Which way to autonomous communication?
Aided language stimulation towards autonomous communication.
Gayle Porter & Linda Burkhart
Illustrations by Eleanor Porter
Presented at FAST Global Summit, December 5, 2015

Your child needs to learn to communicate using AAC

Augmentative and Alternative Communication (AAC)
- Modalities?
- Communication aid?
  - Hardware
  - Software/apps
  - Language organization
  - Page set
- Intervention approach?
- What does effective use of AAC look like?
- How does my family do this?
- Is it possible for my child?

Which way to Autonomous communication?

Where do you want to go?
What are desirable outcomes?

Alice: “Would you tell me, please, which way I ought to go from here?”

Cheshire Cat: “That depends a good deal on where you want to get to.”
Desirable long term communication outcome

Able to say what I want to say, to whoever I want to say it to, whenever and wherever I want to say it
and
Able to understand other people

AAC interventions long term destination

“Communication is not an end goal in and of itself, rather it is a tool to allow individuals to participate effectively and attain their goals at home, at school, at work or in the community”

Light & McNaughton, 2015. p. 4

“AUltimately, the goals of AAC intervention must be that the children and adults with complex communication needs have the opportunity to live happy and fulfilled lives where they are able to participate fully in education, employment, family, and community life; where they are safe and secure, and have access to needed services; where they are respected and valued for who they are; where they have a chance to develop friendships and intimate relationships; and where they have the opportunity to make meaningful contributions to society”.

(Light & McNaughton, 2015. p 3)

Communication competence for people who use AAC

(Light, 1989; Light, 1997)

Sufficient knowledge, judgment and skill in four areas

• linguistic competence
• operational competence
• social competence
• strategic competence

Language

• Language is made up of socially shared rules that include the following:
  - What words mean (e.g., “star” can refer to a bright object in the night sky or a celebrity) - Semantics
  - How to put words together (e.g., “Peg walked to the new store” rather than “Peg walk store new”) - Syntax
  - How to make new words (e.g., friend, friendly, unfriendly) Word morphology

• Language is different from speech. Language may be in a variety of forms
  - Spoken language (speech)
  - Written language
  - Sign language
  - Graphic symbol / Pictograph language
Pragmatics (social use of communication)

- Use of language, vocalization, gesture, facial expression, eye-contact, body movement
- Appropriateness of communication
- Taking turns in interaction (discourse)
- Initiating communication
- Selecting, introducing, maintaining, changing topics
- Feedback to partner
- Repairing communication breakdown
- Changing communication to suit different partners, situations & social roles
- Use of communication for different purposes

Pragmatics!!!!!!!

- Same surface message - different pragmatic function in discourse
- Speech Act pairs
  - Ask question - next turn is "answer"
  - Directed to "Tell me .." - next turn is "compliance"
  - Statement - range of pragmatic functions
  - Initiate - range of pragmatic functions

What cues communication?

- Non-obligatory turns
  - Something to say
  - Recognize an opportunity within the interaction / context to communicate my message
  - Initiate to communicate my message
- Obligatory turns
  - Answering question
  - Responding to direction or instruction to communicate a message

- Light, Collier and Parnes, 1985a,b & c

Purpose of AAC

To enable the person to meet all of his/her varied communication requirements as
- intelligibly
- specifically
- efficiently
- independently
- in as socially valued a manner as possible

To understand others and to be understood.

Porter, 1997

Varied communication functions

- greet
- manipulate
- relate information
- agree / disagree
- answer
- ask questions
- instruct others
- ask for things
- joke
- express an opinion
- share information
- express feelings
- protest
- describe
- discuss interest
- "MAKE SOCIAL CONTACT"
- bargain
- comment
- request / attract attention
- complain

Problem-solve how each individual can meet his/her varied communication requirements

- To understand others & express self
- Full range of
  - Purposes (e.g. ask questions, complain, comment)
  - Messages, topics
  - Social roles (e.g. student, sister, friend, employee)
  - Partners
  - Environments and physical positions
- Express individual personality
Multi modal communication

- We all use multiple modes to communicate.
- Choose the most effective method to "get our message across."
- Different modes of communication may be more or less effective to communicate
  - different types of messages
  - in different situations
  - with different partners

Selecting a communication mode to suit the requirements

Situation: Lunchtime - cup on a table
Message: I want a drink
Message: I want a different drink
Message: My drink is too cold
Message: Peter drank all of my drink
Message: Last night I had a Pepsi-Max

Situation: Outside in playground
Message: I want a drink

What is the purpose of AAC?

"an individual does not abandon simpler strategies in the march towards independence. Instead the individual acquires more and more sophisticated communication methods to add to an existing repertoire."
Blackstone & Hunt Berg, 2003. p. 15

"the function of communicative abilities is to solve communicative challenges."
von Tetzchner & Grove, 2003 p.14

Everyone uses AAC!

We all use AAC when external or internal constraints limit the effectiveness of our spoken language.

Over distance
Noisy bar
International travel
Laryngitis

Multi-modal communication

Internal constraint
Complex Communication Needs

- Effectiveness of spoken language (gesture) more frequently limited
- Worth investing in a more sophisticated AAC system!
Multi-modal communication
- For child’s self-esteem, personality, communication and cognitive development we need to value and respond to all their messages regardless of the mode.
- Children can be sensitive to the attitudes of people around them.

Autonomous communication
- Being able to say whatever I want to say, to whoever I want to say it to, whenever and wherever I want to say it

Communication Autonomy
- Few restrictions on what they can say
- Responsible for own language production
- Able to express self in accordance with own communicative intentions
- Refers to where messages originate

Whose message is it?

