These communication difficulties are likely to impact on communication about death and dying, however this has not been explored in the research to date. They need the same opportunity to express their end-of-life preferences as general population to ensure a good death for the future.

Due to the limited research on the ABI population, findings from people with other communication disabilities (such as intellectual disability (ID)), who have similar communication difficulties as people with ABI, were reviewed. People with significant communication disability experience various difficulties when they need end-of-life care. They are often not involved in conversations or research about their end of life care which often leads to third parties making these decisions for them (Kirkendall, Linton & Farris 2016). Communication strategies and practical skills for supporters and researchers are also indicated in this literature.

Further research is needed to fill the gap on talking about death and dying with people who have significant communication disabilities resulting from acquired brain injury. Research is also needed to establish the communication supports required for people with ABI to plan for a good death.

The results of this project could have implications on decision-making for people with ABI living in communities and also beneficial for their own to get better end-of-life care if the project proceeded.

This poster will propose two research methods for exploring these issues with people who have ABI: Nominal Group Technique and semi-structured interview (Kallio et al. 2016; Spassiani et al. 2016). We will compare the potential strengths and limitations of these two methods, as well as some unique considerations for recruitment, data collection, and methodological rigor with this population. It will also consider some of the potential implications of our earlier review findings for talking about death and dying with people who have ABI, in clinical and community settings.

To date, people with ABI have not been given a chance to express their ideas about end of life wishes within a research context. Such research could potentially improve their future end of life care. Through this poster session we hope to empower people with ABI, researchers, clinicians, and family members to work together in addressing this important issue.

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**Evidence Area:** AACcess justice

**Content Focus Area:** Research Methods and Theories

## **Te Reo Māori and AAC: we have the right**

**Geneva Hakaraia-Tino | Ann Smail**

“Tukua taku wairua kia rere ki ngā taumata. Hei ārahi i aku mahi me taku whai i te reo Māori”

“Let my spirit soar and attain new heights. Let it be my guide in my search to achieve my pursuit of Te Reo Māori”

Henry Ford once said about his motor vehicles, you can have ‘any colour so long as it is black’. For many years anyone requiring text-to-speech voice synthesis could have any voice ‘as long as it is DECTalk’. Those days have past and now there are many more options, including creating your own unique voice. However, it is not so easy if you come from a country where you wish to speak a language not spoken widely in the rest of the world. This is the case with the Māori language (Te Reo Māori). Aotearoa, New Zealand has three official languages, English, Te Reo Māori, since 1987, and New Zealand Sign Language (NZSL), which has been recognised since 2006. Today there is a growing desire to protect and develop Te Reo Māori, a language that regrettably had been marginalised for many years.

As tangata whenua (the indigenous peoples of New Zealand) and an AAC user, Geneva should have the right to speak Te Reo Māori. “I have always wanted to learn my own language and I thought that I am now in a position in my life where the time is right. My culture is very important to me; it is part of who I am as a person. I grew up being very involved in the Māori community of West Auckland and all things Māori. I reckon that I have the best of both worlds, mainstreamed throughout my school and tertiary education yet remaining very connected with my Taha Māori.” So Geneva enrolled in a Te Reo Māori university paper. Not so easy when your communication device “speaks” English. “Learning Te Reo Māori has been awesome, however, I am restricted when it comes to doing verbal assessments for the paper and having conversations in Te Reo. Initially, I would phonetically spell Te Reo Māori kupu (words) into my device but as I learnt more of the vocabulary, it became difficult to make the words sound as close as possible to its pronunciation. Currently, people have to read off my device if we are conversing in Te Reo. If there was a Te Reo Māori voice, it would definitely make things easier and allow others in a similar situation like myself to finally be heard.”

In partnership with the TalkLink Trust the main specialist Assistive Technology/AAC service in New Zealand Geneva is fronting a campaign to develop a Te Reo Māori voice synthesis. It is a “big audacious goal” but definitely worth the effort. This presentation will outline the journey so far, including researching possible developers, securing the considerable funding required, and most importantly finding a Māori linguist able to dedicate the time to the project.

**Evidence Area:** AACcess emerging technologies, AACcess culture

**Content Focus Area:** Personal Experiences and Preferences

## Teaching movements for communication

**Claire Cotter | Melissa Riepsamen**

In this workshop participants will learn about the unique approach to teaching movements for communication used at the Cerebral Palsy Education Centre (CPEC) in Melbourne, Australia. The movement challenges that children with a range of neurological impairments can experience are explored. There will be a particular focus on learning about and identifying key movement issues that affect any child's ability to access communication.

All expressive communication (facial expression, body language, gesture, speech, AAC modes) requires movement of some type. The use and development of movement is different – not just delayed for a child with neurological impairment affecting motor control and/or sensory processing. Motor and sensory challenges affect the movements for early communication behaviours that partners generally rely on to cue the child's interest and understanding. This can lead to medical professionals, educators and other professionals inappropriately labelling these individuals as pre-intentional reflexive and/or profoundly intellectually disabled. Porter & Iacono (2007) reported on the difficulties applying published criteria that do not account for severe physical and / or sensory impairments to identify intentional communication. It cannot be expected that these individuals will spontaneously develop the movement control required for more intelligible communication. These movements need to be actively taught and learned over time.

Over the last three decades CPEC has developed a successful approach for teaching movements including movements for communication for children with complex physical and sensory impairments. This approach encompasses the following:

- . Understanding the individual's movement patterns
- . Providing meaningful feedback to possibly communicative, spontaneous movements (behaviours).
- . Developing underlying capabilities for posture and motor control
- . Modelling communication behaviours / AAC modes the child may be able to learn during genuine interactions
- . Teaching specific movements for communication
- . Accommodating for current sensory, postural and movement challenges.
- . Capitalising on opportunities for the child to communicate.

In this workshop participants will be introduced to this approach. The workshop participants will learn about movement patterns, key movement issues and movement learning requirements affecting children with neurological impairment and physical disabilities around communication. These issues include the impact of sensory processing challenges, set patterns of movement, posture and tone on learning movements for communication. Important strategies to address key movement issues will be explored.

The learning outcomes for this workshop are:

1. Understanding the different movement patterns of children with a physical disability as the result of neurological impairment.
2. Understanding the key movement issues that can impact on a child's ability to access AAC.
3. Identifying what the child using AAC needs to learn and some strategies that can be used to address the identified key movement issues.

**INTERACTIVE COMPONENTS:**

Participants will take part in brief experiential activities that will clarify some key movement issues. Case examples with video will be presented to illustrate the key movement issues. Participants will practice observing and identifying key movement issues from video. As a group we will problem solve possible movements for communication access and general strategies.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Professional Practice Evidence

## Teaching preschool children with ASD to request using an SGD with differing visual displays

May Agius | Jois Stansfield | Emma Turley | Beata Batorowicz | Janice Murray

Children with autism spectrum disorder (ASD) are characterized by significant developmental delays with persistent social communication deficits (American Psychiatric Association, 2013). As many as 30% of children with a diagnosis of (ASD) fail to develop functional speech and thus augmentative and alternative communication (AAC) may be successful for supporting the development of expressive communication. When mainstream tablet technology is used as a speech generating device (SGD) different visual display options used to organize the vocabulary are possible. Traditional displays have involved the use of grid layouts, although it is suggested that visual scene displays (VSDs) with potential to embed language in natural contexts could be useful for beginning communicators (Drager et al, 2003). Most studies utilising a VSD have, however, been conducted with typically developing populations (e.g. Drager et al, 2003) thus it is unclear if the advantages extend to children with ASD (Wilkinson et al, 2012). It is also possible that individual intrinsic characteristics such as differing sensory response patterns of children with ASD may impact on the choice of visual layout in the AAC system (Ganz, 2015; Watson et al, 2011).

### AIM:

The aim of this research is to compare a grid layout with a VSD on a SGD to teach requesting skills to 4 preschool children with ASD with sensory processing disorder.

### METHOD:

This single case pilot study forms part of a PhD project and is the second in this series. An adapted alternating treatment design embedded in a multiple probe baseline design across participants was utilised. All 4 participants were nonverbal preschoolers with a diagnosis of ASD and co-existing sensory processing disorder. Participants were assessed for severity of autism, adaptive functioning, sensory processing, and current communication skills. The study consisted of pre-baseline, intervention, post-intervention and follow-up phases. During the pre-baseline phase a stimulus preference assessment identified reinforcers to create 2 equal sets of reinforcers allocated to each of the VSD and grid conditions. The participants were taught to request these using an SGD during the intervention phase. Sensory interventions were provided to each participant according to the results of their assessment in every phase of the study. The baseline phase was staggered so that each participant commenced a week apart. During this phase participants had access to reinforcers and the SGD (an iPad 4TM1 with Scene and HeardTM2 application) customized for each participant to include the vocabulary in a grid and VSD layout. The vocabulary was represented by photo material in both conditions. Data was collected on all requests including independent use (i.e. no verbal, physical or gestural prompts) of the SGD for requesting reinforcers. The intervention phase consisted of a maximum of 18 sessions of intervention of 20 minutes each, 9 in each treatment condition for each participant. Criterion was achieved when participants independently requested for 80% of requests for 2 consecutive sessions. The teaching protocol designed for the study ensured that both conditions were taught using the same protocol which included a combination of naturalistic and behaviorist strategies. The post-intervention phase consisted of 3 sessions in both conditions with no further intervention provided. The follow up phase took place one month later. Social validity was assessed using a caregiver questionnaire.

### RESULTS:

All 4 participants learned how to use the SGD to make requests for reinforcers. The results indicated that there was no significant difference between the 2 conditions. The number of sessions to criterion varied between participants. Caregivers exhibited a preference for the grid display.

**CONCLUSION:**

Discussion will focus on links between intrinsic child characteristics and the results. This includes the differential impact of differing sensory processing disorders on learning to use AAC systems. The potential implications for service delivery including intervention choices which may be required to support AAC device learning and the need for collaboration between professionals from both SLT and OT backgrounds will be discussed.

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**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Research Evidence



# Tempt-Trigger Intervention to Promote Intentional Communication in Two Young Children with CCN

Cynthia Cress | Susan Lien

- Multiple studies demonstrate the effectiveness of interventions at promoting communication toddlers with ASD who have emerging symbolic skills; effects in prelinguistic children were mixed (Morgan, et al., 2014).
- Effective programs such as Hanen More Than Words (Carter, et al., 2011) demonstrate increases in social communication for prelinguistic but intentional communicators with ASD, using parent training that combines responsivity with modeling of effective nonverbal or verbal behaviors
- There is a need for additional intervention approaches for preintentional communicators who do not yet respond consistently to adult modeled behaviors, to help bridge the potential gap between responsivity and modeling approaches to communication intervention.
- The Tempt/Trigger Intervention (Cress et al., 2016) was developed to provide intermediate support for children to supplement the benefits of responsivity and modeling approaches.

## RESEARCH QUESTIONS:

- Does the Tempt-Trigger intervention increase the child's initiation of person-directed and object directed behaviors at temptations?

## METHODS: PARTICIPANTS

- Two pre-intentional children with CCN, one 36-month old boy with physical and other developmental impairments (CH) and one 18-month old girl with developmental disabilities with suspected autism (JP)

## METHODS: DESIGN

- Multiple baseline study across activities within the participant
- Two target outcomes: object-directed communication behaviors (intentional behaviors) and person-directed communication behaviors (intentional communication).
- A communication signal inventory (CSI) described all spontaneous and prompted behaviors for which meaningful interpretations were judged by familiar partners. CH was provided with a switch mounting with digitized voice output reflecting the type of activity (e.g. "more music").
- Temptations activities were included for both children, depending on their physical and sensory tolerance of activities. For JP, temptations were three types of physical play on an object and three tactile and sensory play objects. For CH who fatigued more quickly, only 3 music and physical temptations were used.
- Each activity was associated with a spoken word during the temptation (e.g. "bounce") to facilitate spoken communication

## METHODS: PROCEDURES

- Each child had a customized inventory of all plausible behaviors produced in the temptations, categorized into three groups of request, protest or comment behaviors: spontaneous behaviors, object-directed behaviors, or person-directed behaviors.
- All experimental coding of sessions was conducted by trained observers blind to treatment condition who did not interact with any of the children, coding randomly ordered sessions
- Children received four trials of each temptation in randomized order with random alternation of 2-3 familiar experimenters during twice-weekly sessions.

- All children received baseline sessions with no intervention, intervention with tempt-trigger strategies, then maintenance sessions that returned to baseline procedures

**TEMPT-TRIGGER INTERVENTION – NO ADULT-INITIATED PROMPTS (E.G. “TOUCH THE BALL”) OR MODELS:**

- Tempt (one turn of play routine and pause, after 5 sec. cue with “I’m watching your hand”)
- Trigger (child’s spontaneous behavior at the pause)
- Transfer (helping the child produce a behavior one step more complex than trigger)
  - Spontaneous trigger transferred as object-directed behavior (helping the child tap the object)
  - Object-directed trigger transferred as person-directed behavior (helping the child tap the experimenter’s hand)
- Touch (tapping the child’s hand with “you told me more/all done X”)

**RESULTS**

- JP showed a steady decrease of spontaneous behaviors and increase in partner-directed behaviors over experimental sessions
  - . By the end of the intervention period, JP had moved from primarily pre-intentional spontaneous behaviors to multiword spoken communication at 24 months
  - . Continued concerns were the attention focus during her gesture or word production which was frequently directed toward off-task people and activities
- CH showed steady improvement in his switch activation for voice output at activity temptations. Because his gaze and head control did not allow person-directedness of those behaviors to be demonstrated, his outcomes were coded for contingency and completeness relative to the temptations presented.
  - . By the second activity temptation, CH would deliberately focus his eyes on the persons interacting with him, a skill not previously evident in any of his interactions.
  - . Switch activations were increasingly associated with positive affect and/or vocalizations during the progress of the study

**CONCLUSIONS.**

These data demonstrate the effectiveness of using the Tempt-Trigger intervention to increase partner-directed behaviors in children who do not yet show consistent intentional communication

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence

# Testing Current Speech Recognition Technologies Against the Speech of Adults with Down Syndrome

Christine Holyfield | Kathryn Drager

## AIM

Augmentative and alternative communication (AAC) benefits a heterogeneous group of individuals, including those individuals who communicate primarily using speech but experience restrictions due to limited intelligibility of that speech (Beukelman & Mirenda, 2013). Such individuals might include adults with Down syndrome given the large number of these adults who experience dysarthria (Button & Leddy, 2010; Blanchard, 1964; Hamilton, 1993). AAC benefiting these individuals may include persons or technology able to accurately interpret the speech of adults with Down syndrome and convey that speech to others in a manner that is intelligible to them (e.g., synthesized speech, text). The purpose of this study was to explore the accuracy with which currently-available, popular speech recognition technology interprets the speech of adults with Down syndrome who experience dysarthria.

## METHOD

The study used descriptive, exploratory methods to better understand the accuracy with which two popular speech recognition technologies – Windows Speech Recognition and Google Docs Voice Typing – interpret the speech of adults with Down syndrome who demonstrate dysarthria. Six adults with Down syndrome participated in the study. The technologies' accuracy across a variety of recorded words and phrases from the adults was tested. Rates of accuracy were considered within the context of accuracy rates from unfamiliar adult communication partners who also listened to and interpreted the speech. Additionally, rates of accuracy of interpretation from a parent of each participating adult with Down syndrome was considered.

## RESULTS

Both popular speech recognition technology options far underperformed their average accuracy rates when tested with the speech of the six adults with Down syndrome who experience dysarthria. The technology options also performed with less accuracy than unfamiliar adults who interpreted the speech. Unsurprisingly (Kumin, 1994), both the technology options and unfamiliar communication partners interpreted the speech of the adults with less accuracy than did the adults' parents who also interpreted the speech.

## CONCLUSION

The results from the current study suggest adults with Down syndrome may require alternative technology options in order for their voices to be recognized. Because of the dysarthria displayed by many adults with Down syndrome (Button & Leddy, 2010; Blanchard, 1964; Hamilton, 1993), more individualized or flexible technologies may be needed. Future research is needed to determine that technology, any individualization required, and its feasibility of use in real-world communicative contexts. Until such technology is identified or developed, results from the current study indicate familiar – and even unfamiliar – communication partners are likely more effective resources for accurately interpreting the speech of adults with Down syndrome who experience dysarthria.

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**Evidence Area:** AACcess emerging technologies, AACcess the community

**Content Focus Area:** Research Evidence

## **The changes that AAC + eye tracking technology brought me**

**Meijuan Su**

After briefly introducing myself, I'll share the struggles and challenges that I went through before I had eye tracking device. Then I'll share how I got to know about eye tracking technology, and how I felt the first time I ever tried it. My life was completely changed when I had the device around my house. I could have an easier access to the computer, and maintain a social relationship with all of my friends. At last, I want to thank everyone for always being so supportive to me.

**Content Focus Area:** Personal Experiences and Preferences,

## **The Demanding Device: Lived Experience of Speaking through a Speech Generating Device**

**Kathy Howery**

In today's world there are a myriad of speech generating devices available to children and youth with complex communication needs. From the now more traditional dedicated devices that have been available for several decades to the scores of apps that are available for use with the ubiquitous tablet technologies. Over the past three decades, the knowledge base in the field of augmentative and alternative communication has made great strides. There are several textbooks written on the topic (Beukelman & Mirenda, 2013; Ganz, 2014; Loncke, 2014; Soto & Zangari, 2009), journal dedicated to the practice and scores of websites, blogs and resources for educators, families and the people who speak through devices themselves. There has been some research that seeks to understand the perspectives of persons who use SGDs, their families and the professionals who work with and support them (Angelo, Kokoska & Jones, 1996; Bailey, et al., 2006; Hodge, 2007; Smith-Lewis & Ford, 1987). Despite this growing body of devices and knowledge, there is yet little understood about the phenomenon itself. What is it like to speak using a speech generating device? And what is the meaning of these devices in the life world of those who use them on a daily basis to communicate.

This session will share research into this phenomenon that has been gleaned from listening to the voices of SGDs users during a three year research project that focused on the lived experience of several young people who use so called high tech SGDs on a daily basis (Howery, 2017). One important understandings that emerged from this study is that the devices themselves demand many things from the young people who use them. Along with the physical and cognitive demands of speaking through a machine there are other demands, demands of a society that believes in the power of technology, demands of professionals who expect that devices be embraced and welcomed by persons with CCN, the demands of having a voice that is a machine, and the demands of the timing and timing of classrooms on being heard. This presentation will explore these themes and implications for practice for educators, speech language pathologists, families and rehabilitation engineers. What can we learn about our practices, our expectations and attitudes, and design issues as we reflect on the stories and experiences of those who tell them through technologically mediated voices.

**Evidence Area:** AACcess education, AACcess the community, AACcess relationships

**Content Focus Area:** Research Evidence, Personal Experiences and Preferences

## **The Development of an Assessment Tool to support AAC Practitioners**

**Suzanne Martin**

In 2015 England introduced a National Health Service (NHS) funded service to provide high tech voice output communication aids using a 'Hub & Spoke' model. Whilst all regions in England are now serviced by a specialist AAC Hub, local spoke AAC services are still developing.

Ace Centre is a specialist (hub) service that has been working with a number of different local (spoke) AAC services in England to support the development of their services. We provide access to assessment and loan equipment, mentoring of team members and training to increase the skills and knowledge of these local AAC services. Through this project we have identified a need for assessment resources to assist clinicians in accurately describing how individuals who use AAC communicate. To meet this need, we worked to adapt the original resource The Pragmatics Profile of Everyday Communication Skills in Children (Revised) by Hazel Dewart and Susie Summers (1995) to produce The Pragmatics Profile for People who use AAC and have made this available free of charge with the permission of NFER-Nelson.