To communicate in the words you’re thinking
(von Tetzchner & Grove 2003)
What is Autonomous communication?

- Autonomous communication is different from
  - Choice-making
    - select preference - other person's options
  - Answering Yes/No
    - agree / disagree other person's idea
  - Selecting from a limited set of options
    - select - from other person's idea
- Autonomous communication originates in the thought of the speaker (said)

Communication Autonomy

Autonomous communication is not necessarily sophisticated or complex language

Need to be able to communicate in the words you're thinking

Autonomous communication is not necessarily independent

Another person may have a role in operating the system to enable an individual to "say what they want to say".

Independent communication is not necessarily autonomous

What do you think of this?

<table>
<thead>
<tr>
<th>Talented Superstar</th>
<th>creepy</th>
</tr>
</thead>
<tbody>
<tr>
<td>brave</td>
<td>hot!</td>
</tr>
<tr>
<td>sexy</td>
<td>sad</td>
</tr>
</tbody>
</table>

Independence

- Operational independence
- Self-determination
  - Communicate according to one's own intentions and motivations
  - Say what you want to say, to whoever, whenever you want to say it
  - Express your personality
  - Autonomy

Robust language system to Generate Own Messages

- Spelling to generate own words
- Whole word / symbol AAC systems
  - Degree of autonomy will be influenced by the size and diversity of the vocabulary pool
  - Larger the pool the more likely it is that the word I'm thinking will be there
  - Efficient organization supports more frequent autonomous communication

Which way to autonomous communication?
Gayle Porter and Linda Burkhart
Selecting vocabulary

“A child who uses speech will independently select the words she wishes to use from the vast array of words she hears/sees used everyday.

A child who uses AAC will independently select the words she wishes to use from the vocabulary other people have chosen to model and, for aided symbols, made available for her to use.”

Porter & Kirkland, 1995, p.93-94

Core and Content vocabulary

• Core vocabulary
  - Frequently used across contexts
  - Needed throughout life
  - Approx. 80% of what we say uses the same 200 core words
  - Depends on size of core and sample
  - Range of word types
  - Common core / individual core

• Content (extended / fringe) vocabulary
  - Specific words related to content topic or activity

Core and content

“I want to go there”

“I want to go to Australia”

Core and content

• Fast access to core vocabulary for use
  - within context, established topic
  - combined with content vocabulary in multiple messages
  
  AND

• Content vocabulary to establish topic, be specific, express personality (via word choice)
  - Frequently used content
  - Occasionally used content
  - Rarely used content

Vocabulary & Organization

Big enough to grow into (learn), but not so big they trip over it

Goossens', Crain & Elder (1992)

Vocabulary & Organization

Big enough to grow into (learn), but not so big they trip over it

• Development
  - Pragmatics
  - Semantics, syntax, morphology
Aided language form

- No intonation
- Cannot produce actions / gesture at same time as say WORD
  - Would have to do sequentially
- Voice output? (electronic / non-electronic)
- Vocabulary has to be predicted and made available in physical form
- Vocabulary has to be laid out spatially
  - Cannot access all words on one level
- Speed of communication

Vocabulary & Organization

Big enough to grow into (learn), but not so big they trip over it

- Visual and motor access
  - Successful without concentrated effort on the operation
  - Juggling - if easier visual and motor access can focus on communicating

**PODD**

Strategies to manage the limitations of aided language and scaffold communication include:

- Pragmatic branches
- Predictive links
- Tense clues
- Yes/no question marker
- Information chunking for narrative
- Vocabulary to manage interaction – provide feedback to partner (OOOPS)
- Hinting to extend vocabulary
- LISTS

**PODD**

Strategies for more efficient communication

- Sections in POOD - different types of organisations to suit types of messages
- Predictably associated vocabulary (and word morphology)
- Page layout
- Location of main navigation indexes (different styles of POOD)
- Predictive links

Vocabulary Organizations

- Core plus content vocabulary
- Page set to support autonomous communication and learning at current stage of development
  - Systems that allow for development, building on previous learning
- Support successful visual and motor access without compromising communication autonomy
- Accommodate for differences in aided form
- Maximize efficiency for varied communication functions and messages
- Allows for individual autonomy, personality, style
Which way to autonomous communication?
Gayle Porter and Linda Burkhart

Goal: “to be more interesting”
- Varied vocabulary and messages
  - Personality
  - Style
  - Relatedness

Communication competence for people who use AAC
(Light, 2003; Light & McNaughton, 2014)
- Sufficient knowledge, judgment and skill
  - Linguistic competence
  - Operational competence
  - Social competence
  - Strategic competence

Psychosocial factors
- Motivation
- Attitude
- Confidence
- Resilience

Express personality

“Yes we can use quick ways to communicate at home, but she can’t say everything that way. If families don’t use the child’s AAC language, they won’t get to know their child”

(Evelyn Tsourlenes, Mother of young woman who uses AAC)

Value - VOICE

- “Communication is not an option. Should be as accessible as the words coming out of my mouth.”
- “That effects her self-image, who she sees herself as. Her personality as someone who says stuff.”
- “I can’t imagine her without it.”

(Evelyn Tsourlenes, Mother of young woman who uses AAC)

Habits – communication at any time

- “Getting in the habit of making sure it was there where you might need it. Has to be there to communicate.”
- “AAC is not a chore, it’s the way you interact.”