The Pragmatics Profile of Everyday Communication Skills in Children (Revised) (Dewart and Summers, 1995) is a tool familiar to speech and language therapists working with verbal children. The Pragmatics Profile was developed from a belief that conventional approaches to clinical work by speech and language therapists needed to be supplemented with information about how individuals communicate in everyday interactions, in a variety of environments and with different communication partners. For many years, speech and language therapists working with individuals who are non-verbal and use AAC have used The Pragmatics Profile to add value to their assessment process. This has posed challenges as the wording of questions and examples of prompts provided are written with verbal children with no physical difficulties in mind.

This session will summarise the origins of The Pragmatics Profile for People who use AAC. We will discuss the challenges we experienced in the adaptation process and the feedback we received during the pilot. We will explore how the profile results inform and compliment the assessment process. This is considered in the context of different assessment models and how this has supported our development of best practice within local AAC teams. A case example will be presented where The Pragmatics Profile for People who use AAC has been used to assist AAC practitioners working in local (spoke) services.

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**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Professional Practice Evidence

## The effect of AAC on the receptive language skills of children with disabilities: scoping review

Catherine Flores | Shakila Dada | Ralf Schlosser

In order to develop functional communication skills, young children who rely on augmentative and alternative communication (AAC) must be able to comprehend and express language so that they can take on the role of both listener and speaker. Receptive language skills form the foundation for later expressive use and therefore play an important role in language development (Ronski & Sevcik, 1993). The role of receptive language skills in the field of AAC has received limited attention as, historically, the function of AAC has been to enhance the expressive language skills of persons who rely on AAC (e.g. Millar, Light, & Schlosser, 2006; Schlosser & Koul, 2015; Schlosser & Wendt, 2008).

A variety of intervention techniques exist that aim to facilitate the receptive language skills of persons who rely on AAC. Augmented input is one strategy to facilitate the teaching of symbols. It refers to using aided or unaided AAC systems to augment the incoming language or communication so that the visual modality augments, rather than replaces, speech (Dada & Alant, 2009). The spoken message is augmented by either aided or unaided AAC systems, with objects, pictures, photographs, gestures and/or voice output technology (Dada & Alant, 2009; Ronski & Sevcik, 1993). A number of aided augmented input strategies have been proposed that refer to interactive modelling of an AAC system by the communication partner (Sennott, Light, & McNaughton, 2016). The existing quantity of studies on AAC interventions should be integrated with a systematic method in order for conclusions to be made, based on research-evidence regarding the effects of AAC interventions on the receptive language skills of children with developmental disabilities. Scoping reviews are an increasingly popular approach when reviewing evidence in health research and is particularly relevant in fields with emerging evidence (Levac, Colquhoun, & O'Brien, 2010). A scoping review would therefore be an appropriate method for synthesising the research evidence on the effects of AAC interventions on the receptive language skills of children with developmental disabilities.

### **AIM:**

The aim of this scoping review was to map and synthesise the research evidence on the effects of AAC intervention on receptive language skills of children with developmental disabilities.

### **METHOD:**

A four-pronged search strategy was used to identify studies that met the inclusion criteria. The completed PRISMA diagram (Moher, Liberati, Tetzlaff & Altman, 2009) will be included in the presentation illustrating the selection process.

### **RESULTS:**

Data were extracted from the included articles and synthesised in terms of three groups of effects: (i) the effect of unaided AAC interventions, (ii) the effect of aided AAC interventions, and (iii) a comparison of two types of AAC interventions. The trends and gaps in the literature are highlighted in terms of the use of AAC interventions and the receptive language skills addressed. Directions for future research are posited. Valuable preliminary evidence regarding the effects of AAC interventions on receptive language skills of children with developmental disabilities was obtained in the scoping review.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Research Evidence

# The Effect of Aided Language Stimulation to individuals with complex communication needs in Taiwan

Hsiu Ching Lee | I Shin Lai | Meng Jei Wu

Individuals with complex communication needs cannot communicate functionally through spoken language. Consequently, these individuals may communicate using non-symbolic, idiosyncratic means that are often difficult to understand, especially for unfamiliar communication partners. Aided language stimulation (ALS) can be implemented by a person and refers to pointing to picture symbols in conjunction with ongoing language stimulation. Providing ALS within everyday communicative contexts (e.g., various classroom activities such as story reading or music) helps the individuals to learn how to communicate effectively within those contexts. Several clinical reports support the use of ALS, but few studies have investigated the efficacy of this approach to individuals with severe developmental disabilities and complex communication needs.

## AIM

The purpose of this study was to investigate the efficacy of aided language stimulation to facilitate the functional use of core vocabulary communication board to individual with severe developmental disabilities and complex communication needs.

## METHOD

Four individuals with severe generalized cerebral palsy (CP) and complex communication needs participated in this study. All participants were from Maria Profound Intellectual and Multiple Disability Center, which is a daycare center in Taiwan. The aided language stimulation program comprised two activities: music time, and story time activity. Each activity was repeated over the duration of 10 subsequent sessions. The materials were developed so that all participants and service providers had available and used the same pictures. The number of turns and number of times core vocabulary was used before, during, and after intervention by the individuals were counted to determinate the difference.

## RESULTS

The number of turns and number of times core vocabulary board used by the individuals with complex communication needs were all increased in a fairly short timeframe, and there was considerable individual variation in performance. Result of functional use of AAC on each participant was described individualized.

## CONCLUSION

This study explores the impact of aided language stimulation on functional communication and core vocabulary use in people with severe developmental disabilities and complex communication needs. Overall, current research findings indicate that aided language stimulation interventions can be one of the effective methods for teaching individuals with severe mental challenge to become more effective communicators.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Personal Experiences and Preferences

## **The effectiveness of augmented input on understanding of directives for children who require AAC**

**Shakila Dada | Ralf Schlosser**

**AIM:**

The main aim of this study was to determine and compare the effect of varying levels of augmented input on understanding directives for children who require AAC.

AAC interventions for children with developmental disabilities primarily focussed on expressive communication (Allen et al., 2017). There is a paucity of research on AAC interventions aiming to improve receptive language skills of children who require AAC (Dada & Alant, 2009; Allen et al., 2017; Ronski & Sevcik, 1993; Schlosser et al., 2013; Sevcik, 2006).

There are various routes to understanding spoken messages (Dada & Alant, 2009; Ronski & Sevcik, 1993). These include understanding the symbol, or understanding the spoken input or a combination of both. Input-output asymmetry which may be a contributing factor to the unique language learning environment as children who require AAC are exposed to a spoken language environment but must develop an expressive language system in a different modality (Smith, 2015). Augmented input aims to address the symmetry between language input and output for persons using AAC. Although several authors have presented strategies that use AAC to enhance input and comprehension of the messages presented to the person who requires AAC (e.g. Drager et al., 2006; Goosens', 1989; Dada & Alant, 2009; Ronski & Sevcik, 1996), the dosage or amount of augmented input has received less consideration (Allen et al., 2017). Furthermore, many of these studies have focussed on the comprehension of nouns with very limited research on comprehension of more complex language example directives or symbol combinations (Allen et al., 2017).

A within-subjects design with 8 children who require AAC was utilised. Participants were required to meet specific selection criteria in order to be included in the study. These criteria included i) diagnosed with a developmental disability ii) having complex communication needs and a receptive language ability of about 24 months. In addition, the participants completed a pre – assessment task that involved imitation, noun knowledge and matching. Sets of three sentences each allocated to an augmented input condition (i.e., 20%, 40% and 80% respectively). Each participant was exposed to three different levels of augmented input conditions allowing for comparisons within each participant as well as across the augmented input condition. The augmented input was provided using a Go Talk™ with Picture Communication Symbols. The amount of augmented input varied and served as the independent variable. The dependent measures were i) understanding of directives that involve prepositions (Schlosser et al., 2013), and ii) action-agent and attribute-entity combinations (Tönsing, Dada, Alant, 2014).

The results of the study will be discussed in terms of group-level data (per augmented input condition) as well as individual participant data (with-in participant) followed by a discussion of the appropriate inputs for children that require AAC. The clinical implications of amount of augmented input provided will be discussed. The limitations of the study will be provided.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Research Evidence

# **The Effects of AAC Intervention Using Eye Tracking for Students with Severe and Multiple Disabilities**

**Kyung-Yang Kim**

## **PURPOSE**

The purpose of this study was to demonstrate the effects of AAC intervention applied eye tracking technique on the frequency of communication turn-takings, AAC device speed, completion of Eye tracker task for students with severe multiple disabilities.

## **METHOD**

### 1). Participants

The participants were students with severe physical disabilities. Selection criteria of participants were as follows; 1. the students who need AAC because of complex communication need, 2. students with severe and multiple disability, 3. students who have participated in AAC intervention before, 4. students with parental consent.

### 2). Materials

This study had two materials: Eye tacker and AAC device. Types of Eye tacker were Tobii pcexplore. AAC device was Mytalkie. As a Korean AAC tool, Mytalkie is easy for editing and using. Mytalkie is equipped with 10,000 symbols and vocabularies and provides 23 different voices.

### 3). Research design

The research design of study was multiple case studies. Multiple case designs consist of a repeating studies that apply the same intervention in a variety of cases and the analysis unit complex design. In this study, cases were two (participants A, B) and embedded unit of analysis were three (Communication turning-taking, speed of using AAC device, completion of eye tracker task). The research procedure followed pre-test, switch training in AAC intervention, post-test and generalization.

### 4). Independent variable: AAC Intervention using Eye tacking

AAC Intervention using Eye tacking were independent variables of this study. It consisted of two steps: 1. Training of using Eye tacker training (e.g. positioning, Calibration, Eye tacking game such as Eye-gazing, target alignment, adjustment) 2. AAC training of turn-taking.

### 5). Dependent variable and Data collection

First, the turn-taking were collected by the number of turn-taking for 10 minutes during storytelling time.

Second, speed of using AAC device was the efficiency of acting AAC device. It was measured by the speed time during using AAC device.

Third, completion of eye tracker task was the ability to use Eye tracker independently. It was evaluated by completed of eye tacker task (e.g. eye tacker game) independently.

## **RESULTS & CONCLUSION**

The results found in this study were as followed: First, The communication turn-takings of participants was much improved after the post-test. Second, the operating speed of AAC device of participants was improved in the post-test compared to the pre-test. Third, the completion of Eye tracker task was advanced.

The use of eye tracking in AAC intervention was effective for students with severe multiple disabilities.

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**Evidence Area:** AACcess emerging technologies, AACcess language and literacy

**Content Focus Area:** Research Evidence

# The EXPAND Program: Expanding aided language stimulation habits of parents of children who use AAC

Amelia Edwards | Janelle Sampson | Pammi Raghavendra

## **INTRODUCTION:**

Training communication partners of individuals who use AAC is an effective strategy in supporting the communication of individuals with complex communication needs<sup>1</sup>. However, few studies have considered parental behaviour and changing habits in terms of providing aided language stimulation (ALS) throughout the day.

To date, there has not been a parent-focused intervention program developed that targets a range of pragmatic functions of communication which has been systematically evaluated. There is a call for AAC intervention to focus on communication more broadly than just requesting<sup>2</sup>. Anecdotally, parents have reported that they find it difficult to model a variety of pragmatic functions to their child, and that requesting is an easier pragmatic function to model.

## **AIM:**

This study aims to evaluate the effectiveness of an online intervention for parents of children who use AAC. The research questions are:

- . Can an online parent intervention increase the frequency of modelling by parents of children using AAC?
- . Can an online parent intervention increase the range of pragmatic functions modelled by parents within interactions with their child?
- . Can an online parent intervention influence parents' perception of their child's communication system?
- . Can an online parent intervention increase the child's engagement with their communication system, compared with the pre-intervention status?

The hypothesis is that the online intervention will increase the frequency of ALS provided by parents, and that the range of pragmatic functions they model will also increase. In turn, we hypothesise that this will lead to an increase in the communicative functions used by the child.

## **METHOD:**

The study uses a single group pre-post design. Parents are mailed a questionnaire before and after the on-line intervention that addresses their child's current communication profile and the pragmatic functions they currently model (adapted from the Pragmatic Profile of Everyday Communication Skills in Children<sup>3</sup>). It also explores the attitudes of the parent towards the child's communication system, by presenting a series of 5-point Likert-type questions. In addition, before and after the online intervention, 3 x 5 minute interactions between parent and child will be videoed by a research assistant who is not involved in the intervention.

Parents complete a 7 module online intervention, known as The EXPAND Program, which follows the 4P adult-learning cycle<sup>4</sup>. The first module introduces the program, and provides an overview of AAC and ALS. The 6 subsequent modules each focus on an early-developing pragmatic function of communication.

## **RESULTS:**

A comparison of frequency of modelling and range of pragmatic functions modelled pre – and post-intervention will be analysed using questionnaire data (paired t-test) and the video footage will be analysed using the Responsive AAC Style Scale (Version 3)<sup>5</sup>.

Likert-type statements included in the questionnaire measure parents' perceptions of their child's system pre – and post-intervention. Qualitative analysis of the video will examine changes in parents' behaviour pre – and



post-intervention and whether the child's engagement with their communication system has increased (i.e. attention to modelling, initiation of communication, turn taking).

**CONCLUSION:**

This presentation will include the outcomes of the online intervention including facilitators and challenges in implementing the program. The EXPAND Program could potentially provide an alternate service delivery model for families (or other communication partners) of individuals using AAC. This is a timely option with the roll out of the National Disability Insurance Scheme within Australia, given that anecdotally parents have reported significant waiting times to access services for their children. Furthermore, an online program has the potential to reach families living in rural and remote areas.

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**Evidence Area:** AACcess language and literacy, AACcess the community

**Content Focus Area:** Research Evidence

# The experience of social adaptation of young children with Down syndrome

Elvira Stolyarova | Elena Shamro | Elena Ogorodnikova | Stephen von Tetzchner

Cognition and language have been found to be related to motor development in children with intellectual disability. Children with Down syndrome are at risk for hypertonia and poor motor development, as well as speech problems. They may benefit from early physiotherapy and intervention with augmentative and alternative communication (AAC), usually adapted manual signs. The present study integrates physiotherapy and AAC. The aim of the study was to establish criteria for evaluating the impact of intervention programs and for testing children's readiness to move into mainstream kindergarten.

The study compares individual dynamics of complex motor, cognitive, and communicative skills of children following a long-term physical therapy program. The main tasks were approbation of tools for assessing children's motor, communicative and cognitive skills, register acoustic and articulatory features of their vocalizations, and obtain data on their use of non-verbal communication, such as pointing and symbolic gestures, and of non-vocal AAC modes, such as manual signs and graphic communication symbols. The study also investigates factors related to the social adaptation of the children and the role of the families' contributions in the habilitation processes.

## METHOD

The study was carried out at the early intervention department of a rehabilitation center, as part of an experimental program investigating social adaptation using AAC and physical therapy. Eighteen children under the age of three years participated in the study. The children's psychomotor and communication development was assessed, as well as their self-help skills, at the start and the end of the program. Assessments included video recordings during training sessions, KID and RCDI scales, ONE test (Lauterslager, 2003), BMS, The Communication Matrix, (downloaded from [www.communicationmatrix.org](http://www.communicationmatrix.org)), and observations of situations involving communicative interaction. The family's needs and opinions were assessed with a questionnaires or interview.

## RESULTS

Individual differences in motor development were to a large degree determined by the initial level of postural control, degree of muscle hypotension, and physical health. The families' training regularity and involvement in activities, as well as their engagement in the habilitation process, had a strong influence on the progress of program and the children's development. There were qualitative and quantitative changes in the communicative behavior of the children, in their non-verbal interactions, in their interactions with AAC, and in their vocalizations during and after of physical therapy. The results suggest that early adaptation and strengthening of the communication environment are important factors determining a positive dynamic of communicative development in children. Most of the children, and especially the children characterized by hyperactivity, distractibility and other symptoms, showed delayed onset and unintelligible speech, and needed augmentative and alternative communication to support conceptual and speech development, as well as a successful social adaptation. At the rehabilitation center, optimal conditions for development were ensured by the organization of group sessions with participation of several families, as well as by giving individual recommendations to parents for interacting with their child at home.

## CONCLUSIONS

The main cause of motor, cognitive, communicative and language problems in Down syndrome is Trisomy 21, a chromosome disorder. However, the environment still has a significant influence on the development of children in this group. The study suggests that combining early physical and communicative intervention may have positive effects on the learning and general development of children with Down syndrome.

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**Evidence Area:** AACcess education

**Content Focus Area:** Professional Practice Evidence

## **The Future of Assistive Technology and AAC**

**Jordan Nguyen**

We are living in an age of rapid advancement facilitated mostly by constant technological innovation. In this presentation, renowned engineer for humanity Dr Jordan Nguyen will take us through some of his futuristic technology picks that will shape and change the areas of Assistive Technology and AAC, as well as the projects he has developed. In 2014 Jordan founded Psykinetic, an exciting social business developing advanced empowering and inclusive technology. Psykinetic has recently launched three flagship software products, currently supporting Tobii Dynavox eye trackers and Windows tablets and PCs. These products are:

- \* StarGaze: The world's first eye-controlled app store
- \* Frontier: Fastest eye-controlled keyboard with text-to-speech
- \* Atmosphere: Music performance software

As an award-winning documentary maker, Jordan also has a production house that produces films to democratise understanding of the intersection between technology and humanity to global audiences. He has completed two ABC Catalyst documentaries and three Discovery Channel documentaries with total viewership of hundreds of millions of people worldwide.

Jordan's experience has included developing and leading projects in brain-computer interfaces for speech and wheelchair control, eye-control interfaces for vehicles, computers, environments, and music creation. He has built robots big and small and led a large range of research projects in the fields of Biomedical Technology, Robotics, Artificial Intelligence, and Virtual/Mixed/Augmented Reality.

Here at ISAAC, Dr Jordan Nguyen will lead the audience through an exciting, mind-opening presentation on the relevant technological advancements available today, and where the future is taking us for inclusive technology of tomorrow.

**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Research Evidence

## **The Global AAC Initiative**

**David Goldberg**

### **THE GLOBAL AAC INITIATIVE**

AAC manufacturers donate speech generating devices that are brought to developing countries by AAC professionals to be matched with AAC users in need in those countries. The AAC user pays nothing for the device. Funding for the projects is done entirely through donations. The AAC devices are donated to Global AAC, and then are donated in turn to the end user.

Global AAC seeks to develop relationships with practicing SLP AAC Evaluators and other AAC Evaluators so that needs can be identified.

An example mission to India in 2016 will be presented.

You will learn how the mission was planned and executed and how 11 families received donated AAC devices.

**Evidence Area:** AACcess the world: Developing nations in AAC

**Content Focus Area:** Personal Experiences and Preferences

## **SUBMISSION ID 1338**

Platform (20 minutes)

# **The hard road to ACCess AAC**

**Gregory Dean | Leanna Fox**

Gregory Dean was born with cerebral palsy following a birth injury in the 1950's. His cerebral palsy resulted in a physical disability with the most significant impact on his mobility and speech. Greg's parents supported him to attend a local school in Sydney where he learnt how to communicate using a range of AAC techniques. The road to AAC has been hard, with constant advocacy required to access suitable AAC and support. This is Greg's story.

ACCess to Education: school, university and also guest lecturing Speech pathology students at Sydney University.

ACCess to Relationships: family, friends and his wife who is also an AAC user.

ACCess to Advocacy: Vice-President of AAC Voice, a not for profit organisation dedicated to raising the awareness, knowledge and access to AAC in our local Sydney community.

**Evidence Area:** AACcess the community, AACcess employment, AACcess relationships

**Content Focus Area:** Personal Experiences and Preferences

## The Impact of Age and Bilingualism on Children's Core Vocabulary

Manon Robillard | Émilie Moore | Joannie Morris | Alyshia Kiernan | Stéphanie Beaulieu

When children are confronted with communication barriers, augmentative and alternative communication (AAC) strategies are often considered. The vocabulary selection for these systems is critical for the effectiveness of this mode of communication (Fallon, Light & Paige, 2001). The words chosen must be meaningful, relevant to the user, appropriate to their age, be functional across contexts and should facilitate language development and social interactions (Boenisch & Sotto, 2015). Several studies have shown that 200-250 words could represent approximately 80% of our vocabulary (Robillard, Mayer-Crittenden, Minor-Corriveau & Bélanger, 2014; Trembath et al., 2007). As a result, someone could express the majority of what is needed with a few hundred words. Function words such as pronouns, articles, adverbs and conjunctions, are frequently included in core vocabulary lists. Thus, the inclusion of core vocabulary in AAC systems could facilitate the production of syntactically complete sentences. Furthermore, the presence or absence of core vocabulary within an AAC system could have a great impact on a child's social communication and the development of their reading and writing skills.

### AIM

As of now, the only published French core vocabulary list was based on francophone children aged 4 to 6 (Robillard et al., 2014). Considering a child's vocabulary likely varies with age, this current research is designed to study the vocabulary of the same francophone children, now aged 9 to 11 years old. This similar problematic was studied by Boenisch and Soto in 2015, however because this study was not conducted in French, it is not known if results would be similar to francophone children. Since Robillard and collaborators (2014) have already demonstrated that translated lists don't accurately represent the oral communication of francophone children that find themselves in a minority or bilingual situations, it is imperative to conduct a new study in French with older children.

In addition, bilingualism is a growing phenomenon in Canada and many other countries. Presently, it is very likely that every child will be exposed to at least two different languages at a young age, no matter their chosen educational institute. In 2014, Robillard and colleagues found that there was no difference between the core vocabulary of franco-dominant versus anglo-dominant children aged 4 to 6. However, it is not known if there would be a language gap between the two groups now that the children are older. This research will therefore additionally allow a vocabulary comparison between franco-dominant and anglo-dominant children.

The goal of this study is thus to compare the core vocabulary of children aged 9 to 11 to their core vocabulary when they were aged 4 to 6, and to compare the core vocabulary of franco-dominant children to anglo-dominant children.

### METHOD

A list of French core vocabulary for children aged 4 to 6 years was published in 2014 (Robillard et al., 2014). This study obtained vocabulary samples in elementary francophone schools. A total of 20 participants from the 2014 study agreed to participate in this new study. The same methodology was used to gather the vocabulary. All of the vocabulary samples were transcribed and the content of these transcriptions is now being compared to the data collected in 2014. This will allow to compare fluctuations due to age and linguistic dominance (franco-dominant or anglo-dominant).

### RESULTS

The preliminary results revealed that there were certain resemblances, but also some significant differences between both age and linguistic groups. These discrepancies could result from a difference in age and language dominance. Final results will be presented during the conference. A discussion regarding vocabulary selection for different age and linguistic groups will follow.

## **CONCLUSION**

If an important difference is detected between the age groups (4-6 and 9-11), separate lists will be generated in order to meet the communication needs of each group. Finally, if language dominance acts as a significant variant factor, core vocabulary lists would once again need to be adapted in order to suit the child's specific linguistic needs.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Research Evidence



## **The Implementation of a Cross-Age Peer E-Mentoring Programme for Youth Who Use AAC**

**Emma Grace | Parimala Raghavendra | Jessica Shipman Gunson | Julie McMillan**

Mentoring has been traditionally used for a range of purposes and may prove to be a beneficial intervention for individuals who use AAC (Cohen & Light, 2000; Karcher, 2014). Cross-Age mentoring occurs when an older mentor connects with a younger mentee who shares a similar life situation (e.g., both use AAC) (Karcher, 2014). Cross-Age peers can provide mentoring support through sharing their own experiences, providing informational support or guidance, and being a role model (Shpigelman, Weiss, & Reiter, 2009). A small body of previous research describes the potential benefits of mentoring for individuals who use AAC across a range of outcomes (e.g., improvements in socio-relational skills) (Ballin, Balandin, & Stancliffe, 2012; Cohen & Light, 2000). The e-mentoring provided in this study focused on supporting youth to use social media. Social media use has been identified as a potential intervention strategy to support social participation of youth who use AAC (Grace, Raghavendra, Newman, Wood, & Connell, 2014). The pairing of social media and cross-age peer e-mentoring may especially support social participation of youth who use AAC. However, little is known about the feasibility of implementing a cross-age peer e-mentoring intervention via social media for youth who use AAC.

This presentation will describe the intervention programme that was utilised as part of a larger research study. We will focus on the implementation of this intervention and not the consequent outcomes. The presentation will:

1. Define Cross-Age Peer mentoring as it was applied in this research
2. Describe the method used to provide the e-mentoring programme
3. Provide examples of the mentoring that occurred.

The cross-age peer e-mentoring intervention was provided as part of a larger mixed method study involving four mentees (aged 13;4 – 18;3) who used AAC. Two mentors, who also used AAC, were prepared with a training programme and manual prior to the intervention. The mentees developed their own social media learning goals. The mentor and mentee were instructed to connect with each other online weekly for 1-2 hours over 16 weeks. The mentoring consisted of informational support such as technical guidance and instructions in using social media; “just delete the request, one to confirm and one to delete, just click on delete”; encouragement to mentees to initiate their own online conversations, “I’ll be online and you can call me when you’re ready”. Several measures were used to investigate the intervention provided. The frequency and length of all online conversations between the mentor and mentee was recorded. Provision of the mentoring intervention was further investigated through the collection of all online conversations between the mentor and mentee. A random sample of all conversations (20%) was selected and content analysis was applied using a deductive approach, coding conversations against the definition of mentoring provided in the training manual. In addition, participants rated the quality of the mentoring relationship.

All elements of mentoring, such as providing guidance or being a role model, were present in the random sample of conversations coded. The mentor’s presence as a role model was the most frequently coded feature of the mentoring conversations (i.e., being a role model of how to have an online conversation, of appropriate and safe online behavior, of using AAC, of how to handle mistakes). Participants perceived that they experienced high quality mentoring relationships. The presentation will elaborate on elements of the mentoring provided using excerpts from the conversations to maximize the transparency of this process. This study demonstrates that cross-age peer e-mentoring is a feasible intervention for youth who use AAC that warrants further investigation.

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**Evidence Area:** AACcess social media

**Content Focus Area:** Research Evidence

# The Preliminary Study of AAC Professional Training in China

Tao Wei Wang | Chih-Kang Yang | Yi Shan Chu | Jing Xu

## INTRODUCTION

With the improvement of economic conditions in China, the emphasis on the individuals with complex communication needs (CCN) efforts have been strengthened in the recently years. According to Beukelman and Mirenda (2013) suggested the prevalence of the individuals with CCN was about 1.3%. Since China population have approximately 1.4 Billion, the number of people with CCN could up to 18 Million. In addition, as more and more children with CCN had opportunities to enter the special education school and private institution, these non-verbal or low-verbal students did not have adequate oral communication competence. Therefore, the special educators wanted a good solution for them to solve their students' communication problems, and the AAC would be the best answer for them (Da Fonte, & Boesch, 2016).

Chongqing Xiangyang Children's Development Center (CXCDC) in China have provided many professional workshops for special educators since 1995. Based on the demanding of AAC knowledge for the special educators, the CXCDC decided to provide AAC workshops for the special educators. The researchers believed that AAC training workshop should offer both the theory and hands on learning courses because AAC theory should be practice in the real field and the participants would learn and understand the most content in the workshop. This presentation will share the outcomes of AAC training workshop and attempts to describe how the trainee think about the AAC

## AIM

The researchers aim to explore and clarify the following questions around the AAC professional training in China: 1. Who attended the AAC training workshop? 2. What was the training outcome? 3. What were the arrangement and content for the AAC workshop? 4. How trainee think about the AAC training after the workshop?

## METHOD

This study had 141 participants and they were from 19 provinces and cities in China. Except the 2015 training workshops, the participants were divided into two groups, assistant group and trainee group. The members of assistant group were the trainee who finished the AAC training workshop in last two years and kept performing well in AAC service. The members of trainee group were the participants who never attend any AAC training workshop.

The content of this training workshop included AAC knowledge examination, textbook reading and oral report, assessment, training program writing, case study, making low tech AAC devices, SGD operating and testing, communication board design, language development theory introduction, and communication and rehabilitation theory introduction. The section of AAC training workshop was designed in four days.

At the end of each training workshop, all participants were asked to fill out the questionnaire about the class they just finish. Based on the participant suggestions, the researchers would modify the training content in order to meet the needs of trainee. Since the AAC professional training workshop is proceeding still, there are more information that need to be collected and analyzed in the future.

## RESULT

In this presentation, the findings of the result are as follows:

1. The participant background information: the participants consist of teachers, students or related professionals. The participant data were analyzed to identify themes in gender, institute, province (city), and training period. Base on the participants provided information, it showed that gender, 89.4% were female, 10.6% were male; participant's institute, 66% were from special school, 16.3% were from privates institute, 9.2% were from medical institute, 8.5% were from college or university; over 65% of the participants were from Sichuan province, Zhejiang province, Guangdong province, and rest of 35% were from other provinces or cities.

2. The training outcome: the most of the participants were satisfied the AAC training workshop; it also showed that if the participants had previous AAC training, he or she would have better performance in the workshop. They had more confidence when they provided AAC services.
3. The arrangement and content for the AAC workshop: the participant should have basic knowledge learning, reading and discussion; clinical practice would help their professional knowledge and performance significantly.
4. The trainee thought about the AAC training after the workshop: The AAC theory and clinical practice were not that difficult as they thought; however, they still have more to learn, more to earn, more to give, and more could happen.

#### **CONCLUSION**

According to the experiences of past two and half years AAC professional training in China, the researchers found that the special educators and related professionals not only increase their AAC knowledge and skills, but also enjoy to share their professional knowledge with other professionals and the parents group.

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**Evidence Area:** AACcess education, AACcess culture, AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence

## The price of co-construction

Kristine Stadskleiv | Stephen von Tetzchner

Aided communication gives children with severe speech and motor impairments possibilities of expressing themselves, which is fundamental for their participation and learning. However, aided communication comes with a price – it may take a long time to construct an utterance, even the meaning usually expressed with a single word. Co-construction may help reduce the time when communicating with a person who use natural speech but may also lead to an asymmetrical relationship, where the aided communicator provides strategic elements of meaning rather than a coherent utterance and the partner takes responsibility for formulating the meaning intended by of the aided communicator. Moreover, the partner may make wrong inferences or try to speak on behalf of the aided communicator. This study explores the relationships between transparency of descriptions provided by aided communicators and inferences made by partners in a co-construction task.

### METHOD

This study is part of the international project “Becoming an Aided Communicator (BAC). A Multi-Site and Cross-Cultural Investigation.” The participants were 68 aided communicators aged 5-15 years, and a similarly aged reference group of 41 children using natural speech. Verbal comprehension was measured with Test for Reception of Grammar (Bishop, 2003). The children were instructed to describe but not name common objects presented on drawings so that a communication partner who could not see the drawing would be able to infer what they were. The clues used in the children’s description were divided into three categories: a) precise, easy to make an inference, b) imprecise, correct but vague, difficult to make an inference, and c) incorrect, likely to lead to a wrong inference.

### RESULTS

In the aided group, partners inferred correctly 64.3 percent of the object names, compared to 93.1 percent in the reference group,  $t(107) = -3.006, p = .003$ . The aided group provided fewer clues, 2.49 versus 3.26,  $t(107) = -2.491, p = .014$ , but the percentage of precise clues was similar in the two groups, 42.1 versus 42.9 percent. The partners in the aided group made more suggestions (2.04 vs 1.62), but the difference only approached significance,  $t(102) = 1.670, p = .098$ . Further, the number of clues provided after the first suggestion was similar in both groups (0.65 versus 0.59). In the aided group, number of correct inferences correlated positively with number of precise clues ( $r = .45, p < .001$ ) and imprecise clues ( $r = .46, p < .001$ ), and negatively with number of incorrect clues ( $r = -.25, p = .037$ ). Average number of clues per item correlated significantly with percentage of precise clues ( $r = -.28, p = .023$ ). Age, verbal comprehension, number of clues, percentage of precise clues and number of guesses explained 33.5 percent of the variance in number of correct inferences in the aided group,  $F(5, 31) = 3.117, p = .022$ , but did not explain a significant amount of the variance in the reference group. In the reference group, verbal comprehension was significantly related to percentage of precise clues ( $r = .63, p = .028$ ).

### DISCUSSION

Both the aided group and the reference group provided a similar percentage of precise clues, showing that children using aided communication are as capable as speaking children of providing information that makes it possible to infer the name of an unseen object, and thus take the knowledge frame of the communication partner into account.

Despite providing similar percentage of precise clues, the partners of the aided group made a lower number of correct inferences about object names. The reason for this might be that over all, the aided group provided fewer clues than the reference group. Also, in the aided group, a higher percentage of precise clues was associated with lower number of clues provided per task. Number of clues and percentage of precise clues correlated significantly with percentage of correct inferences. This suggests that some children provided few but precise clues, but that the partners’ inferences were not only dependent upon the preciseness of the clues but also on the amount of information conveyed by the child.

Aided communicators often must use vocabulary items to express a broader range of meanings than indicated by the gloss. In ordinary conversations with co-construction, partners must infer their intended meaning from this usage. The results of this study indicate that these inferences are not always correct. It underlines a need for children to learn how to provide information that is likely to be sufficient for the communication partners to understand the intended meaning, as well as how to correct incorrect inferences made by their communication partners.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Research Evidence

## The Relationship Between Parent and Teacher Buy-In, Operational Competency and Children's AAC Use

Samantha Lyle | Lindsey Paden | Cargill Allison | Bean Ellawadi

### INTRODUCTION:

Augmentative and alternative communication (AAC) includes all forms of communication (other than oral speech) that is used to express thoughts, needs, wants, and ideas (Beukelman & Mirenda, 2013). Although the purpose of AAC systems is to increase individual's quality of life by enabling them to communicate with others, at times individuals reject/abandon their AAC systems. The American Speech-Language-Hearing Association (ASHA) has recognized the need for greater recognition of why AAC systems are abandoned by AAC users and/or their communication partners (ASHA, 2002). The purpose of this research is to determine what factors are related AAC use so that these areas may be targeted by SLPs when they work with teacher and caregivers in order to decrease the likelihood of AAC system rejection/abandonment. The variables used in this study are based on previous research investigating speech-language pathologist's perspectives regarding success and abandonment of AAC systems.

### PROCEDURES:

This study received approval from the Institutional Review Board at The Ohio State University. Participants were recruited from a non-profit school in the Midwestern United States that serves children with autism and other developmental disabilities. For this study, we report on the 29 participants with an educational autism spectrum diagnosis and the responses from their teachers and caregivers. Caregivers and teachers completed a questionnaire that investigates variables hypothesized to influence AAC use including: length of AAC use, competency with the AAC system, AAC system buy-in, as well as the communication opportunities. All of the school-age children use AAC devices with the Language Acquisition through Motor Planning (LAMP) Words for Life Language Program (Halloran & Halloran, 2006) as their primary mode of communication. Data indicating total AAC use in minutes was extracted from the AAC user's device using Realize Language Software (Halloran & Halloran, 2006) as an index of AAC use at home and school.

### RESULTS:

Parents reported higher levels of operation competency than the teachers ( $U=227.5$ ,  $z=2.86$ ,  $p=.004$ ). Teachers reported higher levels of buy-in than parents ( $U=206.5$ ,  $z=3.21$ ,  $p=.001$ ). A Spearman correlational analysis was conducted to investigate the relationship between teacher reported operational competency, buy-in, and device use at school. There was a negative correlation between teacher reported operational competency and device use at school ( $r=-.49$ ,  $p<.001$ ). There was not a significant correlation between teacher reported buy-in and device use at school ( $r=-.03$ ,  $p=.90$ ) nor reported operational competency and reported buy-in ( $r=-.19$ ,  $p=.33$ ). Only ten of the 29 children demonstrated any device use during the weekends. Due to the limited number of children who used their devices during the weekend, no statistical analyses were conducted investigating the relationship between reported parent operational competency, buy-in, and device use at home.

### CONCLUSION:

Although there was a significant difference in operational competency, with parents reporting greater competency, the AAC users in this study used their devices more often at school than at home. This suggests that caregivers and support staff do not need to be operationally competent to encourage successful use if there is adequate support for device programming through other means, such as an SLP, readily available. At the school in this study, teachers are trained on basic AAC operational competency skills, however multiple SLPs are available for technology support throughout the school day. Furthermore, the negative correlation observed between teacher operational competency and average device use at school, suggests that if support staff focus the majority of their time on operational competency, they are less likely to provide the AAC user with communication opportunities.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence



## **The road less traveled: Quadrant selection access method.**

**Elizabeth Baird | Anne Marie Renzoni | Ari Rivera | Casey Morrison**

### **INTRODUCTION:**

Individuals with Complex Communication Needs (CCN) who use alternative access methods often find these methods slow, and both physically and cognitively fatiguing. Clinical considerations for the selection of an access method include: the cognitive and motor skills and possible modifications to the system to facilitate access (Fager, Bardach, Russell, & Higginbotham, 2012). Individuals with CCN need a physical access method that is most consistent and reliable while being the least effortful and fatiguing (Higginbotham, Shane, Russell & Caves, 2007).

This presentation will explore a selection technique called quadrant expansion, which we used as a multiple switch based method that offers the potential for efficiency and automaticity. We will provide background on this unique method and how it can be effectively used for a text based communication system.

### **MULTIPLE SWITCH ACCESS AND AUTOMATICITY**

Optimizing access systems may include the use of multiple switches. The use of multiple switches requires the motor ability to target accurately and efficiently. The number of switches an individual with CCN can access reliably is a balance between increased requirements for targeting multiple switches versus an increase in selection efficiency and the elimination of timing with a greater number of switches.

Optimizing systems may also include having the potential to achieve automaticity. "Automaticity refers to the way we perform some mental tasks quickly and effortlessly, with little thought or conscious attention" (Palmeri, 2002). Automatic processes are often well practised, fast when compared to non-automatic (controlled) processes and seem effortless (Palmeri, 2002). Alphabet based systems, although they require literacy skills, have small enough selections sets to they support achieving automaticity (Higginbotham et al. 2007).

A system can be optimized and the client can achieve a high level of automaticity, but it can be easily disturbed: "It is surprising how minor changes to a tool disrupt automatic task completion, forcing the user to resort to conscious control" Treviranus, 1994, p. 32). Additionally, automaticity can be negatively affected by manufacturers. For example, if customized adaptive technology is no longer compatible when updates to commercially available technology occurs. (Treviranus, 1994).

### **QUADRANT EXPANSION EFFICIENCY**

Alphabet displays can be altered to increase efficiency. Keyboards arranged based on how frequently a letter occurs in a language and placing them earlier in a scanning array is one way to increase efficiency. The efficiency gained is significant enough to justify using a less traditional layout (Higginbotham, Leshner, Moulton, & Roank 2012). Arranging the letters in an ambiguous quartering keyboard additionally increases efficiency. "Scanning ambiguous keyboards appear to be the fastest among scanning methods" (Polacek, Sporka, & Slavik 2017 p. 65). The quadrant expansion keyboard can be accessed by 5 switches (4 switches corresponding to each of the four quadrants and an escape switch). It provides a visual display of the letters organized in quadrants. A selected quadrant expands so that the choice of letters is reduced into new quadrants. The letters are arranged by frequency of use to minimize switch hits. The user can learn consistent combinations of switches that represent letters. Adaptive software such as word prediction can be used to optimize writing systems. As summarized by Janzen and Renzoni (2004) word prediction greatly reduces the number of switch hits needed to generate a message.