(Evelyn Tsourlenes, Mother of young woman who uses AAC)

Plan for communication AT ANY TIME

- Autonomy to communicate whenever I have something to say
- According to own intentions
  - Right to to choose when to communicate (or not)
**Habits to support autonomous communication**

- Routinely ensuring the AAC system is readily available for use ALL THE TIME
  - Prepared for communication AT ANY TIME
- Providing enough time for the person to communicate their own message in the manner / words they prefer

**Habits - communication anytime, everywhere**

Child in class group with other children talking & interacting with the teacher. Where is his AAC system?

Illustration: Eleanor Porter

During the session the little girl joins in with something to say about what the teacher and class are talking about. The boy with complex communication needs he is also thinking of something relevant to say – maybe an opinion or a question or adding some personal experience to what the teacher is talking about. Can he say this now? Do you think he knows he can join in and contribute using AAC?

Illustration: Eleanor Porter

What may this communicate to the child?

Do you think he is expecting to communicate / join in the class discussion?

Illustration: Eleanor Porter

How do we help other people see that this is the same as (change slide)

Illustration: Eleanor Porter

**Which way to autonomous communication?**

Gayle Porter and Linda Burkhart
We would not be allowed to GAG a child in class.

But practically, restricting access to his AAC system is like gagging this child. This is usually not intentional, but the effect is the same.

How do we help people see that this is what is happening for the child?

Illustration: Eleanor Porter

. And given that he was unable to communicate when he actually had something to say.

When the schedule changes and it is now a timetabled time to communicate

Illustration: Eleanor Porter

Someone puts the AAC system in front of the child and says “talk to me” — when he does not actually have anything to say!

Connection with AAC

Is the AAC system MY tool to communicate according to my own intentions?

Do I see it as something that enables ME to say what I want to say, when I want to say it?

IS IT MY VOICE?

Competent communication is co-constructed (Light, 1989: 1997)

- Skills, knowledge and judgement of person who uses AAC

with

- Skills knowledge and judgement of the partner
  - Range of partners
Communication Accessibility

There are people in the social environment who

• understand the alternative communication form
• can scaffold it in the acquisition period
• are able and willing to communicate in a manner that gives the individual maximal communicative autonomy. (von Tetzchner & Grove 2003)

Communication Access

• Individuals’ family, close friends
• People in individual’s extended social networks
• Whole schools, workplaces
• Community

Research & intervention to improve outcomes

Light & McNaughton, 2015

• “Traditionally AAC research and practice had focused on small measurable goals for these individuals.” (Light & McNaughton, 2015, p. 3)

• Research on acquisition of specific skills is important, but the focus on isolated skills is not enough.

Research & intervention to improve outcomes

Light & McNaughton, 2015

• The individual who requires AAC
  - The integration of skills to maximize communication
  - Participation in real world contexts
  - Long-term outcomes
  - Full breadth of communication goals
  - Strengths of individuals with CCN
  - Personal psychosocial factors

• Environmental factors

Informed by the available research evidence, but not limited by it!

Evidence-Based Practice

ASHA, 2004

http://www.asha.org/Research/EBP/
When we see an AAC system as a language, it becomes easier to understand how to teach it

- Apply what we know about typical spoken language development
- Apply what we research says about learning a second or foreign language
- Look at AAC literature for effective strategies - Aided Language input
- Look at anecdotal evidence of children who have Angelman Syndrome, using AAC

How Do Children Learn Language?

Typical children learn language by being immersed in a native language learning environment, where they can freely interact with, and try out their developing skills

- All theories of language acquisition imply that the quality of the language environment impacts the individual’s development of language
- Children acquiring spoken language
  - Are surrounded by a community of speakers
  - Influences are usually not planned
  - Learning a language takes many years
**Children were expected to use something they never had the opportunity to learn**

**Catch 22 !**

- Aided language does not naturally exist in the environment
- Child can only demonstrate ability to use what has been set up for use
- Others can only be influenced by child’s use of what has been set up to use
- Different, not delayed development

**Expectations**

“I think I should start out with the expectations that some speech pathologists have in my experience. The first and perhaps the most poisonous is that we have to master and demonstrate the mastery of certain language concepts before we’re allowed to try communication aids with the kind of power that might help us really talk. Umm, how can I master a language if I can’t talk with my own voice, and you won’t give me a communication aid?”


**Terms:**

- Aided language stimulation *(Goossens’, Crain & Elder, 1992)*
- System for Augmenting Language *(Romski & Sevcik, 1992)*
- Natural Aided Language *(Cafiero, 1998)*
- Aided Language Modeling *(Drager, et al 2006)*
- Augmented Input
- Modeling (not mand model)

**What does the research tell us about aided language stimulation?**
Research has demonstrated aided language stimulation can support individuals across a range of ages and challenges to expressively use graphic symbols

- Barton, Sevcik, & Romski, 2006
- Barker, Akaba, Brady & Thiemann-Bourque, 2013
- Beck Stoner, & Dennis, 2009
- Binger & Light, 2007
- Bruno, & Trembath, 2006;
- Cafiero, 2001;
- Dado, & Alant, 2009
- Drager, Postal, Carrolus, Castellano, Gagliano & Glynn, 2006;
- Goossens’, 1989
- Harris, & Reichle, 2004
- Jonsson, Kristofferson, Ferm & Thunberg, 2011
- Romski, Sevcik, Robinson & Bakeman, 1994;
- Romski, Sevcik, Robinson, Mervis, & Bertrand, 1995
- Sennott, 2010

Research on Aided language learning environments is limited

- Many studies
  - Relatively short periods of aided language stimulation
  - Immersion in a few situations with activity specific vocabulary
- Little published information on more intense, long-term immersion in an aided language learning environment

Clinical Evidence

- Young adults who were exposed to aided language stimulation from a young age. (Gayle Porter)
- Clinical (video) evidence
- Reports from individuals, families and professionals

Creating an Aided-Language Learning Environment

- Using the child’s AAC system to talk as you interact with the individual learning to use AAC
These children come from and go back into spoken environment to practice and learn pragmatics in the real world.