### **CHALLENGES AND SOLUTIONS**

The presentation will highlight the journey of an individual with CCN, who has become a competent communicator and expert switch user, and the decisions that needed to be made when changing technology affected his

automaticity, and supporting a system to meet his identified work, personal and leisure goals. The individual with CCN and his AAC team will address customization, programming, and efficiency issues and share their solutions.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Professional Practice Evidence

## **The role of Article 12 (UNCRPD) within guardianship practice relating to people who communicate informally**

**Joanne Watson | Julie Anderson**

### **BACKGROUND:**

There is an increasing call for the abolition of guardianship law across the world (Arstein-Kerslake, Watson, Browning, Martinis, & Blanck, 2017; Clough, 2014; Watson, 2016, 2017). This is most notable in the United Nation's General Comment calling for substitute decision-making to be abolished (Committee on the Rights of Persons with Disabilities, 2014). Considering this international legal context, a call for the abolition of guardianship maybe justified. However, this call is based on limited understanding of how contemporary guardianship hearings are carried out in practice. Better understanding of whether and if the principles of Article 12 are applied within the context of guardianship and administration tribunal hearings is therefore critical, as a stepping stone to ensuring people with severe or profound intellectual disability's will and preference is at the centre of decisions made about them within the context of guardianship.

### **RESEARCH AIMS:**

1. To understand VCAT members' application of Article 12 of the United Nations Convention on the Rights of Persons with Disability (UNCRPD), particularly in relation to people who communicate informally.
2. To examine to what extent the principles of Article 12 are being acknowledged and implemented within current guardianship hearings in Victoria, with a view to identifying awareness and training needs for VCAT members.

### **METHOD:**

Twelve transcripts from guardianship hearings focused on people who communicate informally were obtained from the Australian Legal Information Institute Database. The text relating to these decisions/cases was analysed using qualitative thematic data analysis.

### **RESULTS:**

The key drivers to decisions made within the context of guardianship hearings were overwhelmingly found to be based on judges', families' and medical professionals' opinions of what they perceived was in the person's best interest rather than what was perceived to be their will and preference in relation to the decision at hand.

### **CONCLUSION:**

Australia's signing of the UNCRPD appears to have impacted minimally on guardianship practice in Victoria in relation to Article 12. Australia's obligations under Article 12 of the Convention, require a de-emphasis on the outdated concept of 'best interest' and an emphasis on supporting people with cognitive disabilities to have their will and preference reflected in their personal decisions (supported decision making). The project will inform guardianship policy and practice, by contributing to:

1. The community's understanding of the extent to which the principles of Article 12 are being acknowledged and implemented within current guardianship hearings in Victoria;
2. The education and training agenda for VCAT tribunal members.

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**Evidence Area:** AACcess justice

**Content Focus Area:** Research Evidence

## The Role of Siblings in AAC Interventions

Elena Radici | Marco Castiglioni

Current AAC literature provides several research studies that focus on the role of family members of people who use AAC (Angelo, 2000; Delarosa et al., 2012; McNaughton et al., 2008). However, these research studies mainly focus on the role of parents. Only few studies analyze the role of siblings of people who use AAC (Dew, Balandin, & Llewellyn, 2011; Singh, Iacono, & Gray, 2015).

The aim of this poster is to analyze the role of siblings in AAC interventions, with a specific focus on 1) the knowledge of AAC among siblings, 2) their involvement in the AAC intervention and 3) the impact that AAC has on the relationship between the people who uses AAC and their siblings.

We interviewed 9 siblings (mean age: 13.7) of people who use AAC (mean age: 10.2). The siblings were all Italians, who lived near Milan. They all had a younger brother or sister who used AAC for at least one year.

Overall, the results seem to indicate that although the individuals who use AAC have an AAC device (mostly a low-tech device), this device is not usually used at home. The siblings often stated they can understand their brother or sister through gestures or vocalizations.

Siblings reported they did not receive any AAC training. The majority of them learned about AAC and how to use AAC by watching their parents, in particular their mothers. Many of the siblings did not know the meaning of "Augmentative and Alternative Communication".

Siblings had never been formally involved in the AAC interventions. They rarely met with AAC professionals and when they used AAC with their brother or sister it was mainly for speech practice purposes, if the younger sibling is verbal (what is this symbol?), for choice making during play activities (what would you like to play with?) or basic needs (what would you like to eat? Do you need to go to the restroom?).

Siblings reported having a strong and positive relationship with their brothers or sisters. Some of the siblings reported their brothers or sisters was more willing to listen to them than their parents. The majority of the siblings stated that when AAC was used it was easier for them to understand what their brothers or sisters wanted and needed. The siblings wanted to use AAC more often especially when they are outside, whether they are at the mall or at dentist clinic, where the unaided modalities are not sufficient. The siblings often helped their brother or sister communicating with other communication partners by interpreting their communication.

Siblings have a very important role in the life of individuals who use AAC. Considering the importance of the relationship between brothers and sisters (Stoneman, 2001), further research should investigate the impact that this relationship may have in AAC interventions and AAC intervention outcomes.

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**Evidence Area:** AACcess relationships

**Content Focus Area:** Research Evidence

# The Speech Intelligibility and Consistency of Six Adults with Down Syndrome

Christine Holyfield | Kathryn Drager

## AIM

Augmentative and alternative communication (AAC) can benefit individuals who use speech to communicate but whose speech is unintelligible to others due to factors such as dysarthria. Adults with Down syndrome frequently rely on dysarthric speech to communicate through their daily life (Button & Leddy, 2010; Blanchard, 1964; Hamilton, 1993). Particularly when communicating with unfamiliar communication partners (Kumin, 1994), these adults would likely benefit from technology options to interpret their speech and relay it in an intelligible manner to communication partners. If feasible, this AAC option would offer these adults with a means to communicate more effectively with a wider variety of communication partners. However, such speech recognition technology can have limitations in interpreting dysarthric speech (Rosen, & Yampolsky, 2000). Two important factors influencing the type of speech recognition technology that might be most effective are: (a) speech intelligibility, and (b) speech consistency.

## METHOD

Six adults with Down syndrome participated in the current study. The study was descriptive in nature. The adults completed two tasks. One of the tasks was designed to evaluate speech consistency. This task required the adults to repeat a small group of words five times in a random order when presented with a photo representing the word. The repeated speech of each word was compared in order to evaluate consistency across pronunciations. The second task required the adults to repeat simple sentences as presented to them orally by an investigator. This speech was recorded and played to a parent of each adult as well as unfamiliar adult communication partners who were asked to write what they hear.

## RESULTS

Analysis of the data is ongoing. Results relative to the intelligibility and consistency of the six adults with Down syndrome will be presented and implications for speech synthesis technology as an AAC option will be discussed. Preliminary analysis suggests that, while intelligibility was low when judged by unfamiliar communication partners, the consistency of the speech of the participating adults may be higher than is typically observed in adults with degenerative disorders, suggesting there may be less difficulties in applying appropriate speech recognition technology.

## CONCLUSION

The speech of adults with Down syndrome is often not understood by unfamiliar communication partners (Kumin, 1994). This places restrictions on these adults' participation in community, educational, and vocational settings. Therefore, speech with limited intelligibility does not meet their daily communication needs. One potential AAC solution to this participation restriction could be to utilize speech recognition technology to interpret the speech of adults with Down syndrome who experience dysarthria and interpret that speech for unfamiliar communication partners or during times of communication breakdown. This study provides initial information about the type of speech recognition technology that might be most useful in supporting this group.

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**Evidence Area:** AACcess emerging technologies, AACcess the community

**Content Focus Area:** Research Evidence



## The ties that bind us: preparing to let go

Liz Moulam | Beth Moulam

Every parent eventually has to let their child blossom and fly. For many the first time they really let go is when their young person is in their late teens or early 20's and goes to university, travels or moves out to live with their friends. This is the norm in many cultures, so we prepare for this to happen with gradually giving developing children and young adults more freedom. Because this is typical development parents, children and young adults draw on the experiences of others who have been through the process.

Living with a disability is different, there are fewer people with the same experiences and each individual is unique in terms of what they want and need. It doesn't matter whether the person using AAC is a child, teen or an adult, both they and their families, need to be supported and facilitated to think about the future. Family support is likely to be stable and long term compared with that of professionals and paid support workers, who over time move on. Ultimately there may be difficult life decisions as parents grow older and siblings or extended family have their own commitments. A parent may ask 'If I'm not there who supports their communication?', 'Will they always live at home?', 'How can I prepare them for the future?'. A person using AAC may already know what they want for the future and ask; 'What skills do I need?', 'How can I make it happen?'. Yet the vital question of 'Who will I turn to when/ if my family is no longer there or able to support me?' is often not addressed as a priority. There is limited literature around this topic; McNaughton & Beukleman's (2010) 'Transition Strategies for Adolescents and Young Adults who use AAC' is a good starting point in preparation for independence yet it is essential we also consider how we will tackle the longer term challenges if we are to safeguard the futures of children and adults who use AAC. It is never too early, or too late, to start planning for the future.

Adult using AA. "I might live independently now but I'm not ready to fully let go, I still need to see my Mum and Dad regularly, I'm still learning all the time"

Parent: "I want her to be able to deal with whatever life throws her way"

Learning is lifelong and at whatever stage of life we begin to plan, be it for a school transition or a move to independent living there is much to find out about ourselves, whether as a parent, family member or someone who uses AAC.

Led by a university student who uses AAC and a parent with a background in psychology and child development, the workshop will explore from both perspectives:

- . the challenges of letting go
- . key times of transition in life
- . life long learning
- . communication strategies and resources
- . self knowledge
- . decision making
- . managing personal assistance
- . action planning

The workshop leaders have used Diane Bryen's Daring to Dream programme for 10 years, and adapted this for their own action planning, it is not essential to have any previous experience but if participants have attended Diane's previous workshops then the planning process will be somewhat familiar.

**LEARNING OUTCOMES:**

At the end of the session the participants will have

- . identified key skills needed to move forward in life
- . considered barriers and strategies for letting go
- . their own workbook partially completed to continue to use to prompt their own future planning.

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**Evidence Area:** AACcess the community, AACcess relationships

**Content Focus Area:** Personal Experiences and Preferences

## **There is such a thing as a stupid question**

**Siobhan Daley**

As a 17 year old who's been using AAC for about 13 years, I have very much witnessed the attitudes of the general public towards high tech communication devices and some of the seemingly ridiculous and pointless comments people make, and questions they ask. I have also been exposed to many different types of communication partners, not only in the community, but also within my family and every day life.

This presentation will explore the different circumstances I have found myself in, from being completely invisible during a conversation and strangers talking to the person I am with instead of talking directly to me, to strangers coming up to me and having a conversation completely about my communication device and how it works. Both these circumstances are not ideal and I will explore my personal experiences with this while making some suggestions regarding strategies people with AAC and the people around them can use to make these situations less awkward and turning it into a typical conversation.

**Evidence Area:** AACcess education, AACcess the community, AACcess employment, AACcess culture, AACcess relationships

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences

# To Find Ways to Improve Social Interaction and Communication Opportunities for Child with Cerebral Palsy

Monica Kaniamattam | Judith Oxley

Conversation Books: Improving Social Participation Opportunities for a Child with Cerebral Palsy in Kerala, India

Social interaction facilitates the development of intentional and symbolic speech acts, which serve different communication functions and result in different consequences for the communication partners (Dore, 1986). It provides the scaffolding needed for further development of children's lexical, syntactical, and social-pragmatic development (Nelson, 2007). Children with complex communication needs (CCNs) sometimes are not given participation opportunities that are equivalent to those of their peers. Augmentative and Alternative Communication (AAC) interventions support the child's attainment of increasingly complex communication skills (Mirenda, 2008), but successful implementation requires competent communication partners. Communication partners often underrate the abilities of partners who have developmental disabilities, particularly children (Smith, 2003). This poster presents changes in the communication of Sidhu, a three-year-old child with cerebral palsy (CP) over the course of one year following the initial implementation of a conversation book co-developed by Sidhu, his mother, and a speech-language pathologist.

## AIM

The study aims to describe the long-term benefit of a conversation book to improve social interaction and communication opportunities for child with cerebral palsy.

## METHOD

As part of an action research project, data were collected through interviews, observation, and artefact review in an attempt to understand the social dynamics that influence communication opportunities for Sidhu, a 3 1/2-year old boy with CP characterized by spastic quadriplegia and severe hypertonia. He enjoys socializing, and he initiates interactions through the use of non-verbal communication means and speech attempts. He lives with his mother in a community near the rehabilitation center. He does not have a wheelchair for mobility, and is carried around by his mother. He has very limited opportunity for play and social interaction because he is considered to be a 'sick child' and not a 'communicating child'. To allow others to see him more as a communicating child, we developed a conversation book, in partnership with the mother and the child himself. Feedback interviews (after two weeks and again after one year) with the mother were transcribed, translated, and subjected to thematic analysis.

## RESULTS

One year since the development of the conversation book, changes in the child's social interaction and communication skills was noted. Findings with ecological validity include: (a) the book fostered positive interactions that showed the parents and extended family how he could be social and that he had interests he wanted to share; (b) his success led to the teachers and peers in his school accepting him into their interaction circle; (c) this inclusion provided him with communication opportunities in natural settings; (d) families improved motivation for communication intervention; and (e) there was also a ripple effect on the group of local mothers, who came to accept the idea of using conversation books and cooperated to create similar books for their own children and develop creative implementation ideas.

## DISCUSSION

At the point of last contact in September 2017, MS, his mother, other family members, and school had mastered the use of photograph books as social tools to support conversation. He has exceeded all his communication goals. He now relies on a wider range of modes to communicate. He uses photos to interact with his extended

family and the staff and students in his school (2nd and 3rd circles), making his circles more balanced and full. He is increasingly viewed as a child who can communicate, instead of a 'sick child' (i.e., a non-communicator, a passive recipient of care, or one who lacks agency). They have started to support his communication efforts.

#### **CONCLUSION**

Conversation books can be a cost-effective solution to promote communication and social interaction opportunities in culturally diverse and low resource areas like Sidhu's community, where stigma towards disability is often a major barrier that must be overcome for a child to have a place in the social world.

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**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the world: Developing nations in AAC

**Content Focus Area:** Research Evidence

## **To Mount or not to Mount: The Impact of Mounting AAC Devices on Children's Communication**

**Anne Addison | Leila Nicol | Tom Griffiths**

Mounting systems are often provided alongside high-tech Augmentative and Alternative Communication (AAC) devices prescribed for children with cerebral palsy and complex communication needs, with the goal of securing the device in a consistent and stable position. This paper will consider the barriers and facilitators to their effective use, provide case illustrations to demonstrate our experience and summarise factors that we have observed to have the greatest influence on the development of effective communication using AAC.

Approximately 80% of children seen by the Augmentative Communication Service (ACS) at Great Ormond street Hospital in London have cerebral palsy. This diagnosis is frequently linked to complex communication needs (Barty 2016) but, unlike the correlation between gross motor and manual ability levels, the relationship between motor ability and the level of communication difficulties experienced is not as clear at a population level (Hidecker et al 2012). This may be, in part, because 'communication' encompasses not only the motor skills required for speech but also language understanding and that the distinction can be difficult to qualify (Parkes 2010), especially when assessment is affected by physical access difficulties secondary to motor impairment. However, it is important for therapists to note that whilst population based Cerebral Palsy registers estimate that between 36% to 60% of children with Cerebral Palsy may have communication difficulties (Australia Cerebral Palsy Alliance 2013; Himmelmann 2013), there are many children who despite their physical difficulties can understand language and subsequently communicate with others effectively using an Augmentative and Alternative Communication (AAC) device given the appropriate access method.

An individual's access, or means of interfacing with high-tech AAC, can be highly dependent on their physical skills, and should also be supported through optimal positioning. For example, eye trackers need to be positioned relative to the user for optimal control and a touch screen will need to be positioned so that the individual can activate the screen in accordance with their active range of movement at the access point identified. The International Classification of Functioning, Disability and Health (ICF) promotes the concept that limitations in activity and participation are increased by equipment not being available across environments; it follows, therefore, that if an AAC device is not mounted to support use across contexts, the opportunities to develop the skills required to use the device will be more limited.

Over the past three years, our service has provided mounting systems in line with the Service Specification published by NHS England for specialist AAC services (2017). Whilst the premise of mounting AAC devices is based on the intuitive assumptions that consistent positioning promotes repeatable motor movements to support automaticity and that more frequent access to the device will increase communicative opportunities, there exists limited empirical evidence to support this. In addition, annual maintenance reviews carried out by our service have demonstrated a higher proportion of discontinued use of mounting systems than we had predicted.

This paper will include case studies to illustrate the clinical decision-making involved in selecting and providing mounting systems, and will use the ICF framework to consider the impact of these systems on communicative competence over time. The presenters will offer insights from the service regarding factors we have observed to have the greatest impact on continued and consistent use of the mounting systems we have provided. Reported reasons for discontinuing the use of mounting systems will also be discussed and practical recommendations to promote ease of use will be raised for discussion.

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**Evidence Area:** AACcess education, AACcess the community

**Content Focus Area:** Professional Practice Evidence

## **Tonetable – preliminary data regarding young children’s use of synthetic tone of voice**

**Shannon Hennig | Graham Pullin**

Speech synthesis is integral to many high tech AAC systems. Although there have been significant advances with respect to vocal identity markers (e.g., regional accents, gender, age, etc), few are investigating expressive synthetic speech which we define as the ability to say one utterance in multiple ways. Our research focuses on expanding our understanding of how children interact with expressive synthetic speech in order to inform AAC technology design.

### **AIM**

explore whether (and how) young children can use a range of expressive synthetic tones of voices for social pragmatic tasks. If results are promising, we will then explore these skills with children with CNN.

### **METHOD**

We designed a research tool called ToneTable to be accessible and engaging for a wide range of ages and abilities. Children participate in a series of tasks that build upon each other using the ToneTable research apparatus, specifically:

- 1 – explore tones of voices – After a short demonstration, the child freely explores how different tones of voices and utterances sound.
- 2 – tone discrimination – Child indicates whether two synthetic tones of voices sound the same or different.
- 3 – tone labelling – Child is asked “what does this one sound like?” These are later analysed qualitatively for themes in addition to counting the number of cards labelled.
- 4 – pragmatic use of tones – the child is asked a series of questions that are anticipated to elicit the same answer but pragmatically require a change in tone of voice based on a pre-experiment parent questionnaire. For example, if the questionnaire indicated that a child likes ice cream, likes it more with biscuits, and still more with whipped cream while watching their favourite movie, the experimenter would ask the following series of questions:

“What would you say if this puppet asked ‘Would you like some ice cream?’

“What about ice cream with chocolate sauce?”

“What about with whipped cream and while watching Frozen?”

If the child indicates ‘yes’ 3 times in a row, then the researcher will observe whether the child chooses to change tone of voice, or continues to use the same tone of voice card for all three responses.

If the child alternates between ‘yes’, ‘maybe’, or ‘no’, that series of responses is noted but not scored.

- 5 – Closing conversation – researcher structures a conversation using standard language sampling techniques targeting the words available on the ToneTable. This allows richer data during more free flowing conversation of how these children interact with synthetic tones of voices.

### **RESULTS**

At this stage we have collected preliminary data from 4 children (one 3 year old boy, two 5 year olds, one girl and one boy, and one 7 year old boy).

Exploration – All 4 children had little difficulty exploring the tones of voices. The three year old spontaneously explained and taught his father how to use the ToneTable device.



Discrimination – all 4 children discriminated between most of the tones of voices.

Labelling – The 7 year old had no difficulty labelling each tone of voice. The 5 year olds labelled most of the tones without hesitation, but not all of them. The 3 year old reacted differently to the tones and “labelled” them as 1 2 3 4, and then as 1 2 3 4 5.