If we apply the same service delivery model of therapy for children who have complex communication needs...

They come from and go back into spoken language environment with limited opportunity to learn pragmatics of using AAC in the real world.

Critical for Learning Language Pragmatics!

What we really need to start with is creating the aided language environment and then maybe not all the children with CCN will need language therapy.

What is an Aided-Language Learning Environment?

• Modeling general receptive language
• Variety of genuine messages and functions
• Range of environments and partners
• Talk to the child and others around the child
• At any time
• Genuine interaction
• Immersion

Life is the Context and the Reason for Learning to Communicate

• Language develops as children try to understand others and be understood
• Reasons to learn to communicate already exist in daily life
• Using natural contexts, you do not need to create reasons to communicate. They already exist in the child’s life.
• “Communication is the engine that drives language” (Martine Smith)
Talking to the child using his/her language:

* Validates the child's means of communication

* Gives the partner a good perspective on communicating using AAC

Drill and practice is not very effective for learning language

* Language concepts need an emotional and meaningful connection to be stored in memory

* Learning language in functional situations facilitates generalization

* Anything that has some intrinsic motivation for the child is more likely to be practiced in different settings and used by the child.

Children will learn to use their system in the way partners model it

Sirlei, 6 years old, Angelman Syndrome, Del +

Building Fluency

* In order to model an aided-language, you need to develop fluency yourself

* With vocabulary systems organized around core plus fringe, it might be a good idea to pick certain core words to practice first

* With a vocabulary systems organized around pragmatic branches, it makes more sense to practice patterns of functions one at a time

Core plus fringe for more advanced language levels

Proloquo2go

PODD 60

Core for more advanced language levels
Building Fluency

- PODD books and PODD page sets are designed to scaffold the development of language - beginning at the earliest levels
- Different books for different language levels
- Let the book guide you as to what to model

Pragmatic Branch starters for beginning language users - to scaffold language learning

Build your fluency by learning patterns for various communicative functions

Giving an Opinion

"This is fun!"

I like this - go to page 4a

"This is fun!"

fun - go to back to page 1
Learning to Complain: What is the pattern?

We often ask children what’s wrong? But that doesn’t help child learn to complain

- Instead of asking: Are you tired?
- Model how they could say it - “Linguistic Map”
- Put word on to what you see
- “Oh you look very tired”
- Can add the word “maybe” - Maybe something’s wrong, maybe you are tired

Baby steps for Developing Habits and Fluency

- Step one - book within arms reach
- Say a little bit all day long from the first page (but carry whole book)
- Learn one branch/pattern to use across the day
- Then add another branch/pattern
- etc.
Practice builds fluency

Gabriella, age 7, Angelman Syndrome

Strategies for Modeling Anytime, Anywhere

- How will you carry the AAC?
- Can you use it one hand?
- Use of straps and stands
- A front cover? clear cover?
- Modeling with kids who are fast movers!

How to Spend your Modeling Currency

- Immersion is our goal, but reality is that AAC takes more time than speech
- Look at what types of language input research shows impacts typically developing kids' language development and use that as a guide for what to model most
- Model what matters to the kid
- Model kid talk
- It's not about work

Child's question:

- "Is this something I want, see myself (capable of) doing?"
- Needs to spark their interest
- Interesting possibilities!
- Looks like fun!
- Might help!
- I can do that!
- What a good idea!
- Etc.

All modeling is not equal!

Talk about what child is interested in and attending to

Finn, age 6, Angelman Syndrome, Del. +

Attention Issues in children with Angelman Syndrome

- Fleeting glances instead of sustained visual interest
- Difficulty filtering out irrelevant input
- Dyspraxia and Apraxia impact child's ability to attend on demand
- Difficulty controlling impulses
- Need to move
- Need to touch and explore their world
Sensory processing challenges in children with Angelman Syndrome

- Motor planning challenges
- Fine motor control (range)
- Some have auditory processing challenges and need visual supports to augment understanding of speech
- Difficulty looking and listening at the same time
- Difficulty looking and touching at the same time
- Sensory seeking / need to touch

Other possible challenges in children with Angelman Syndrome

- Anxiety (Need to trust communication partners and understand what is happening)
- Affect regulation (need to learn words to express mood)
- Need for repetition for memory and retrieval (Video modeling with pragmatic context)
- Dual diagnosis / autism

Visual Considerations for some children with Angelman Syndrome

- Some have a range of Cortical Visual Impairment (CVI)
  - More difficulty in handling the visual complexity of the display
  - Space between symbols reduces complexity
  - Visual latency
  - Higher contrast symbols with solid shapes may be easier to see with a quick glance
  - Possibly getting some information peripherally

Dynamic Assessment: What Supports Visual Attention?