Use – All of the children selected different tones of voices when asked a series of questions. The 5-7 year olds were observed to, on occasion, select a tone of voice and then upon hearing it, change their selection commenting that the second choice was a better fit for the situation (in their own words).

The 3 year old appeared to primarily enjoy hearing the different tones and then imitating them with his own speech. He also systematically explored the difference between the tones of voices and each of the different messages, often by saying “let’s try...”

Unstructured use – The three year old spontaneously choose to use the ToneTable to engage with his parents in a type of vocal play. He used it to get his father to repeat the different tones of voices. He systematically played with and explored the interactions between the tones of voices and the small set of linguistic messages. The 5 and 7 year olds spontaneously made comments about how specific tones of voices ‘didn’t sound right’ for a specific moment.

#### **CONCLUSION**

Our early data suggests that there maybe a developmental progression in how young children might use synthetic tones of voice in the context of AAC conversations. All four children had little difficulty exploring and reacting to the different tones of voices. All experimented with mixing and matching tones of voice with the different linguistic messages. When asked a series of yes/no questions, the older children intuitively changed tone of voice cards.

**Evidence Area:** AACcess emerging technologies, AACcess language and literacy

**Content Focus Area:** Research Evidence

# Training Paraprofessionals to Facilitate Social Communication for Students with Autism Spectrum Disorder who Use AAC

Ya Wen Cheng | Ya Ping Wu | Ming Chung Chen

## AIM

This research aimed to explore the effect of two teaching program, the first is AAC social-communication program for students with severe autism, another one is communication advanced program (for paraprofessional) that integrating AAC social-communication program and trained paraprofessional. Two students with autism took AAC social-communication program individually to learn AAC system and board game. Two paraprofessionals learned strategies to facilitate the two students with autism to participate in communication during board games with their peers. The major purpose of this study was to explore if the paraprofessionals could learned the strategies and the students' communication performance were improved after their facilitation.

## METHOD

Johnson and Mark were two 11 years old male students with severe autism (IQ 51, IQ 49), they studied in general classrooms in two elementary schools. Their adaptive behavior was around the level of PR 0.5 and PR 0.1 based on Vineland Adaptive Behavior Scale. Before the intervention, Johnson could imitate speaking sentences less than five words. Mark could also imitate speaking sentences less than five words, but he rarely communicated with others. Both Johnson and Mark use body to communicate with others.

A multiple treatment design of single-subject research was conducted, which included three phrases: baseline A (the general board game), intervention B (AAC social-communication program), and intervention B+C (AAC social-communication program and communication advanced program).

Communication behavior served as the dependent variable which consist of two kind communication behaviors, initiative communication behavior and responsive communication behavior. The formula is like following description: 1. Initiative communication behavior= initiative communication behaviors divide by communication chances in the board games; 2. Responsive communication behavior= responsive communication behaviors divide by responsive communication chances in the board games. Meanwhile, communication form (oral, iPad message, oral combine iPad message) is analyzed.

## RESULTS

The results of introducing AAC social-communication program indicated that both Johnson and Mark demonstrated better Initiative communicate behavior in board game, but different in Responsive communication behavior performance.

Both Johnson and Mark demonstrated no Initiative communication behavior in baseline A. After learning AAC social-communication program, Johnson's Initiative communication behavior raised to 0.63times per game on average. Mark's Initiative communication behavior raised to 0.54times per game on average. Johnson's communication form changed from body language to oral (26.9%) and oral combined with iPad message (24.9%). While Mark's major communication form was oral (38.2%).

Johnson's Responsive communication behavior raised to 0.54times per game on average. His major communication form changed from body language to oral combined with iPad message (38.4%). Mark's Responsive communication behavior raised to 0.27times per game on average, and his major communication form changed from body to oral (16.6%).

After introducing paraprofessionals' facilitation, both Johnson and Mark demonstrated better Initiative communication performance. Johnson's Initiative communication behavior raised to 0.77times per game on average, and get more communication chances. Mark's Initiative communication behavior raised to 0.54times per game on average, and get more communication chances too. Johnson's Responsive communication behavior raised to 0.71 times per game on average. Mark's Responsive communication behavior raised to 0.72 times per game on average.

#### **CONCLUSION**

This study demonstrated that AAC social-communication program could improve students' communication behavior in board game. AAC social-communication program combined paraprofessionals' facilitation raised communication behavior better. Therefore, the effect of paraprofessional facilitation on improving social interaction was confirmed.

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**Evidence Area:** AACcess education, AACcess relationships

**Content Focus Area:** Research Evidence

## **Transitioning into adulthood: the relationships between mothers and daughters with cerebral palsy who use AAC**

**Jia Wen Lee | Andy Smidt | Angela Dew | Georgia Cranko | Lynne Segal**

**AIM:**

The mother–daughter bond has been described as intimate and long lasting.

For young women who have a lifelong disability and use augmentative and alternative communication (AAC), their relationships with their mothers may be more complex due to the significant support they need from their mothers. The aim of this paper was to explore mother–daughter relationships, where daughters were aged between 16 and 25, had cerebral palsy, and used AAC.

**METHOD:**

Two young women with cerebral palsy who used AAC and their mothers were interviewed twice to explore their relationships. The constructivist grounded theory method was used to guide data analysis. Participant action research was used by including one of the daughter-mother dyads as part of the research team (Robinson et al; 2014, Walmsley et al ;2009)

**RESULTS:**

Mother–daughter relationship, and the transition to independence were identified as themes. These two themes were represented by seven categories: Care and consideration, sharing similarities, management of relationship barriers, the impact of disability, steps towards independence, balancing independence-giving and safety, the impact of technology.

**CONCLUSION:**

This study highlighted both positive and negative aspects of mother–daughter relationships where daughters had cerebral palsy and used AAC. The use of positive problem-solving strategies was identified as important in resolving conflicts between mothers and daughters. Features around daughters' transition to independence were also described.

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**Evidence Area:** AACcess relationships

**Content Focus Area:** Research Evidence, Personal Experiences and Preferences

## **Unaided Language Stimulation – the Cinderella of AAC**

**Elizabeth Brownlie**

Key Word Sign (KWS) is the primary form of unaided Augmentative and Alternative Communication (AAC). It involves the use of manual signs in conjunction with speech, and is widely used by and with people with communication difficulties and complex communication needs across the lifespan. But KWS is the Cinderella of the AAC world, working in the background, but rarely out in public with the pretty dresses on. The majority of journal publications and conference presentations in the field of AAC focus on communication technology and other forms of aided strategies, with very few relating to the use of manual sign. This means that therapists, teachers, parents and carers have limited resources on which to base systematic and structured implementation of KWS. This paper proposes a broad framework for unaided AAC intervention.

There are clear parallels in the implementation of aided and unaided AAC strategies. Both are founded on the practice of providing “language stimulation” for children who are using speech. Unlike children who are learning to speak, children using an alternative modality are not surrounded by use of that modality. Therefore the challenges for implementing AAC strategies include ensuring that vocabulary items needed by the person are available to them and creating an environment where aided/unaided language is modelled, i.e. is used consistently and meaningfully by communication partners for a range of pragmatic purposes.

Aided Language Stimulation is a framework of intervention that attempts to address these challenges for children using graphic symbols as an expressive tool. The concepts of Aided Language Stimulation (ALS) can be readily applied to the implementation of unaided AAC. Unaided Language Stimulation (ULS) also relies on the process of modelling language in everyday settings and also incorporates the concepts of “core” vocabulary and “fringe” vocabulary.

KWS is often introduced with children with delayed communication development, and begins when the child is using consistent and recognisable gestures e.g. holding out arms to be picked up, reaching, jiggling on your knee to get more of a game. This can be termed the “Early Interaction” phase. (Brownlie, Basterfield and Bloomberg, 2006), In this phase, the goal is to develop the child’s understanding of how communication works, the ability to initiate and maintain an interaction and the use of key language units. As with ALS, ULS provides the child language units from a core or “interactive” vocabulary, e.g. “come”, “look”, “give me”, “help”, “my turn”, “your turn”, “finish”, “more”, in the form of manual signs. Extensive use of natural gesture, indicating objects and use of sign phrases are characteristics of ULS at this stage.

The “Developing Language” phase occurs when the child has acquired an early vocabulary, including words/signs such as “more”, “finished”, “come”, “no”. At this stage, the child understands how communication works and is communicating for a range of different purposes. The focus now is to assist the development of his or her language, i.e. to develop a wider vocabulary and use of more words and/or sign combinations. This is a broad stage that incorporates increased use of fringe vocabulary by the communication partner, use of sign to model gradually longer sentence structures and the introduction of new signs (especially including verbs, adjectives, adverbs, prepositions) to enrich the child’s vocabulary.

Depending on the physical and cognitive skills of the user, the ongoing pathways for the use of KWS diverge. There are some adults who will continue to use KWS as their primary means of communication while relying on aided strategies to supplement their comprehension and expression. More cognitively able adults who use a comprehensive aided system often use signing with selected communication partners for more immediate, portable and convenient communication.

This paper will explore these stages in more depth with the intention of providing a more structured and systematic way of implementing unaided AAC.

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**Evidence Area:** AACcess education

**Content Focus Area:** Professional Practice Evidence

# Usability of a Social Media Interface Designed for Individuals with Intellectual Developmental Disability

Shira Havousha | Tal Lebel | Patrice L. (Tamar) Weiss

Technology and the Internet are having an increasing impact worldwide. Social media networks are particularly dominant, forming a unique interface to create and maintain interpersonal relationships. Usage of these interfaces requires intact cognitive and linguistic capabilities. Hence, limitations in these areas often pose barriers to individuals with Intellectual and Developmental Disabilities (IDD) (Tuset-Piero, 2011). Augmentative and Alternative Communication (AAC) users encounter additional challenges that stem from their motor limitations and distinctive forms of communication that often result in limited usage, and even complete avoidance of social media (Caron & Light, 2016). This leads to reduced opportunities for online social inclusion, along with difficulties in maintaining existing social ties and establishing new ones. These challenges have been partially addressed by developing accessible social networks specifically designed for individuals with IDD, however, most of these interfaces have not yet been launched commercially nor adapted to meet the needs of AAC users. “Net Haver”, a Hebrew language, accessible SM interface for individuals with IDD has recently been developed in Israel; the ease of usage and its effectiveness for people with IDD has not been systematically studied.

## AIM

To examine the usability of the interface as used by adults with IDD, their communication partners and communication aides, in terms of its usage features and the perception of usability as assessed by the Intrinsic Motivation Inventory (IMI) (Ryan et al., 1983) and the System Usability Scale (SUS) (Bengor et al., 2008) as well as by personal interviews. The usage experience for communication purposes as expressed by the participants was also assessed.

## METHOD

The study included three groups: The first included 12 AAC users with IDD who reside in supported community apartments; they used the interface for communicative and social purposes. The second group included family members of the residents with IDD or personnel at the day centre who served as SM partners for the individuals with IDD. The third group included 12 apartment coordinators who served as communication aides for the individuals with IDD throughout the usage period and assisted them in routine “Net Haver” operation.

During a two-month period, the residents performed interactive activities with their communication partners at a rate of two activities per week. Upon completion of this period, usability questionnaires were used to obtain subjective ratings of “Net Haver” usage including interest and enjoyment, perceived choice, perceived competence and a sense of tension and pressure, as well as system operation aspects such as the need for support and ease of use. In-depth interviews were also conducted in which participants in all three groups were able to provide further insight into their usage experience.

## RESULTS

There was an overall positive response to “Net Haver”, with the residents demonstrating significantly greater levels of interest and enjoyment than the communication partners and communication aides. Significant differences were also found in perceived choice, as both the residents and the communication partners perceived themselves as having a greater sense of choice in comparison to the communication aides. For the residents and communication partners, positive correlations were found between the interest-enjoyment dimension and the perception of choice, whereas negative correlations were found between the tension-pressure dimension and the perception of interest-enjoyment. Furthermore, usability as assessed by the SUS was positively correlated to interest and enjoyment, and negatively correlated to feelings of tension and pressure as rated by the residents and communication

partners. Perceived choice was positively correlated to the SUS usability outcome for these two groups. Thematic analysis of the interviews identified themes related to the purpose for using social media, usage features and accessibility options as well as to the nature of communication using AAC to access social media.

#### **CONCLUSIONS**

These findings shed light on the usability of Net Haver, providing feedback that can be used to improve the interface for enhanced accessibility and suitability for individuals with IDD with a special emphasis on support for AAC. This use of social media appears to enhance their progress towards self-advocacy and self-determination, and raises important issues concerning the nature of online communication for special populations.

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**Evidence Area:** AACcess emerging technologies, AACcess the community, AACcess relationships, AACcess social media

**Content Focus Area:** Research Evidence, Research Methods and Theories



## **Use Easy English. AACcess All Areas**

### **What is the research saying?**

**Cathy Basterfield**

**BACKGROUND:**

There is a growing body of research in the area of Easy English or as it is named in some countries Easy Read. At this time, there is limited data on what constitutes the benchmark of quality Easy English documents, although there is general agreement about what elements need to be included in such a document. A number of researchers are looking at the whole package of elements (language, images, layout, consumer engagement) of an Easy English document, which has provided useful results. The research and conclusions are often based on the comprehension the reader has of the material. There has been no published literature looking specifically at the language used, the quantity and range of words or sentence length and structure. However, a review of Easy English and Easy Read documents suggests there could be distinct differences. We need to know whether these are statistically significant differences, a difference due to audience needs or other factors.

**AIM:**

This paper will present some current research comparing and contrasting Australian, UK and US based documents in the area of language and linguistic load in documents.

**METHOD:**

5 publically available Australian Easy English documents were previously analysed that had been published between 2015-2017. International Easy Read documents also publically available in 2015-2017 were also randomly selected. The documents were analysed in the following areas: vocabulary range and total words used, syllable length, syntax, length of sentences and complex versus simple sentence structure. This data was then compared; the Easy English documents with documents labelled Easy Read.

**RESULTS:**

This research is demonstrating there are clear measurable language elements in a quality document developed for people who do not have the skills to read a range of everyday materials. This paper builds upon previous papers that focused specifically on the Australian documents.

**CONCLUSION:**

This data continues to expand our knowledge about similarities and differences in various documents for this audience. It will assist in developing further comparative studies across countries, and also begin to inform a research based quality framework that may be more easily measurable for Easy English.

Let's use Easy English to expand everyone's AACcess to written information.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence

# Use of Mainstream Intelligent Digital Assistants by People Who Use Speech Generating Devices

**Diane Nelson Bryen | Yoo Sun Chung**

Voice controlled Intelligent Digital Assistants (IDA), such as Siri, Cortano, and Alexa, have changed the way we can access the world. They can help people access their mobile phones, play music, set up calendar appointments, check the weather, and much more. They are sold in millions of products ranging from smartphones and some vehicles to smart TVs and the Amazon Echo. They promise freedom from buttons and keyboards (Mullin, 2016)

Although smart phones are increasingly addressing the accessibility needs of individuals who have vision, hearing, physical, and learning disabilities, they have not fully addressed the unique accessibility needs of individuals with complex communication needs who rely on specialized speech generating devices (SGD).

One example is the lack of accessibility of the speech recognition systems in most mobile phones, such as Siri, Cortana, and Google Now. According to Mullin (2016), for more than nine million people with voice impairments, accessing the world through voice control remains out of reach. Mullin provides the case of EM.

EM has given up on Siri. No matter how clearly or slowly [she speaks], the Apple iPhone's iconic voice-recognition technology has been no help to the 69-year-old woman... She struggles with spasmodic dysphonia, a rare neurological voice disorder that causes involuntary spasms in the vocal cords, producing shaky and unstable speech. Her car's Bluetooth voice system does not understand her either.

Specialized speech generating devices (SGD) have dramatically opened the doors for face-to-face communication for many with complex communication needs (CCN). However, these SGD often lack needed inter-operability with mainstream mobile technology. As a result, individuals with CCN who rely on SGD have generally not had access to these increasingly powerful voice controlled technologies (Bryen, Bornman, Morris, Moolman & Sweatman, 2017).

In a recent study by Bryen and Chung (in press), few adults with CCN who use SGD are using IDAs to enhance their use of mainstream mobile technology. According to Mullin (2016), these powerful new mobile technologies cannot be used by more than nine million people in the U.S. with voice disabilities. "Speech recognizers are targeted for the vast majority of people at that center point on a bell curve and fail to understand the voices of people who stutter or people with Cerebral Palsy who have dysarthric speech". It is not yet known whether or not the mainstream speech recognition systems, such as Siri or Google Now can understand the synthesized speech in SGD, which use DecTalk, RealTalk, or Acapela.

## **PURPOSE OF THE RESEARCH**

The purpose of the study was to explore whether or not current Intelligent Digital Assistants (e.g., iPhone with Siri) are compatible with speech synthesizers widely used in SGD (e.g., Acapela, RealSpeak, DecTalk). In order to begin to address this question, 5 individuals with complex communication needs who use both a SGD and a smartphone with voice controlled IDA, such as an iPhone with Siri, participated in a controlled usability study.

## **DESIGN OF THE RESEARCH**

The research design utilized a mixed method case study of 5 adults with complex communication who use both a SGD and a mainstream smartphone with an IDA, such as Siri.

Participants in the study met all of the criteria:

1. 18 years of age or older,
2. Uses a speech generating device (SGD),

3. Uses a smartphone with an IDA, and
4. Provided consent to participate in this study

#### **PROCEDURES**

Each participant who met the eligibility requirements filled out a short questionnaire focused on four parts: (1) About You, (2) About Your Abilities and Needs, (3) About Your Speech Generating Device, and (4) About Your Smartphone or Amazon Echo. This yielded demographic/background information about each participant.

Once this information was obtained, the participant and the researcher connected via Skype. Participants were then observed in the controlled use of their smartphone or Echo with IDA. The usability study consisted of the following:

1. Training the IDA to recognize the SGD's speech synthesizer used by the participant,
2. Determining if the IDA wakes up to the SGD's programmed "Hey [Siri or Cortana] or Alexa"
3. If the IDA "woke up," 5 commands were programmed into the participant's SGD and tried with the IDA.

#### **RESULTS**

Results of this usability study will be provided focusing on the findings and implications for individuals who have CCN and who use SGD's, mainstream and specialized AAC industries, and policymakers.

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**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Research Evidence

# User Centred Design with Disabled Participants: A New SGD Interface Supporting Narrative Prediction

**Rolf Black | Zulqarnain Rashid | Annalu Waller**

Despite the increased availability of SGDs on tablet computers and mobile devices, poor usability of AAC devices contribute to high rates of abandonment and slow communication rates [1]. The importance of engaging with end users in the design and development of technology is reflected in industry standard user centred design (UCD) methodologies which demand the early and continual involvement of end users. Design activities require participants to be able to interact verbally and to manipulate physical or software based prototypes which may be difficult for users with severe speech and physical impairments (SSPI). The challenges encountered by designers when including end users with complex disabilities result in the use of proxy users in the early stages of a project; disabled users tending to be recruited for summative evaluation studies only.

In order to develop innovative usable interface design and development, users with SSPI must be involved throughout the design process. Prior [2] demonstrated the potential to engage with end users at an early stage of software design. This approach has been adopted within a research project which is leveraging contextual data to increase communication rates by enhancing language prediction.

## **AIM**

Participants with severe speech and physical impairments (SSPI) were involved in the design of innovative predictive interfaces to explore novel ways of presenting text predictions by evaluating different approaches to scan and locate target words, phrases and sentences.

## **METHOD**

Participants were recruited via local connections to therapists and charities as well as advertising online on the research group's website. An established group of users with SSPI within the research facility was involved in the early studies. These studies explored: i) the contexts in which participants use their SGD (where, when and with whom do they communicate and what kind of narratives are told); ii) the re-use and re-telling of personal narratives (what do retold stories look like and how do they change); and iii) how an SGD interface design can support the telling of narratives in conversation.