- Sadie, age 4, Angelman Syndrome del+

High Contrast Symbols work for some children

Strategies to Encourage Attention

- Encourage attention, but don’t demand it
- Bring AAC closer - in the child’s view
- Flashlight - highlight what you model
- Pull-off symbols
- Keep modeling - even if child does not appear to be attending
Keep modeling - even if child does not appear to be attending

Kate, 6 years, Angelman Syndrome Deletion +

Kelly MacSporran Meissner

Our dear friend Milo (also using PODD) went through quite a phase of saying IT’S NOT FAIR. It’s not something we (the parents) really modeled for Lily Grace, but apparently there was some peer modeling happening unbeknownst to us! After being on a play date with Milo, later that weekend, in response to not being allowed to do something she wanted, Lily Grace said MORE TO SAY/SOMETHING’S WRONG/(TURN THE PAGE)/ IT’S NOT FAIR. I don’t think any of us were aware that Lily Grace was paying such close attention to what Milo had been saying with PODD, but clearly she was!

Lily Grace, age 6
Angelman Syndrome Del +

Cori Stell

Sirlei's communication circle we were writing a book called I Can. We talked about all the movement things we can do with our bodies then students would use their talkers to write the sentence and finish it with a movement word, for example “I can jump.” They would stand up say their sentence with the talker and then I would take a picture of them doing the movement.... This is the first time Sirlei has independently constructed her own sentence for one of our books we make in class! She was bouncing back and forth between me, her desk, her chair, and her aide the whole time so we were curious if she was engaged or not but she came up to the front by me pushed her talker and said “Me throw ball”.

Sirlei, 6 years old
Angelman Syndrome Del +

Jodi Boyce Melendez

“By my daughter Erin, 16 years old, often does not appear to be looking when we are modeling AAC to her… Most of the time she appears uninterested and then goes on to use the very words we modeled. She does this most often hours later. In the beginning of attempting to target a specific folder it might take months of modeling without her looking before we see any results. An example: We modeled the category “FEELINGS” for a month and a half both at home and school fairly regularly but in context only (no drill and kill). She didn’t touch it until she was at home alone with her aide (she adores) and was having a great time and then told her aide this - She navigated to the PEOPLE folder then hit the MS. D. icon. Then navigated the “FEELINGS” folder and then hit LUCKY ME LUCKY ME. Then Ms. D. began to cry and they hugged. Very appropriate and very much a feeling in the moment.”

Erin, 16, AS

Jeannie Parks Kelly

“Since Finn loved stickers I thought this would be motivating to model for him. Finn had noticed me getting stickers out of the cabinet, so despite me trying to hide them behind my back, that was all that he was focused on. I wanted him to pay attention to me modeling “i want stickers” in the PODD book. I tried to model and re-direct his attention to the PODD, but all he paid attention to was the stickers in my other hand. After I modeled the sentence I gave him some stickers and he ran down the hallway with glee. I would have sworn to you that Finn never looked, or even glanced, at the PODD book the whole time I modeled. It was the first time I had ever shown him “stickers” in the PODD. Shortly later, he returned from the hallway, no more stickers in hand, ran straight to the table with the still open PODD book, pointed straight to stickers and then looked at me in anticipation. I was floored. It was a great learning lesson that Finn clearly can divide his attention and even tiny glimpses/ peripheral vision was enough of a model for him!”

Finn, 8 yrs., Angelman Syndrome, Del +

Tina Zanikke Thompson

This was last winter break from school. We had a frigid cold winter break and barely left the house. 10 days into the break, she approached me in the living room and shoved her iPad at my head with this question/comment. “school / work / in the future / do / that” It took me a minute to realize that she was ready for school to start back up. Her school team had been modeling her “clues” folder but we hadn’t and we didn’t initially know how she had constructed the message. I think she was asking when was school going to start, or telling us that it better start soon!

Maggie, age 12, AS deletion +, low vision & autism

Erin Sheldon
Who is modeling?

Some children may attend more to siblings and peers

Eva age 3,
Angelman Syndrome, Deletion +

Modeling on the run

Use Strategic Feedback Instead of Prompting – Say what the child did or is doing

Focus on Commenting and Making Statements (Reduce Questions)

Describe What is Going on Around the Child

Recognize Opportunities to Model Language

Respond to Babbling

“I think HURRY UP was one of the first words Lily Grace learned clearly via babbling and then having us respond and map meaning to it. I still remember being in the kitchen with her. She was watching a video while I prepared a meal. She was tapping around on her 12 POOD book and tapped HURRY UP. I responded, “Oh, you want me to HURRY UP? Well I better go faster!” And then I dramatically rushed around the kitchen. Lily Grace’s face lit up and she tapped HURRY UP again, thrilled with the result.”

Lily Grace, age 4
Angelman Syndrome Del +

Cori Stell

Putting it together in the mess of the real world

Kate, 5 years, Angelman Syndrome Deletion +

Alternate Access Methods

Model directly by pointing, but also model the child’s access method some of the time

Josh uses an eye-gaze device for high-tech communication & partner-assisted scanning for light tech communication

Joshua age 11, clinical diagnosis – Angelman Syndrome

Which way to autonomous communication?
Gayle Porter and Linda Burkhart
Modeling Communication Books

- Always follow the operational procedures that the child will need to use
- Self-talk your thinking process
- Speak out loud what you point to
- Recap the message as you go
- Speak the complete message at the end

Modeling High Tech

- Model on the child’s device, or use a separate device, or a book
- Model operational process - “Speak Message”, “Clear”, etc.
- Self-talk your thinking process

Modeling High Tech

Build sentences in message window (‘Speak on Entry’ turned off)

“So many great PODD stories but one of my favorite was shortly after we faded back the voice output and started using just the chat bar, Samantha made one of her first sentences. We were getting in the car and she said “let’s go visit Karen”. Karen is Samantha’s babysitter.”

Samantha, age 13
AS deletion+

Advantages of Smart Partner Operating System

- Human Partners can:
  - Observe and problem solve
  - Read variable body movements
  - Use contextual cues (I, me, my, mine)
  - Provide extra processing time before changing levels in a Dynamic Display
  - Support focus onto interaction

Vrinda ‘light tech’ and ‘high tech’

Vrinda, age 5, Angelman Syndrome Del +

Ana Brito
Transparency between PODD book and PODD page set on a device

“I translated a 40pp PODD book from English to Portuguese for Liora. One of the first things we modeled was "I want/something to eat or drink/ snacks/ chocolate", as she loves chocolate. We decided to purchase the PODD for Compass app and start to translate it as well. Before I started working on the translation I let Liora see it, as she was very interested. She instantly navigated the app in English to say "I want/ something to eat or drink/ snack/ chocolate".

Liora, age 6, AS ub3a mutation

High Tech and Paper Tech

• For more information on the similarities and differences, check out the Dynavox Webinar:

• Search Introduction to PODD for DynaVox Compass by Gayle Porter

http://www.dynavoxtech.com/training/online/recorded-web-classes/details?id=4269

Check: What are we saying?

• Range functions, messages, topics, vocabulary, language structures
• Range of partners and settings
• Conversation
• Operational competencies
• Expansion – recasting
• Strategic competencies
• Multi-modal communication

“One of the things that I learned from my PODD workshop is the importance of multimodal communication and that we must model that. My relationship with Kate really deepened after you taught me to attribute meaning to everything, even if I was wrong...her sounds, gestures, movements...anything she does, I interpret as an effort to communicate. To me, it doesn't matter what system kids use, this concept is universal. Kate makes more effort to communicate with us now because we did what you told us!”

Kate, 6 years, Angelman Syndrome Deletion +

Sibling modeling

Sirlei’s sister uses her AAC to talk about her drawing

The Power of Peers

“This is Leia and her friend Cara who has autism with selective mutism. This friendship is mutually beneficial. Cara only agreed to use a PODD as Leia had one, this has been a major milestone for her and has been hugely helpful for an otherwise very stressful transition to high school. It benefits Leia as she is a great modeler and it is very motivating to have her friend use the same system as her!”

Leia age 9, Angelman Syndrome UPD

Tracey Campbell

Which way to autonomous communication?
Gayle Porter and Linda Burkhart
“In library, the students sit on the carpet and listen to a story. Sophie sits in her chair. The teachers asked me if she could get out of her chair and sit down on the floor in a bean bag or cube chair. I said, “sure”. That afternoon she was “laughing” but her aide said it wasn’t happy, it was anxious. She then used her talker to say, “out of chair” several times. The students later told her case worker that she wants to sit on the floor. The case worker said they were working on it. So the students have decided some of them will sit on chairs near Sophie until then so she doesn’t feel alone.”

Becky Burdine

“Modeling by Peers

“The use of AAC by peers to provide augmented input was associated with stronger language growth; the use of prompting and question asking by teachers was associated with weaker language growth”

Barker, Akaba, Brady & Thiemann-Bourque (2013 p334)

(71 children with developmental disabilities over 2 years)

Expand and Recast what the Child Says

Focus on Relationship

Be Kind to Yourself!

• Takes time to learn new habits
• Baby steps for building your fluency - learn one pattern at a time (or early words)
• It is good to make mistakes “ooops” “go back”
• There will be ups and downs, good days and bad
• Be proud when you can make it happen
• Don’t beat yourself up, just get back on track and start again

Autonomous Communication Enables Meaningful Participation
Which way to autonomous communication?
Gayle Porter and Linda Burkhart

Charlie
age 7
Angelman Syndrome

"Drive, drive, drive!"
"Something's wrong, we're at the National Water Sports Centre!"

Talking about his cousin Eli Patrick's birthday party tomorrow!
Joshua age 11, clinical diagnosis
Angelman Syndrome

"Eli birthday birthday party birthday"
Josh is excited!

Yvonne Hamrick

"Leia built the tower and used 28 button presses to say I like lego I like lego I like lego man to space. It is the very first time she has ever shared her ideas. I was impressed with her creativeness!"
Leia age 9, Angelman Syndrome UPD
Tracey Campbell

Abby recently started going to preschool 2 mornings a week in September. It was the first time she'd been left with anyone other than a grandparent and she was not happy about it. She cried for the first couple of weeks and her teacher told me that she used her talker several times to say, "I don't like this - scary"... We had modeled the "I don't like this" branch frequently but it was the first time Abby used it.
Abby Age 2 yrs. 10 mos.
AS UPD
Nicole Santomero Gilchrist

"We were sitting at the Chiro office waiting to be seen and Kayleigh didn't want to be there. She kept saying, "let's go, home". I explained to her we would go home when we were done. She then said the following, "Let's go visit next your Valerie" Valerie was one of our Respite workers who has a great bond with Kayleigh but unfortunately we don't get to see much anymore. This is the first time she has ever used "next" and I don't recall ever modeling this to her either."
Kayleigh, age 8, Angelman Syndrome deletion +
Suzanne Solbrig Andrews

Last Monday, in district was closed, so she went full day to the out of district school. When she got home, she used the talker to say, "Let's go School." I told her there wasn't school in the afternoon. She then said, "Not fair. Not fair. Not fair. Boring. Boring. Boring." She whined for a bit then said, "I want someone. Mom. Mom. Mom." So we cuddled and watched a movie together.
Sophie, age 10, Angelman Syndrome Deletion +
Becky Burdine
As Mom was taking some extra time putting on Aaron’s usual favorite TV show, she modeled “wait a minute”. He used his high tech PODD to say, “What’s happening?” She said “I’m getting your show... Is this the right one?” Aaron said “wait a minute, change”! Mom tried another, and he said “change” again.