The results of these studies formed the basis of three interface designs to evaluate novel ways of presenting predicted words, phrases and narrative texts for interactive communication. Participants were asked to engage in copy typing tasks and free typing, after which they reflected on their preferences and reasoning within a semi-structured interview. The focus of this study was to identify potential designs with good usability which will be used in the final product.

## **RESULTS**

Participants voiced a clear need for interfaces to support the telling of narratives which should be designed to provide appropriate access to these narratives. It quickly became clear that the implementation of early design ideas required the development of high fidelity prototypes, in contrast with typical design studies which use low fidelity prototypes to explore basic design concepts. These high fidelity prototypes required the full range of accessibility options to ensure effective evaluation of designs.

## **CONCLUSION**

A major challenge for this project has been to develop a prototype framework in which prototypes can be quickly adapted to respond to participant feedback. Any prototype must be accessible to a wide range of users so that prototypes can be evaluated effectively without being compromised by issues related to physical access. For

example, if a user has a tendency to select buttons incorrectly due to tremor, the prototype must be able to be configured to adapt to this involuntary movement, otherwise results will be skewed by users having to deal with additional access challenges. The results of developing designs with participants with SSPI highlights the additional resources needed if participants are to engage in early design idea exploration.

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**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Research Evidence

## Using AAC to help multicultural children learn their second language in a daycare setting

**Iina Heikurainen | Pauliina Viljanen | Filippa Andersson**

This workshop will use a Finnish daycare group as an example on how AAC can be used with multicultural children learning Finnish as a second language in daycare. The daycare group in question actively uses the following AAC systems with multicultural children: single pictures for choice making and in visual schedules, communication boards and communication books rich in core vocabulary and an AAC practice material designed for practicing everyday words with the help of PCS symbols and communication boards. The daycare personnel has received some training in the use of AAC and the variety of AAC systems used by the daycare group is considerably greater than what most typical daycares in Finland use.

Finland has gotten more multicultural during the 21st century and the amount of people speaking a foreign language has doubled in the last decade. As a result, the number of multicultural children learning Finnish as a second language in daycare has increased. This creates a new kind of challenge for the personnel in Finnish daycares; how to support the growing number of bilingual children in acquiring their second language.

Not much research can be found on the use of AAC with typically developing bilingual children. Nevertheless, it has been shown that the use of AAC improves language development (Ronski, 2005), helps with participation and develops spoken language (Beukelman & Miranda, 2013). Increasing the use of AAC in Finnish daycares could in our experience help bilingual children acquire their second language and help especially those, who have language development issues but not severe enough to get their own AAC aid through the Finnish specialized health care system.

In this workshop we will give an overview on how AAC was used in our collaboration daycare group and report what changes the personnel observed in the bilingual children's language and social skills after actively using AAC. We will also elaborate on how the personnel experienced the use of AAC; which systems they found easy to incorporate into their day-to-day life and which systems they saw more difficult. In addition, we will present an AAC material frequently used by the daycare for practicing bilingual children's language skills with the aid of communication boards and PCS symbol pictures.

In contrast to our collaboration daycare group, most typical daycare groups in Finland use little to no AAC systems, the main form of AAC used being single pictures in the form of visual schedules. As previously mentioned and according to the experiences from our collaboration daycare group using AAC could be a great way for the daycare personnel to support the language skills and participation of the increasing amount of multicultural children in Finnish daycares. Educating daycare personnel is of the utmost importance in getting them to use more AAC and go from using single pictures to more advance AAC systems e.g. communication boards. In our workshop we will also present our suggestion on how to add AAC-knowledge among daycare personnel, via coaching or e-learning.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Professional Practice Evidence, Personal Experiences and Preferences,

## Using an Immersive Classroom to Increase Vocabulary Learning and AAC use in School-Age AAC Users

Lindsey Paden Cargill | Samantha Lyle | Allison Bean Ellawadi

### BACKGROUND:

Children acquiring spoken language benefit from living in an immersive spoken language environment with native speakers who provide frequent linguistic models and opportunities for children to communicate using spoken language. It would be logical to suggest that children who utilize AAC would also benefit from a linguistic environment saturated with similar opportunities for their own motor planning and language development (Shane et al. 2012). However, to our knowledge this has never been directly tested. Therefore, the goal of this research study is to determine whether an immersive speech-generating classroom scaffolds language development in school-age AAC users with autism spectrum disorders (ASD).

### PROCEDURES:

This study received approval from the Institutional Review Board at The Ohio State University. Participants were school-age children with an educational diagnosis of autism who attend a non-profit school in the Midwestern United States that serves children with ASD and other developmental disabilities. Fourteen children are currently enrolled in the study. All participants use AAC devices with the Language Acquisition through Motor Planning (LAMP) Words for Life Language Program (Halloran & Halloran, 2006) as their primary mode of communication. The participants were assigned to the treatment group or a control group (this group received treatment as usual) to determine the effect of the immersive speech-generating classroom on language development during a summer program. The treatment group was assigned to an immersive speech-generating classroom that was co-taught by two speech-language pathologists (SLPs) and a special educator during a half-day program. The immersive speech-generating classroom used PASS speech-generating software projected onto a SMART board, enabling the teachers to model and prompt language in a modality accessible to all students. That is, the children were consistently exposed to language models identical to their current mode of communication. To investigate the impact of the immersive classroom on learning, four aspects of language development will be assessed at the completion of the study: number of different words, parts of speech (e.g., verbs, nouns, pronouns) and frequency and duration of device use. Data will be extracted using Realize Language Software (Halloran & Halloran, 2006). In addition, nine videotaped sessions will provide insight into the level of prompting and independent device use demonstrated by the children.

### RESULTS:

Preliminary data collected from two children in the immersive classroom and one child in the control classroom revealed that the two children in the immersive classroom demonstrated little gain during the immersive classroom session. Although the child in the control group demonstrated large language gains at the end of the summer session, these gains were not maintained 8 weeks later during the start of the school year. In contrast the two children in the immersive classroom demonstrated small language gains over the summer while they were in the immersive classroom. Eight weeks later at the start of the school year, the children in the immersive classroom demonstrated substantial growth across all areas of language use.

### CONCLUSION:

The preliminary findings suggest that an immersive classroom may be effective at increasing language learning; however, the results appear to be dose dependent. That is, children appear to have the largest gains in language after 8 weeks of immersive classroom learning. Data is currently being collected from additional children. Based in our preliminary findings, we hypothesize that the children in the immersive classroom will demonstrate similar



trends with small increases noted during the summer and larger gains observed eight weeks later. In contrast we hypothesize that the children in the treatment group will demonstrate larger gains than the immersive classroom during the summer session, but will not maintain these gains eight weeks later.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Research Evidence

## **Using Client Interests in AAC Intervention: More Than Just a Good Idea**

**Bethany Diener**

Each of us have people, activities, and subjects about which we love to talk; they are interesting to us. In fact, research tells us that self-disclosure triggers the same portions of the brain responsible for primary rewards such as food and physical intimacy in individuals without known neurological impairment (Tamir & Mitchell, 2012). Evidence (research, expert clinical experience, client response) found in literature in the fields of education and speech-language pathology indicates that use of client interests during intervention results in increases in skills (e.g., joint attention for individuals with ASD) and greater satisfaction in interactions (Fox et al, 2001). This evidence strongly supports the importance of discovering and utilizing client interests as we implement use of AAC as well as providing intervention in other areas regardless of age or skill level.

The interests of some individuals are broad while others may have a very narrow set of interests or even just one. Some people may have had the same interests for many years while others change from day-to-day. Regardless of the characteristics of the interests, we need to take advantage of them to facilitate progress in our interventions. The challenges to service providers are in the discovery of these interests then how to make use of them in AAC and other interventions.

This session will present evidence for understanding client interests and outline the benefits. A variety of available interest assessment tools (majority free) and strategies for clients of varying ages, diagnoses, and skill levels will then be introduced. Finally, case studies will demonstrate practical use of interests for individuals of varying ages and diagnoses. Examples in high and low tech AAC as well as therapy/educational activities will show how to facilitate self-disclosure around interest areas.

Participation in communication and intervention activities reinforces skills and facilitates further progress. Add a layer of motivation to these activities by ascertaining and utilizing client interests.

### **LEARNING OBJECTIVES:**

Participants will be able to:

- Discuss three benefits of understanding client interests.
- Match characteristics of three clients to appropriate interest inventories.
- Identify three ways to use client interests in AAC service delivery and other intervention.

### **INTERACTIVE COMPONENTS:**

Participants will be encouraged to share the impact of use or non-use of client interests in their intervention experiences in small groups. They will have the opportunity to review several of these inventories and offer feedback and additional resources. Participants will be encouraged to offer additional ideas for using interests during case studies.

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**Evidence Area:** AACcess language and literacy

**Content Focus Area:** Professional Practice Evidence

## **Using Community to Develop Self Worth and Social Identity of Complex Communicators**

**Paula Herrington | Dianna Finlay**

As Light (1989) first proposed, communicative competence rests on the integration of knowledge, judgment, and skills in four interrelated domains: linguistic, operational, social, and strategic. These four fundamental domains have not changed over the past 25 years. What has changed, however, is our understanding that in order for people to feel self worth, they need to move beyond communication competency. The foundation for psycho-emotional stability is comprised of genuine community belonging and a developed self identity.

This workshop will describe the details of how our group of 8 teen and adult AAC users/complex communicators developed close friendships, provided genuine services to the community, and through their activities, successfully integrated themselves into the mainstream community at large.

Sociologist Ferdinand Tonnies defined community as, “an organic natural kind of social group whose members are bound together by the sense of belonging, created out of everyday contacts covering the whole range of human activities.” When developing this AAC users group, our driving question was, “How can we facilitate honest community belonging in such a way that each individual participant develops his/her own sense of self while simultaneously becoming important to the success of the group as a community to integrate themselves into the community at large?”

This workshop will detail the evolutionary process our AAC complex communicators group from strangers to integrated community members. Through videos, photos, graphics and testimonials, we will demonstrate:

- 1) How we identified how each group member had a strength that he could use to support a peer’s successful contributions.
- 2) Strategies for including each group member to use a team approach that involved knowledge and skill sharing to optimize participation and learning in each activity, across a variety of activities. These include differences in cognition, language skills, AAC devices, physical and sensory challenges, age, experience, and family support among others.
- 3) Techniques used to reach out to the community at large and to bring the community to the group with the end goal of mutual benefit.
- 4) Identification of key “road blocks” to meaningful community interactions and how we overcame them.
- 5) Social emotional development of each member and how it was demonstrated both within the community of AAC user’s group as well as within the community at large.
- 6) Social emotional development of caregivers, and how it was demonstrated between caregivers and between caregiver and AAC user.
- 7) Social emotional development of community members and how it was demonstrated between them and the AAC users as well as between them and the community at large.

### **WORKSHOP PARTICIPANTS WILL BE ABLE TO:**

- 1) Discuss key issues in the development of group that will manifest in the development of self-worth and community social identity of complex communicators.
- 2) Be able to analyze strengths of each complex communicator/AAC user that can be utilized to support successful interactions of other group members.

3) Describe the collaborate problem solving process between therapists, group members, caregivers and members of the community at large.

**PLEASE NOTE:**

This workshop is emotionally powerful and there will be times when we will be sharing strong feelings expressed by both the AAC users' group members and members of the community-at-large actuated by their experiences of acceptance, love, fear and sorrow that may be demonstrated and or/ accompanied by certain physiological changes such as increased physical movements, sounds and other overt manifestations, as crying "screaming".

**Evidence Area:** AACcess the community, AACcess relationships

**Content Focus Area:** Professional Practice Evidence

## **Using iPads and teaching strategies to scaffold communication skills in students with autism**

**Ushagayethri Venkatesh**

Recent developments in mobile technologies coupled with increasing access to tablet technologies have facilitated iPad as an Augmentative and Alternative Communication (AAC) device to facilitate communication for students presenting as nonverbal with autism in special education schools. It is estimated that about 30% of individuals diagnosed with autism are nonverbal or minimally verbal (Tager-Flusberg & Kasari, 2013; Wodka et al., 2013). These students tend to have communication difficulties of varying degrees and digital technologies have been shown to augment and replace conventional speech (Beukelman & Mirenda, 2005; Schlosser & Sigafoos, 2006). Owing to the unique nature of autism, there is no “one size fits all” strategy. Hence there is a need to adopt various effective teaching strategies to suit each individual.

iPad apps have been specifically designed and created to cater to specific areas of support and communication skills. Apps provide support for students with learning and communication difficulties (Shane et al., 2012). These apps can be customized to be in-line with the teaching strategies to achieve individual learning goals. Effective iPad use requires not only customising the apps to meet student needs but also providing suitable teaching strategies and learning environments. Such practice promotes student autonomy as well as persistence to enhance their own communication and interaction skills. A key factor influencing the development of communication skills has been the role of educators in implementing the teaching strategies in the school environment.

### **AIM**

The aim of this presentation is to explore and clarify the following questions around iPad as an AAC device in a school setting:

1. How do iPads assist in the communication of nonverbal students with autism?
2. What teaching strategies are implemented by educators to scaffold students' communication using iPads?

### **METHOD**

The study was conducted in three special education schools in South Australia. A mixed-method design was employed using observations and semi-structured interviews. Ten students (aged 6 – 12 years) presenting as nonverbal with autism and their respective class teachers were observed in group sessions and one-to-one sessions during different times of the day each week over a 10-week period in a natural classroom setting. Interviews were conducted with the teachers, parents of the ten students, their older siblings (above 6 years), school services officers (SSOs), early intervention support staff and other paraprofessionals (speech therapists and occupational therapists) who worked closely with the students. The transcribed text from the interviews and observations were imported into NVivo 11 and was analysed for recurring themes and sub-themes that support the research questions.

### **RESULTS**

The findings from this study indicate that effective teaching strategies were implemented by educators with the majority of students showing significant improvement in learning to communicate using iPad-based communication apps. Students were also able to transfer their learning skills to communicate using apps across various settings including home, therapy (clinical) and wider community. Although the communication apps differed, teaching strategies implemented were similar across different apps. Effective strategies identified include modelling, prompting, using visual and verbal cues which will be explored during the presentation.

## **CONCLUSION**

This study shows that by incorporating effective teaching strategies, the iPad can be used as an augmentative and alternative device to scaffold communication skills for students presenting as nonverbal with autism. iPads and apps can be customized to meet individual needs, thus maximising learning and communication opportunities for all students. This study contributes to the growing research on the positive use of tablet technologies for students presenting as nonverbal with autism.

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**Evidence Area:** AACcess emerging technologies

**Content Focus Area:** Research Evidence

# Using PowerPoint Books to Support Communication & Literacy for Students with Cortical Visual Impairments

Deanna Wagner | Gretchen Hanser

## LEARNING OUTCOMES

Participants will be able to:

1. Describe specific characteristics of CVI and how they impact AAC and book use.
2. Identify strategies for customizing materials for students with CVI.
3. Identify strategies for teaching the salient features of communication symbols.

## INTRODUCTION

Many students with complex communication needs (CCN) have cortical visual impairment (CVI). CVI is a brain-based impairment, which affects students' abilities to process visual information. Students with CVI who use augmentative and alternative communication (AAC) may have great difficulty processing the symbols in AAC systems. They may also have challenges with engaging in book reading due to problems processing pictures and text. In the field of CVI, there are strategies and supports that can be used to teach students what they are seeing.

## THE PROBLEM

The existence of CVI, what it is and how it is diagnosed is still emerging. In fact, many students with CCN have CVI, but have not been diagnosed. CVI is not an oculomotor problem; rather it is an issue with the brain processing the information that the eyes bring in. For students with CVI, AAC symbols can be very complex to process. AAC displays with enough rich, robust vocabulary may be visually busy. Students with CVI may have little success with communicating using such a display. As a result, practitioners may decrease the number of symbols on the AAC display, ultimately limiting expressive communication. When considering reading, students with CVI have trouble processing pictures and text in books, thus may have fewer books. Fortunately, with the right instruction and supports these problems can be addressed.

This session will focus on making personally meaningful PowerPoint books that teach students their AAC symbols. PowerPoint has been chosen because it is easily available for educators and clinicians, as well as having numerous options for making books visually accessible. The books can be used for interactive shared readings, which foster discussion and personal connections. Given the documented links between communication and reading (Sturm & Clendon, 2004), PowerPoint books seem to be an ideal support. The books can also be used for independent student reading. In order to make effective PowerPoint books, an understanding of the CVI characteristics is critical.

## CVI CHARACTERISTICS INFLUENCING AAC USE

According to Dr. Christine Roman Lansky, CVI has 10 different characteristics, 5 of which are particularly relevant to students' processing AAC symbols. For each characteristic, an example of a strategy used in a PowerPoint book has been included.

1. Color Preference: Color can be used as an anchor to help draw students' eyes to specific place on a book page, such as a picture of a neon colored AAC symbol.
2. Need for Movement: Students with CVI may see something when there is movement. With a picture of an AAC display on a PowerPoint book page, a carefully designed animation can draw the student's eye to the location of a symbol.

3. **Difficulty with Visual Complexity:** Students may have difficulty seeing things on visually busy arrays and backgrounds. Multiple symbols on an AAC display have the potential to be quite busy. A PowerPoint book page might could a picture of an AAC display with onscreen masks or highlights that can cover up the symbols around the target symbol to allow more of an emphasis on the target.
4. **Visual novelty:** Students prefer to look at known items. They have difficulty processing novel items. Students may need an explanation of what they are looking at as well as having familiar items on the screen to help teach the unfamiliar. In PowerPoint, audio recordings can be made of the description, along with real life connections of when the symbol would be used.
5. **Absence of Visually Guided Reach:** Students with CVI tend to look away when reaching for something. Because of this, students may have difficulty with selecting a symbol on their AAC device. PowerPoint books can be designed where the student touches an AAC symbol on the page, which results in a short animation of a personally meaningful description.

#### **SUMMARY**

The session will begin with a brief overview of CVI, its characteristics and implications for creating PowerPoint books. A range of strategies will be demonstrated using multiple PowerPoint books and apps to create animations. There will be a balance between the technical “how to” steps and tips for having a meaningful shared reading experience using the books.

Interactive Components (originally offered for 90-120 min workshop)

1. Participants will identify key steps in making CVI accommodations
2. Multiple books will be shown.
3. Participants will review AAC symbols and identify salient features that need to be highlighted.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Professional Practice Evidence



## Using the Family Impact of Assistive Technology Scale to Inform AAC Service Outcomes

**Stephen Ryan | Tracy Shepherd | Anne Marie Renzoni**

Well-targeted, reliable outcome measures that are responsive to real-world change may be used to support clinical decisions during assessment, inform individualized goal setting, evaluate progress, and justify the cost of interventions for children with special healthcare needs (Wright & Majnemer, 2014). Research finds that health-care teams using standardized measures more frequently are more efficient, experience less inter-professional conflict, and deliver more organized care (Tyson et al., 2012).

Despite this, low use of sound outcome measures is common among allied health professionals – including speech language pathologists who work with children with communication needs (e.g., Watson & Pennington, 2015). A systematic review of the use of outcome measures by allied health professionals found that a key barrier was limited clinical understanding regarding the availability and use of relevant measurement scales (Duncan & Murray, 2012). However, few measures are available that link to important AAC service objectives (Enderby, 2014).

The Family Impact of Assistive Technology Scale for AAC (FIATS-AAC) is a multi-dimensional, parent-report questionnaire designed to measure functional change in children and youth with AAC needs. The measure is grounded in the International Classification of Functioning and Disability framework, promotes child – and family-centred services, and has evidence of reliability and validity for AAC applications (Delarosa et al., 2012). It also has an administration manual and programmed scoring workbook that can be downloaded freely to support its use clinically.