Anna Soloveychik

Lily Grace: HURRY UP, HURRY UP
Me: Papa’s making dinner. We need to wait, honey.
Lily Grace: BORING
Me: How about I put a video on your iPad?
Lily Grace: THANK YOU
Me: (opening Netflix)
   How about Mickey Mouse Club House?
Lily Grace: GOOD

Lily Grace, 6, AS Del +

“Lucy communicating the following...... Dianne (Lucy’s aide) told Lucy’s teacher that she is leaving for lunch to run a few errands. Lucy immediately looked at Dianne and started to cry (Dianne is Lucy’s favorite school person). She then went to her PODD on her own and said “Let’s go” in the car” home* in the car* in the car”! She was very upset that Dianne was leaving.”

Lucy, age 8
Angelman Syndrome
Deletion +

Courtney Sullivan Castelli

Joshua kept throwing down his bottle and looking at me in the kitchen. I asked if he had something to say. He said yes and scanned this message. “More to say, something’s wrong, I don’t want to do it, yucky!” I said “Oh your bottle is yucky?” He said “yes” and I added blueberry juice to it, and he drank it all up. Powerful communication!”

Joshua age 11, clinical diagnosis
Angelman Syndrome

Yvonne Hamrick

Things we have found out about Gabriella since she had the PODD book
1) She loves us
2) She changes her mind on her favourite colour all the time
3) She prefers pasta to spaghetti
4) She loves to talk about animals and she loves slugs and trains more than we realised
5) She is able to speak to us in sentences for the first time ever
6) She has a greater understanding than we realised
7) She favourite park is the Pirates Park
8) She is often more peaceful at being able to express herself

Yvonne Hamrick
Impact it has had on our Family
"We feel like we can be better parents to Gabriella and support her so much more in every setting. We can talk about almost anything at any time and she is able to comment on anything she sees or wants to talk about. She is often calmer when we are out and way more confident in mainstream settings with children and adults. Her baby sitters are far more confident when then realise that she can talk to them through her book."

Gabriella, age 7
Angelman Syndrome

“When will they start using it?”
From 15 minutes to 4 years!
- Cannot expect a child to use something they have not had opportunity to learn
- Quantity and quality of receptive input
- Pre-existing understanding of language (speech)
  - Lots of receptive input required if need to create a meaning system in the AAC form
  - Auditory processing
  - Note understanding different from understanding spoken language
- Movement for communication
  - Sensory processing required for motor planning

The shiny ball syndrome
http://workwithjoanneb.com/curing-shiny-ball-syndrome/

SUCCESS IS AN ICEBERG
People see this.
What really happens:
http://workwithjoanneb.com/curing-shiny-ball-syndrome/

See NOW
What it took to get there

See NOW
What it took to get there

Along the way she needed trained partners to read and scaffold communication using AAC.

What it took to get there

Ongoing receptive input

Expanded pragmatic use and language

This purposeful operation of speech output devices

Range of communication partners

Habits

Literacy, educational inclusion

Sound foundations can lead to better long-term outcomes

So when you see a child communicating well,
don’t just ask what AAC system they are using.
Ask what did it take to get there? (the intervention)
Output ≠ Outcome

Need to apply the “Does it make a difference?” principle to AAC interventions.

Problem-solve to address individual's unmet communication needs

Interventions that build autonomy, accessibility, motivation, attitude, confidence, resilience and value of AAC as MY VOICE
References:


Light, J. (1997)


This chart is included here in response to a request from the audience. It is not meant to be a comprehensive reference. There are many resources available that would cover the developmental stages in more detail. Gayle Porter put together this range of sources that typcial pragmatic and language development.

**NOTE**: This is a simple summary sheet of
<table>
<thead>
<tr>
<th>Stage</th>
<th>Approximate Age of stage</th>
<th>Communicative Intentions</th>
<th>Interaction and Conversation</th>
<th>Language (semantics / syntax)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>0 - 6 months</td>
<td>Unintentionally communicates using signals such as eye-gaze, smiles, vocalisations (including cooing, babble later in stage) and actions on the environment</td>
<td>Interactions initiated by turn taking and temporally linked behaviours, which expand to include gestures and words</td>
<td>Pre-expressive language stage of development; working out precise meanings for words &amp; their actions; each word expresses a range of intentions.</td>
</tr>
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<td>Interaction: Initiated by 1 or 2 items; responds to questions with gesture and vocalisation; asks questions about familiar words; begins to understand gesture, pointing; first to near objects, then distant objects; responds appropriately to simple directions</td>
<td>Interactions limited to 1 or 2 turns each.</td>
<td>MLU = 0 - 1; first words, predominantly single words (referential nouns; function words)</td>
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<td>Semantic roles: (up to approx 20 mths) Announce: Agent, Goal, Action, Vocative, Object, Existence, Recurrence, Rejection, Cessation, Disappearance, Non-existence, Location</td>
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<td>Stage 2</td>
<td>6 - 18 months</td>
<td>Gesture combined with vocalisation to express a range of intentions: attention seeking; request objects, action; request information; reject, protest; greet; name; responds/acknowledges; requests/acknowledges; requests/acknowledges; requests/acknowledges; requests/acknowledges; requests/acknowledges; requests/acknowledges</td>
<td>Interactions initiated using informal modes eg: giving, pointing, showing and vocalisation; child may terminate interaction by moving away, responding appropriately to simple directions.</td>
<td>MLU = 2+; increasing range of vocabulary; semantic roles: (approx 18-20 mths) Announce: Agent, Goal, Action, Vocative, Object, Existence, Recurrence, Rejection, Cessation, Disappearance, Non-existence, Location</td>
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**Notes:**
- MLU: Mean Length of Utterance
- Stage 1: Pre-expressive language stage of development; working out precise meanings for words & their actions; each word expresses a range of intentions. 
- Stage 2: Interactive language stage; interactions initiated by turn taking and temporally linked behaviours, which expand to include gestures and words. 
- Semantic roles: (up to approx 20 mths) Announce: Agent, Goal, Action, Vocative, Object, Existence, Recurrence, Rejection, Cessation, Disappearance, Non-existence, Location. 
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### Approximate Age of stage

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<th>Stage</th>
<th>Approximate Age (months - years)</th>
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<tbody>
<tr>
<td>3</td>
<td>Early</td>
</tr>
<tr>
<td>3</td>
<td>Later</td>
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</tbody>
</table>

#### Language (semantics/syntax)

### Interaction and conversation

#### Response to communicative intentions

- Begins to use speech in response to interaction and conversation.
- Begins to recognize and respond to a range of communicative intentions.
- Range of communicative intentions increases, to include the use of speech to express feelings, assert independence, request absent object/activity, and request information.
- Range of communicative intentions increases, to include the use of speech to express functions more specifically.

#### Communicative intentions

- Expressing functions more specifically.
- Expresses functions more to express communicative intentions.
- Requests for clarification with repetition or revision of previous utterance.
- Responds to speech with speech.
- MLU = 2.50 - 3.00

#### Early in stage 3 (approximately 30 months - 3 years)

- MLU = 2.50 - 3.00
- Noun phrase elaboration:
  - Demonstratives: this, that, those, that
  - Articles: a, the (not always appropriate)
  - Modifiers: Quantifiers eg: some, a lot, two
  - Possessives: his, her, mine
- Verb phrase elaboration:
  - Main verb always included. Past overgeneralization begins.
  - Auxiliaries: can, will, be/may marked incorrectly for tense.
- Negation:
  - no, not, can't, don't, won't
  - 'n't analysed as 1 element
- Yes/No?:
  - marked by intonation, auxiliary begins to appear but is not inverted
- Wh?:
  - frequent: what, what doing, where
  - less frequent: why, who, how
- Morphemes:
  - regular plural -s; maybe also (later) possessive 's
  - regular past -ed; maybe also (later)

### SEMANTICS / SYNTAX (AN OVERVIEW!)

- A range of communicative intentions increase, to include the use of speech to express feelings, assert independence, request absent object/activity, and request information.
- Range of communicative intentions increases, to include the use of speech to express functions more specifically.
- Begins to use language imaginatively.
- NB: using language more to express functions more specifically.

- MLU = 1-2.5 (two words utterances)

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**DEVELOPMENT OF PRAGMATICS / SEMANTICS / SYNTAX (AN OVERVIEW!)

G. Porter (1997)

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<td>3 - 4 years</td>
<td>Responds to things “overheard” (e.g., in stories)</td>
<td>Participates in pretend conversations between social and self talk</td>
<td>More able to communicate with strangers</td>
<td>Vocal expression develops in diversity of words; “guess what”</td>
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<td>General expansion in diversity of M.L.U. = 3.0 - 4.50</td>
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### Stage 5: 4 Year Plus

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<th>Language (semantics/syntax)</th>
<th>Interaction and Conversation</th>
<th>Response to Communication</th>
<th>Communicative Intentions</th>
<th>Age of Stage</th>
<th>Approximate MLU</th>
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<tbody>
<tr>
<td>% of complex sentences 20% plus</td>
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**Approximate Age of Stage:**

- **Communicative Intentions:**
  - more efficient initiating, terminating and controlling timing of turns in conversation
  - uses contingent query to request clarification
  - learning to time entry into other people's conversations
  - may incorrectly assume that listener shares own background knowledge of the topic
  - gradually learns to adapt style to a variety of communication partners and situations
  - shows awareness of social conventions for language use

- **Interaction and Conversation:**
  - understanding of indirect requests develops
  - begins to understand jokes, riddles, and eventually sarcasm
  - learning to time entry into other people's conversations
  - more efficient initiating, terminating and controlling timing of turns in conversation
  - begins to understand indirect requests
  - develops understanding of indirect requests
  - using language to negotiate and bargain
  -META linguistic use of language emerges
  - learning to time entry into other people's conversations
  - may incorrectly assume that listener shares own background knowledge of the topic
  - gradually learns to adapt style to a variety of communication partners and situations
  - shows awareness of social conventions for language use

- **Language (semantics/syntax):**
  - more efficient initiating, terminating and controlling timing of turns in conversation
  - begins to understand indirect requests
  - develops understanding of indirect requests
  - using language to negotiate and bargain
  - META linguistic use of language emerges
  - learning to time entry into other people's conversations
  - may incorrectly assume that listener shares own background knowledge of the topic
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