This aim of this session is to introduce the FIATS-AAC as a functional measure for AAC service applications such as setting goals and measuring outcomes. The presenters will share evidence that supports its use clinically and demonstrate how the measure may be used to inform AAC services for young people with complex communication needs.

The session will begin with a brief introduction to the conceptual underpinning of the FIATS-AAC and an overview of research conducted to study its measurement properties. These investigations included 250 parents of children with AAC needs between the ages of 3 and 18 years who participated in surveys, interviews, and longitudinal research studies. The studies provide evidence that the FIATS-AAC has acceptable internal consistency, test-retest reliability, and content/face validity. Two recent studies provide support its construct validity when compared to standardized measures of child participation and health-related quality of life, and its responsiveness to change following short-term use of speech-generating devices. This introduction to measurement principles will provide session attendees with basic knowledge needed to assess the appropriateness of the FIATS-AAC and other measurement scales for AAC.

Attendees will learn how to use the FIATS-AAC to measure functioning in individual children and their families in AAC-relevant domains. The presenters will review methods to administer the FIATS-AAC, interpret scoring, and set confidence levels to detect change. Attendees will participate in discussion of two case studies to learn how the measure may be used clinically.

### **LEARNING OUTCOMES**

Attendees will be able to:

1. Identify two key measurement properties of an outcome measure;
2. Describe what the FIATS-AAC measures;
3. Discuss potential clinical applications of the FIATS-AAC as a measure of functional status and outcomes for AAC service applications.

### **INTERACTIVE COMPONENT**

The presenters will share two case studies with data from pre – and post-administrations of the FIATS-AAC. One case will be a young emerging communicator who receives his first high-tech communication device; the other case will be an older adolescent who upgrades an AAC device to support his impending transition to post-secondary education. Attendees will join in the discussion of the cases. The session presenters will facilitate a review of the cases and FIATS-AAC scoring and how these data could inform assessment, goal setting, and post-intervention progress. The presenters will encourage attendees to share their impressions about the clinical utility of the measure.

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**Evidence Area:** AACcess emerging technologies, AACcess relationships

**Content Focus Area:** Research Evidence, Professional Practice Evidence

## Using Twitter to Access the Human Right of Communication for People Who Use AAC

**Bronwyn Hemsley | Stuart Palmer | Stephen Dann | Susan Balandin**

### **BACKGROUND:**

Social media is an important form of online communication, and the use of Twitter increases users' visibility, influence, and reach online. To date, there are no studies examining the feasibility or impact of using online teaching methods to teach adults who use AAC to use Twitter. People who use AAC have expressed the need for a larger 'audience' not only for improved awareness of people who use AAC but also of their achievements and views. People with communication disability are under-represented on Twitter, and as such an intervention aiming to increase their use of Twitter could be used to increase the network and audience size of people who use AAC.

### **AIM:**

The aim of this single case multiple baseline design study was to determine the impact of teaching three adults who use AAC to use Twitter on their follower count, frequency of tweeting, tweet content, and the development of social networks.

### **METHOD:**

Following ethical approval from The University, adults who use AAC and able to give informed consent were recruited through Twitter and email networks of the first author. A structured set of Powerpoint slides, based on the results of a prior survey of adults who use AAC and literature on how to use Twitter, was saved as a PDF and emailed to participants to refer during and after the training. After the 2-hour training delivered via Skype, participants made a small number of requests for clarification via Twitter Direct Message or email to the first author. Data was collected from participants' Twitter profiles three months prior to and in three-month periods for up to six months following the training. The data were examined using (a) KH Coder software analysis and visualisation of co-occurring networks in the text data, based on word frequencies, and (b) Gephi software analysis to show the Twitter network for each participant. During their 30-minute follow-up interviews six months after training, participants were shown graphic visualisations of their own Twitter data networks and asked to reflect upon their Twitter experiences since the training. Results of the follow-up interview were analysed descriptively in the light of the individual's tweet data results.

### **RESULTS:**

Two of the three participants showed an improvement in Twitter skills and strategies. Results reflected that Twitter is an important mode of self-expression that provided the opportunity to express personal views, and engage with organisations who were also aiming to influence disability issues "Twitter acts validated the value of being networked with both familiar and unfamiliar people in Twitter: "last week a friend of mine tweeted something about my work, and another person who I do not know liked it". @User1's main priority in the training was to use Twitter for writing tweets, and this goal was not realised. In terms of frequency of tweeting, retweeting, or being mentioned, @User1's Twitter activity rose briefly after training, but rapidly returned to baseline levels, and it is not known whether Twitter was a useful source for accessing information. Both @User2 and @User3 participants increased the size and sophistication of their Twitter networks post-training, as reflected in their Gephi and KH Coder visualisations which will be displayed in the presentation.

### **CONCLUSIONS:**

Twitter data supports experiences of improved social connectedness in reflecting reduced density with greater reach in larger networks of Twitter users. That @User2 did this without substantially increasing the number of tweets sent compared to baseline suggests a degree of sophistication in Twitter use developing as a result of the

training followed by sustained use. The mixed results of this study suggest that targeted Twitter training might be useful for people with communication disability who already use Twitter and want to enhance their strategic use of its functions to build safe and enjoyable networks with more people online. The results of this study suggest that Twitter might benefit both people who use AAC being included in disseminating and generating information about disability; and benefit society through a greater awareness of disability in Twitter. In this presentation, the results of this study will be discussed in relation to social media research involving people who use AAC, and how social media such as Twitter should not be overlooked in relation to communication rights. Implications for people who use AAC and professionals or family members supporting adults with communication disability in their use of Twitter will be outlined.

**Evidence Area:** AACcess culture, AACcess social media

**Content Focus Area:** Research Evidence

## **Video-based modelling interventions for individuals with autism who use AAC: From research to practice**

**Abirami Thirumanickam | Parimala Raghavendra | Julie McMillan | Willem van Steenbrugge**

Video-technology is a popular tool for teaching and learning in many areas of education, sports and recreation. The increased use of video-technology is not surprising given easy access to the internet and digital technology. With the availability of basic video editing features in laptops and generic mobile devices, learners and teachers can now access and implement video-based applications.

Video modelling (VM) has been found to be an evidence-based intervention for facilitating the development, maintenance and generalisation of various skills in individuals with autism (1). VM involves the learner watching a video-clip of the target behaviour being demonstrated by an actor (i.e., a model) to later reproduce the observed behaviour. Models may include adults, peers, self, or animated characters. When the model is the learner themselves, the intervention is termed video self-modelling (VSM). Video self-modelling has shown to increase self-efficacy, which is a self-built confidence in one's potential to achieve a particular goal or learning (2). Another type of video modelling is point-of-view modelling (PoVM), in which the video-clip is presented from a first-person perspective, focusing on the most important features of the target behaviour. For example, if the intervention involves teaching someone how to navigate pages in their AAC system, the AAC device and the actor's hands are seen in the video-clip. By doing so, the learner's attention is focused on the salient aspects for learning a particular skill.

Despite video-based modelling interventions being recognised as an evidence-based practice for autism, (1) the use of this approach for individuals with autism, who use AAC is scarce. A recent study was conducted to determine the effectiveness of video-based modelling interventions in facilitating conversational turn-taking in adolescents with autism, who use AAC (3). The findings demonstrated that video-based modelling interventions were effective, when implemented as a packaged intervention with additional instruction. The findings also raised important considerations for future research and clinical practice (see below).

Focus of presentation: The aim of the presentation is to present the outcomes from the above project briefly, followed by a discussion of the implications for practice and research and the challenges associated with implementation of video-based intervention. The investigation highlighted the following areas as important considerations for future intervention research and practice: (a) the necessity for incorporating additional instruction with video-based modelling for AAC interventions; (b) potential factors influencing the variability in the degree of prompts required by each participant; (c) the impact on speech production; (d) the importance of core vocabulary for people who use AAC; and (e) the use of PoVM interventions to facilitate linguistic and operational competence, whilst teaching the target communication behaviours simultaneously. The findings from this investigation offer some valuable insights and a preliminary framework for incorporating video-based modelling techniques in AAC interventions to facilitate the development of social and communication behaviours for individuals with autism.

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**Evidence Area:** AACcess emerging technologies, AACcess education, AACcess relationships

**Content Focus Area:** Professional Practice Evidence

## **Visual aspects of AAC: AAC professionals' attitudes concerning visual design of AAC**

**Friederike Högbe**

The field of Augmentative and Alternative Communication (AAC) modes has become diverse and complex to provide people with limited possibilities of common communication modes (e.g. oral language) to express their needs, wishes and feelings and participate in interpersonal interactions (Beukelman & Mirenda, 2013). Across this wide range of devices, there is still a strong emphasis on visual-based graphic systems via symbols and photographs.

These systems contain – besides the general cognitive requirements such as decoding and the identification of meaning – a huge variety of different visual demands. These demands range from basic properties of the individual symbol such as colour, contrast and size, to more advanced features of a visual-graphic based surface of communication devices like the arrangement in grids. However, in some cases, neither the demands nor the visual capacities of the users are taken into consideration during the process of choosing an appropriate device (Light & McNaughton, 2014; Brown, Thiessen, Beukelman & Hux, 2015).

One aspect of approaching this content area is to interview professionals working in the field of diagnostic assessment, consultancy and intervention of AAC to gain further knowledge about their attitudes concerning visual aspects of AAC.

### **AIM**

The aim of this presentation is to give some insight into AAC professionals' attitudes concerning visual aspects of AAC:

1. Which design principles from human-computer interaction do they consider relevant for the design of AAC devices?
2. How do they judge the influence of the visual demands on the use of the device?
3. How are the visual capacities of the users taken into consideration during the assessment for identifying appropriate devices and for planning educational interventions?

### **METHOD**

Professionals working in the field of diagnostic assessment, consultancy and intervention of AAC were identified. Using a medium-structured interview compendium these experts were consulted about their attitudes concerning visual aspects of AAC. A content analysis was done to extract the information.

### **RESULTS**

The different aspects extracted from the statements of the experts will be correlated to report on the importance given to visual aspects during the process of assessment and decision making for a specific device, as well as for planning educational interventions.

### **CONCLUSION**

This study shows how AAC professionals appraise the importance of visual aspects on all stages of planning, application and monitoring of AAC interventions. One of the main goals in education and therapy for people with complex communication needs is an active use of AAC to overcome social and communicative isolation. To achieve this goal, the device has to match the needs of the user.

Considering visual aspects of AAC is an essential part of identifying appropriate devices and planning educational interventions.

An interview study with a small sample of interviewees is always limited in scope because results cannot be easily transferred to other context conditions. However, the knowledge obtained from the content analysis can be

integrated into further research concerning the visual aspects of AAC. Research results are relevant for the process of designing AAC devices (Gillespie-Smith & Fletcher-Watson, 2014) thereby increasing the users' successful communication conditions (Wilkinson et al., 2015).

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**Evidence Area:** AACcess education

**Content Focus Area:** Research Evidence



## Visual Literacy Supports for Students who use AAC

**Pati King-DeBaun**

Research tells us that children with significant disabilities often lack the appropriate opportunity to participate in early literacy activities. Often these students are not on the radar for AAC or the strategies used are slim and fall into only “exposure” type activities that never move beyond that point to learn the skills necessary for reading. These students never receive the appropriate opportunities to participate in systematic literacy-based activities nor can show others what they know. Too often a large group type shared reading is the only reading instruction the students receive. Finally, a lack of understanding on the part of teachers and therapists on how to best introduce materials can be an issue. A confusion often exists about how to use symbol supports and when to successfully fade those supports so that students learn how to read. This session will examine a literacy continuum that moves student along from little engagement with literacy – based materials to students who are becoming readers.

First a discussion of the importance of symbol supports for students who have Complex Communication Needs (CCN) and whose engagement is at the earliest stages of development. Young typical children spend countless hours retelling their favorite stories repeatedly and perfecting their skills along the way through adult engagement and scaffolding. Children who have CCN rarely have the opportunity at young ages to experience what fluent reading is from an emergent literacy perspective. For typical readers, pretend readings, called independent reenactments, or emergent storybook readings, are at the root of literacy development (Teale & Sulzby, 1987). Researchers have discovered that behaviors such as children’s interest in and eventual retelling of favorite stories to themselves, their friends, stuffed animals, or pets, greatly facilitate their emerging literacy development (Durkin, 1966; Neuman & Roskos, 1993; Sulzby, 1985a, 1985b, 1988; Teale, 1982, 1984; Teale & Sulzby, 1989). For children who have CCN the ability to play and manipulate the language vocabulary and syntax of stories is a must in the early emerging years. In fact the use of symbols during this time can support successful story retelling and the feeling that “Heylook at me I am a reader.” Evidence supports the benefits of Storybook interaction with children with a variety of disabilities; increasing spontaneous language use (Bellon, & Harn, 2000), verbal and picture communication symbol use (Dexter, 1998), and overall communicative performance (Crowe, Norris, & Hoffman, 2000). Rabidoux and MacDonald (2000) discuss the importance of shared story book reading and how both the child and adult should have roles in the process and that if the child does not have some control in the situation it may reduce their motivation to participate. These supports however should be used with caution, and not prevent students from becoming successful readers later. Too often in education programs today, visual supports in book reading and literacy are the norm and not the exception. The strategies discussed in this portion of the session will address the use of symbols for retelling stories, the selection of stories and communication vocabulary that are simplistic enough that are students can retell the stories and strategies on how to present the materials to students with the most significant physical disabilities.

The next portion will focus on the concept of successful silent reading with comprehension and the current research supports. Too often speech language pathologists and teachers continue to populate all printed material with both text and the symbol present for all of the words, when in fact the students can learn how to decode and read. Such activities at the transitional level make it more difficult for students to learn to read the words. Pufpaff et al. (2000), Fossett and Miranda (2006) Erickson, KA., Hatch, P., & Clendon, S. (2010). Erickson, K. (2003) describe a variety of strategies that need to be introduced so that students can begin decode, use automatic word recognition, whole-text print processing (which requires the integration of a number of processes during silent reading of connected text), and written language comprehension (which includes knowledge of written language text structures and knowledge of the world).

The next section will discuss how to move students from story retelling with symbol supported activities to a focus on word based literacy materials. “A discussion of what text looks like for transitional readers or students who are initiating engagement. King-DeBaun (2004) Erickson, Musselwhite, and Ziolkowski, (2002). Strategies will be introduced based on core(sight) words that are selected for both literacy and language instruction ( Clendon, 2006). Word based strategies for teaching students how to decode. Finally, a discussion of how to move students to more formal literacy instruction and what that looks like. Participants will walk away with a multitude of ideas and strategies.

**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Professional Practice Evidence, Research Methods and Theories

## **VocaTempo: voice input communication aid app for children and teens with dysarthria**

**Rebecca Bright | Mark Hawley | Simon Judge | Daniel Cooper | Francesco Costarelli | Swapnil Gadgil | Nikki Steiner | Stuart Cunningham**

The VocaTempo project is the result of a 2 year project funded by SBRI Healthcare. The app will be innovative in so far that it is the only mobile app expected to be available which allows for voice input as a means of accessing a communication aid. The current communication aid apps in the market are controlled by touch, switch or other manual means. The use of voice control is novel. In a more mainstream environment, speech recognisers (such as Google Assistant, Alexa and Siri) are reliant on being online, and do not manage disordered speech. VocaTempo offers the game changing position of completing speech recognition offline (on the device), for disordered speech – a personalised and local speech recogniser. This is certainly a clear advance on the state of the art.

Collaborating with University of Sheffield, Barnsley Hospital, The Whittington NHS Trust and CLCH NHS Trust the app is the result of a co-design process with children and young people with dysarthria, and the underpinning speech technology required for using dysarthric speech.

During phase 1 we built and tested a proof of concept app which incorporates unique Speech Recognition technology developed by University of Sheffield and Barnsley Hospital. In phase 1 our target was to develop an app that could be trained to recognise a dysarthric individual's speech, with users able to trigger actions in the app using vocal commands that they had trained the app to recognise (target accuracy for speech recognition was 80%). In addition to being able to control the app with voice commands, the app needed to be switch accessible. The proof of concept app met the above conditions. When tested with real users in schools and colleges the recognition rate averaged around 94%. The evaluation work generated data that can be reported within the scientific literature as well as feeding into the final design of the app. Specifically it will provide a direct comparison between users' current communication methods and VocaTempo, for performance, usability and acceptability. The app's performance was measured in terms of message production speed and accuracy for each individual participant. To measure the impact on quality of life the CHU-9D was used with participants. Participants were interviewed for their views.

**Evidence Area:** AACcess emerging technologies, AACcess education, AACcess relationships

**Content Focus Area:** Research Evidence, Professional Practice Evidence, Personal Experiences and Preferences

## **We Need a Voice too: AAC for the Adult with intellectual Disabilities**

**Elisabeth Fletcher | Traci Peplinski**

AAC apps and programs are now widely available through the app store and even online. Individuals using various AAC apps are even featured in advertisements for various electronic products. However, there is a group of individuals who have been left out of this movement at least here in the US. Many adults with intellectual disabilities left school at a time when very little attention was paid for their need to have a communication system with a rich vocabulary. Sadly, there is also a group of younger individuals who have graduated in the last few years and also do not have systems. In some cases families have purchased devices or developed their own systems. The advent of the iPad and availability of AAC apps has made it easy for many people to obtain communication systems but this does not mean that an evaluation, trial or training of family and staff was carried out prior to purchase.

Our work with adults started with a request from one family to provide assistance for their son. Shortly afterwards we were approached by the information Technology Director for a local agency providing day programs for adults. The program had recently received a grant to purchase iPads with an app. The director realized that he did not know which app to buy and staff did not know how to use the apps or how to set them up for participants.

An initial pilot program was established through a grant from a local organization, A Voice Discovered. This pilot program was developed in coordination with the Director of Technology to provide both AAC assessments and staff training in language development, communication, AAC and communication partner strategies. This pilot program has now been transferred to all sites and costs are covered by both the agency and a grant.

After the initial two pilot programs the design of the program was modified to address the needs of the different sites. A whole staff training is provided at every site on language development, communication, AAC, core vs. fringe vocabularies and communication strategies. Strategies for encouraging communication included aided language stimulation, creating communication opportunities, sabotage and the power of waiting. Initially, training was provided with a number of different programs or devices. It became clear that because of the staffing changes adjustments needed to be made in program selection. It was necessary to choose an AAC app that was easily understood and used by staff or constant retraining of staff was needed to avoid device abandonment. Hands on training was provided for staff where they could practice using the devices themselves/

Typical AAC evaluations could not be completed with this population so evaluation time was spent looking at ability to access the device, motor planning and language spoken. The evaluation process took place over several weeks with the client's staff member in attendance. Family members when available were also included in the process

There were also a number of client for whom an iPad was not appropriate. These individuals were referred to a local government agency with whom we also partnered for further assistance.

### **LEARNING OUTCOMES:**

1. Participants will identify the barriers to obtaining devices
2. Participants will be able to identify and design activities for hands on staff training
3. Participants will be able to identify and design activities to promote the use of the device in a group setting as well as home.

### **INTERACTIVE COMPONENT:**

Participants will discuss the protocol used. Participants will try some of the participatory tools we use and the communication techniques. Participants will problem solve barriers to access for these clients

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**Evidence Area:** AACcess the community

**Content Focus Area:** Professional Practice Evidence

## **Wear Your Words: Creating Communication AACcess in Schools**

**Deanna Morrow | Jennifer Erickson | Danielle Deschaine**

Creating access for people with disabilities is a significant issue. Although accessibility for people with physical disabilities is commonly understood in many parts of the world, there is a lack of awareness of the accessibility needs of people with communication disabilities. Creating communication accessible communities, including schools, is a large task and an important one.

### **AIM**

For those of us who practice augmentative and alternative communication (AAC) within the walls of a school, there are some important, and perhaps unsettling questions that we need to ask ourselves:

1. Is the school where I work accessible for students who have communication disabilities?
2. Do my students always have their primary communication modes available?
3. Are the staff members at my school consistently and effectively supporting students who use augmentative and alternative communication systems?

In this session, we will explore how the speech-language pathologists at two schools answered the above questions and how they began a journey of increasing communication access in their schools.

### **METHOD**

With the goal of increasing communication access, the speech-language pathologists at two schools launched the Wear Your Words campaign. At an initial kick-off event for all school staff members, the National Joint Committee's Communication Bill of Rights (Brady, N. C. et al., 2016) and the Communication Access Symbol (Communication Disabilities Access Canada, 2013) were reviewed to lay a foundation of communication access as a basic human right. Then, staff members were invited to participate in "contests" involving incorporating core vocabulary (Project Core, 2017) in the classroom, ensuring that students had their communication systems with them at all times, and wearing communication access t-shirts. Informal pre – and post-campaign measures were taken and successes as well as challenges documented.

### **KEY COMPONENTS OF WEAR YOUR WORDS:**

1. Wear Your Words is a school-wide campaign that reinforces the fact that every staff member in the school plays a significant role in creating communication access for students.
2. Wear Your Words sets a "tone" around communication access that is positive, fun, and engaging for staff and students.
3. Wear Your Words is a simple concept that is adaptable to different types of schools.

### **RESULTS**

At the first school that serves students with a wide range of disabilities from kindergarten through high school, informal measures were taken during one period of the school day. These measures revealed that while only 7% of students who used aided communication had their systems with them pre-campaign, 56% had them afterwards. The other school that serves 18-21 year olds with a wide range of disabilities, saw more students taking their communication systems to their volunteer worksites. Also, students who did not have communication disabilities learned about how to be better communication partners for their peers who use AAC.

Significantly, an unanticipated result of Wear Your Words was that staff members wore their communication access t-shirts while in the community and were asked on a number of occasions about the shirts. In this way the impact of Wear Your Words extended beyond the schools into the surrounding community.

## **CONCLUSIONS**

Wear Your Words is a campaign that has contributed to increasing communication access at two schools and their surrounding community. The campaign engages all school staff as significant supporters of communication access for students. The campaign benefits students by focusing on having communication systems available throughout the school day, using core vocabulary in the classroom, and creating better communication partners.

Wear Your Words also raises questions for future consideration. How can staff members who did not participate fully in the campaign be better supported to align with the importance of communication access? What is needed so that 100% of students have their communication systems with them at all times? Will the Wear Your Words campaign have a lasting impact? These questions inform the ongoing journey of creating communication AACcess in schools.

## **REFERENCES**

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**Evidence Area:** AACcess education, AACcess the community

**Content Focus Area:** Professional Practice Evidence

## **What are parent's and carer's experiences with the Motor Mouth Camp?**

**Frieda Scholten-Laidler | Dr Emily Castell | Kelly Savage**

Speech generating devices (SGDs), while being associated with increased communicative abilities, have also been found to impose social, economic and psychological burden within the family context. The Variety WA Motor Mouth Camp is an annual event held for children who have complex communication needs. This week-long camp provides intensive therapy and activities for children that use SGDs to aid communication. Parents/caretakers and siblings also attend, and are engaged in training and networking opportunities. The camp aims to facilitate the integration of SGDs into the 'daily life' of families as much as possible. Limited research has explored augmentative and alternative communication (AAC) camp-based interventions, and what exists has tended to focus on quantitative improvements in children's verbal abilities only. In the specific context of the Motor Mouth Camp, anecdotal feedback from families attending the camp is positive, however, formal evaluation of attendees' experiences is yet to be undertaken. This research aimed to address this gap via a qualitative exploration of parent and carer's experiences with the Motor Mouth Camp. Parent and carers (N = 12) who had attended the Motor Mouth Camp were recruited via snowball and purposive sampling to participate in either a focus group or individual semi-structured interviews. Audio-recordings of interviews and the focus group were transcribed verbatim and analysed via thematic analysis. Participants in a member-checking process have reviewed preliminary findings. Preliminary analyses suggest that parents and carers value the camp-based format of the intervention, and the opportunities it presents for both respite and skill building for the whole family. Participants contrasted the camp-based therapy format with one-to-one therapy, and reflected that the former is more ecologically relevant for their child and family. Participants spoke of the complexities and challenges associated with the introduction of SGDs to the family, and expressed a desire for more supports that privilege their child as an individual, rather than a device-user. These findings hold practical implications for the development and delivery of the Motor Mouth and similar camp-based intervention moving forward. The findings from this research also contribute to a wider emerging body of literature that poses a critical commentary on the role of AAC intervention in the lives of individuals who use AAC devices and their families. The findings generated, and processes engaged in this research, speak to the absolute need and value of engaging parents, carers, and individuals who use AAC devices in the development and delivery of AAC intervention.

**Evidence Area:** AACcess education, AACcess the community, AACcess relationships

**Content Focus Area:** Research Evidence, Research Methods and Theories



## **What do people who use communication devices wish speech pathologists knew?**

**Merryn Gibson | Benjamin Bond | Leanna Fox**

People who use alternative and augmentative communication (AAC) devices have a range of experience and specialist knowledge about what supports were effective for them on the path to successful multimodal communication using a range of AAC systems. In order to improve outcomes for people with complex communication needs we can apply the International Classification of Functioning, Disability and Health (ICF) to build a more holistic view of intervention with respect to AAC focusing on individual strengths, participation, psychosocial factors and extrinsic environmental factors as described by Light and McNaughton 2015. There is limited information on what the experts, the end AAC users, consider to be important in order to improve outcomes. Through the course of daily work with people who use AAC devices, their voices have been heard in respect to what they wish the professionals knew.

The aim of this presentation is to improve client centred practice in the workplace by sharing information collated from AAC users regarding communication support in respects to the ICF. Information has been collected via semi-structured interviews and/or surveys with adults who use AAC around the key principles to guide AAC intervention with respect to the ICF. Themes will be collated and presented via multimedia platforms including videos and transcripts.

Preliminary data suggests that AAC users want multimodal communication, skilled AAC professionals and inclusive environments. By listening to AAC users, speech pathologists can consider changing their practice to be more person centred, inclusive and effective at supporting multimodal communication.

**Evidence Area:** AACcess language and literacy, AACcess the community

**Content Focus Area:** Professional Practice Evidence

## **Why ACCess to Meaningful Written Information is a social equity, social justice issue.**

**Cathy Basterfield**

Participation, inclusion and rights are intrinsic to the way we interact with our world. Providing information in Plain Language is one way to ensure more people can access, participate and know how to be part of their community, and know their rights and responsibilities.

Reading information about government services, your rights, information about common laws, health information and access to corporate businesses should not become a reading test. However, for people who do not have functional literacy, these tasks do become just that, and often these people do not engage at all. Consider even access to any and every website, which requires computer literacy. Information must be simpler.

Easy English has been developed for over 12 years in Australia and for many years in Europe, Scandinavia and USA also. Some countries use different terms to describe the development of writing for people with low literacy. It variously is called 'Easy English', 'Easy Read', 'Communication for All', to name a few.

People with low literacy are in all parts of the community. With 44% of Australian and Canadian adults, 50% of US citizens (PIAAC, 2013,2016) identified as 'not having a range of literacy skills to manage a range of day to day reading tasks', governments, non government and corporate organisations must be more forthcoming in identifying these people as part of their customer base.

Consider now the people who are in the AAC community and the level of literacy of many consumers. Also consider their parents, support staff, and now add their own stress levels and time to be able to read and interpret information and then know what to do with it. Who is advocating for consumers to make sure information is available to the people who need it the most?

This paper will draw your attention to the international literacy data for both adults and children, and the impact for these people without access to meaningful written information. It will include a discussion of the international and national ( including Aus, US, CAN, etc) legislation that can assist in advocating for the needs of people who do not have the literacy skills for a range of day to day reading tasks.

Finally some examples from government and also the context of Family Violence will be discussed to illustrate how various organisations have taken up the use of Easy English, and what difference this has made for the engagement they have with the people they support, use their service or interact with.

**REFERENCE:**

[www.abs.gov.au/4228](http://www.abs.gov.au/4228)

**Evidence Area:** AACcess language and literacy, AACcess the community, AACcess employment, AACcess diversity, AACcess justice, AACcess relationships

**Content Focus Area:** Professional Practice Evidence

## **Why Two Switches Might be Better Than One for Initial Learning of Switch Access**

**Linda Burkhart**

Children who face severe motor challenges are at great risk of becoming passive in their education and daily lives. Developing physical abilities, intrinsic motivation and problem solving skills must be addressed. Instruction needs to move beyond single-switch cause-and-effect games and hand-over-hand facilitation for academic participation.

The use of eye-gaze technology as an access method is improving rapidly and for individuals who can access it, it promises exciting possibilities. However, there are many children who experience severe physical challenges that also experience visual disabilities and/or difficulty with motor control of their eyes. For these individuals, the use of switches for access is still a valuable tool. In addition, switches may provide an alternative means of access when eyes fatigue or in situations and environments where eye-gaze may not be a viable option.

Brain research is teaching us how motivation for learning works. Learning movement patterns for access can be developed and taught through meaningful self-directed practice that includes intent, purpose and variation. Switches can provide individuals with an accessible learning environment that encourages active participation and opportunities to explore a range of concepts that might not otherwise be available to them.

In the past, Assistive Technology specialists, teachers and therapists often searched for the “perfect switch site”. In reality, most individuals with severe motor challenges do not have a perfect site that they can use with motor automaticity. However, with attention to appropriate active positioning (weight bearing, symmetry, stability), motor skills for accessing switches can be taught. Scaffolds for learning at just the right level of challenge for each child need to be provided so they can experience success.

Teaching motor access for learning to use switches requires thoughtful team planning and effective resources. One does not learn new motor skills by just repeating current movement sequences. Use of timing during the learning process, such as in automatic scanning, may reinforce an ineffective motor pattern and increase muscle tone – which can reduce control and may have long term negative orthopedic impact.

The Stepping Stones to Switch Access process developed by Linda Burkhart (2004 & in press) provides guidelines for a motor / cognitive learning process. This session will focus on the beginning steps and strategies needed to help children make the motor / cognitive connection beyond cause and effect, and provide appropriate opportunities for learning switch access, switch scanning, and eventually develop the motor automaticity needed to use switches for demonstrating knowledge and accessing a speech generating device. A range of technologies and software/apps from a variety of vendors will be demonstrated.

### **LEARNING OUTCOMES:**

Participants will be able to:

List 3 features of software, apps and/or websites that enhance learning of cause and effect, discrimination and problem solving using two switches two functions

Describe 3 early stepping stones to switch access for teaching motor cognitive control to individuals who face severe motor challenges

Explain the difference between switch access methods that rely on timing of motor movements with access methods that eliminate timing and their impact on improving motor access

## **INTERACTIVE COMPONENTS**

The process for learning the early motor/cognitive aspects of switch access will be presented with live demonstrations and video. Participants will have the opportunity to observe, analyze and discuss concepts presented.

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**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Personal Experiences and Preferences

## Wisdom from the Field: The Training Experiences of AAC Practitioners

Sarah Douglas | Patricia West | Rebecca Kammes

AAC intervention is a critical part of AAC services for individuals with complex communication needs (CCN). In order to ensure high quality AAC intervention, AAC training for practitioners is essential. Within the field, researchers recommended competencies for practitioners supporting individuals who use AAC (DaFonte & Boesch, 2016). These competencies include: 1) knowledge about communicative development and communicative competency (Filmore & Snow, 2000; Light & McNaughton, 2014); 2) teamwork and collaborative practices (Chung & Douglas, 2014); 3) role and functions of AAC systems (Lebel, Olshstein, & Weiss, 2005); and 4) AAC instructional strategies (McMillan, 2008). Furthermore, it has been shown that AAC competency is essential due to current case load assignments of children who use AAC with educational and therapeutic practitioners (Kent-Walsh, Stark, & Binger, 2008). Yet, AAC training for pre-service speech language pathologists, occupational therapists, and special education teachers remains insufficient (Costigan, & Light, 2010). More training is needed, but given the current pre-service training in the field a combined pre-service/in-service training approach is likely to be essential to support individuals with CCN as they obtain communicative competence (Ratcliff, Koul, & Lloyd, 2008).

AAC practitioners (AAC specialists, SLPs with expertise in AAC, etc.) are often utilized to provide the needed training to communication partners (e.g., teachers, paraprofessionals, therapists, family members, peers). However, little is known within the literature about their experiences providing training to communication partners, or their own preparation to provide AAC training to others. Therefore, the purpose of this study was to explore the training experiences of AAC practitioners. Specifically, we sought to gain knowledge to inform future interventions. The study utilized focus group research methods with practitioners in Michigan (USA) to answer the following research questions: (a) What are the facilitators and barriers in practitioners' practices associated with supporting children with complex communication needs (CCN) who utilize augmentative and alternative communication systems (low tech/high tech)?; (b) What training needs are perceived as essential for practitioners when working with children with CCN? Do these essential skills align with the current competency recommendations? (c) What AAC skills or training are lacking for practitioners?; (d) Are there different practitioner training needs associated with the various developmental stages of the child with CCN?; (e) What training do practitioners need to support other communication partners of individuals who use AAC?

Data from the study were analyzed using a constant comparative approach to determine underlying themes from data collected during focus groups with participants. Results from the study will be discussed in the context of current AAC training models to support AAC practitioner needs and changes that should be made in the future, including innovative intervention and training methods. Limitations and future research directions based on study results will also be discussed.

**Evidence Area:** AACcess education

**Content Focus Area:** Research Evidence

## **Word Episodes enhance Lexical Quality and emergent literacy in AAC.**

**Hans van Balkom | Stijn Deckers | Bart Noé**

It remains difficult to enhance lexical growth in young, nonspeaking children with severe CNN. We developed an intervention program to enhance broad and deep lexical knowledge in children with CNN based on experiential learning techniques and anchored instruction. The program is theoretically linked to research evidence on the Lexical Quality Hypothesis (Introduced by Charles Perfetti, 2007), more specifically in the application of ‘word-episodes’. Our intervention strategy aims to stimulate lexical and early literacy development in children with CNN through interactive storytelling and AAC. The stories are based on anchored instruction (experiential learning) and joint activities of the children with their parents, caretakers therapists and teachers. The lexical training is based on a standard template consisting one (known and actively used) word or lexical concept of the child related to four associated, passive (not yet used) words or lexical concepts of the child. These five words constitute a ‘word episode’. The word episodes will be transformed into mini-stories, small songs or rhymes in which AAC is used within several intervention sessions and at home. These AAC-enhanced word episodes provide a broad and diversified functional context that mediates or facilitates the identification of the individual as well as the shared conceptual meaning of the five words. Gradually these five words become activated within a semantically interconnected network. These newly acquired words will provide a starting point for other related word-episodes. We will explain, demonstrate and introduce the intervention technique together with the use of low – and hightech AAC.

The lexical quality hypothesis (LQH) claims that variation in the quality of word representations has consequences for reading and comprehension. High lexical quality includes well-specified and partly redundant representations of form (orthography and phonology) and flexible representations of meaning, allowing for rapid and reliable meaning retrieval. Low-quality representations lead to specific word-related problems in comprehension.

**Evidence Area:** AACcess language and literacy, AACcess education

**Content Focus Area:** Research Evidence

## **Workshops and projects to support an introduction to AAC**

**Emmy Kjelmann | Britta Husted**

### **BACKGROUND**

In 2015 the TAVS-group published the book “From experience to communication”. With the book came a lot of resources (files and templates) for inspiration and as a help to create own activities” The book was translated into English in 2016.

### **WHAT IS THE TAVS-GROUP?**

We are a group of 8 people all working in the AAC field. We arrange workshops as an AAC inspiration and we maintain a website about AAC (in Danish)

Through our activities we have used the creative way of thinking that the group share, and we have shown, that by thinking differently and work interdisciplinary, we can spread knowledge, inspiration and activities which is normally not expected to be possible for people with complex communication needs. Throughout the past 15 years we have arranged 4 different communication activity projects all about different themes.

1. Between sky and sea in the Northern part of Denmark
2. In the world of fairytales – in the year of Hans Christian Andersen’s 200 years birthday
3. To think and to dream – to choose and to act to create a meaning – in the year of Søren Kierkegaard 200 years birthday
4. To sprout and to grow in a communication environment

### **A BOOK FOR INSPIRATION – AND WORKSHOPS TO GET STARTED**

The experience we have gained through creating different projects to support participation and communication for children, young people and adults with complex communication needs is collected in our book.

The book presents ideas and material to create a project about any theme involving AAC-users in a way that they can participate and communicate about different topics within the theme.

To keep the ideas alive – and to support people to get started, we arrange workshops, where people can get inspiration and help to get started. We also help arranging projects on different locations.

### **DIFFERENT THEMES BUT SAME ACTIVITIES**

Through the different projects, some activities and concepts have been important. The book describes different activities such as: dressing up, making digital books, storytelling, playing games, music etc.

It has also been important to have a cafe and to have a reception, where the visitors could receive materials for communication and information about the activities. With each activity we have developed a special symbol set, for commenting and choosing. The different activities are described in details – how to arrange it – which materials – etc.

### **A TYPICAL STRUCTURE FOR A PROJECT**

Before the activity days the participants received material to discuss the various activities – each represented with its own symbol – We arranged activity days where children, adolescents and adults with their caregivers could come and participate actively in various activities. The event was built up with corners, where the participants could experience different activities within the chosen theme – for instance fairytales. Participants were given the opportunity to be actively communicating by making choices, expressing wishes and explore – at the level of their own condition and interests.

Alternative communication possibilities were available along with materials for experiences. At the activity days the participants received a badge, communication resources and an experience flyer telling about the activities and giving the opportunity to communicate about them – to choose, to comment and to highlight, what had been tried.

#### **THEORY BEHIND THE PROJECTS**

The book describes theories such as engineering the environment for communication, being role models on how to use communication materials and strategies and the attitude we meet our users with. The importance for a person to be in an activity is also highlighted.

#### **RESOURCES**

All resources, templates, etc. comes with the book, and most of it is also available on TAVS website.

#### **REFERENCES**

TAVS website: [www.tavsgruppen.dk](http://www.tavsgruppen.dk) (Danish only)

TAVS's previous projects: "To sprout and grow"; "Between sky and sea"; "In the world of fairytale." ; "To think and to dream"

Gayle Porter / Linda Burkhart: Partner supported auditory communication

Britta Husted: project: "I can, I will" – digital books

Emmy Kjellmann / Edda Medici/Britta Husted: Previous papers given on ISAAC conferences

We have no financial or other interests in objects or entitles mentioned in our paper.

**Evidence Area:** AACcess language and literacy, AACcess education, AACcess the community, AACcess relationships, AACcess the world: Developing nations in AAC

**Content Focus Area:** Personal Experiences and Preferences



**SUBMISSION ID 1211**

Platform (20 minutes)

## Writing for the future

**Kim Hopton**

Kim loves to write with her Dynavox, then use Access IT to transfer her writing onto her laptop for editing. Using Access IT she can also use Google, YouTube and Facebook along with many other things. Kim writes in her spare time every single day, her favourite topic is romantic love stories, she often writes about romances describing her favourite actor and entwines herself as an able bodied character. Other short stories are violent and she is trying to write with suspense.

Kim's lecturers at Swinburne University seem to like her writing style and all the different things her creative mind comes up with. The teachers liked one of her scripts for a play so much that they got a couple of people to act out her script in front of the class and other English teachers. She can present speeches in class.

Kim hopes to continue to improve her writing and learn and maybe write a best seller.

Thank you.

**Evidence Area:** AACcess education

**Content Focus Area:** Personal Experiences and Preferences