

How to Use a Communication Signal Inventory to Assess and Plan Intervention for Early Communicators



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Webinar Oct. 2018: Edmonton Regional
Learning Consortium, Edmonton AB
Canada

Disclosure Statement

- I do not have any conflict of interest and will not be discussing any off-label product use
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I. Overview & Principles

A. Who is a Basic Communicator?

- Children who are not yet intentional communicators (e.g. reaching & looking)
- Adults or children who rely on gestures and partner interpretations for most messages
- Children or adults who are symbolic sometimes but rely on cues & situations
- Children and adults who can speak some words on their own but need reminders
- Children or adults who are missing the point of more complex forms of communication

B. What is formal AAC?

- Formal AAC tends to refer to devices, object or picture symbols, signs and other aids, and is only one subset of AAC
- AAC incorporates a wide variety of multimodal communication strategies
- Anything that supports communication when traditional methods are insufficient is AAC.
- AAC can start at birth, with support of partner recognition and response to signals

C. Gesture and Behavior as part of Multimodal AAC

- Behaviors are the earliest forms of AAC, including spontaneous and intentional behaviors, posture & body shifts, voice, & partner responses
- There is a continuum of AAC from behaviors to symbolic behaviors. Behaviors & gestures support later AAC. Even symbolic AAC users will still use gestures for some purposes.
- Intervention with gestural strategies still counts as AAC even if the intervention doesn't include other aids, boards, or devices.

D. Progression of Early Communication

- Spontaneous Communication
- Object-Directed (includes device as object)_r
- Person-Directed (Intentional) Communication
 - Formal AAC produced toward person
 - Natural behavior toward person
- Symbolic Communication progresses too:
 - Referential
 - Differential
 - Representational
- ALL OF THESE are situation dependent and not a “stage” that a child achieves across contexts

E. How many new “hard things” can formal AAC add?

- External Device - turning to something that represents the child’s message
- Language - concepts into words
- Visual Representation - picture or other visual symbol of the same language
- Voice Output - sound conveys the same message, not just interesting in itself

F. Ways to add formal AAC in very early communication

- AAC can be an object worth looking for
 - Learn AAC is interesting as external device
- AAC can be input from us about language
 - Learn how language fits with communication
- Voice output can be way to practice words
 - Learn to play with language independently
- Symbols can be reminders of what to say
 - Learn picture symbols represent ideas

II. Building a Communication Signal Inventory (CSI)

- Even very basic communicators can have dozens of signals that partners can interpret
- For every early communicator, we need to complete a Communication Signal Inventory
- These signals do NOT have to be intentional, and may involve subtle behaviors & movements
- Note particular contexts that elicit these signals, particularly routines or partner behaviors
- We build our intervention out of planning how we respond to these signals in natural contexts
- If a child is sitting in the back of a classroom not interacting, maybe we're not offering any realistic context for the child to care about communicating (temptations)

Communication Signal Inventory -Child MG

Signal

What It Means

What Do You Do/Say?

<p>Watches intently to person acting on an object</p>	<ul style="list-style-type: none"> -Interested -Want something -Want picked up 	<ul style="list-style-type: none"> -Help her look between the object & person
<p>'Vocal yawn' first thing in the a.m.</p>	<ul style="list-style-type: none"> -Signals that she's awake 	<ul style="list-style-type: none"> -Touch her voice & help her get up
<p>Makes sucking sound, sticks out tongue on own</p>	<ul style="list-style-type: none"> -Wants drink - Knows that you're near 	<ul style="list-style-type: none"> -Pause the drink to give her a chance to do this again
<p>Makes an "ah", may spit object on her own</p>	<ul style="list-style-type: none"> -Hungry -May be game (spit & fetch) 	<ul style="list-style-type: none"> -Hold up food & pacifier, do what she looks at

A. Gathering Signals & Meanings

- The CSI is completed together with parents/teachers, usually while interacting, rather than by interview
- If the partner reacts to a child behavior, ask the partner “how did you know”, or ask about behaviors you observe
- Don’t stop with hand/arm, facial or vocal behaviors
- The signals should be specified by context or “when” – e.g. an elicited vs. spontaneous signal is very different
- Multiple functions are usually identified for the same forms, and forms for the same functions.
- Include messages the child may not deliberately convey, like boredom, confusion, interest, needing processing time

B. Sample Communication Signal Inventory

Signal

What It Means

What Do You Do/Say?

<ul style="list-style-type: none">- Bangs a noisy object on a table on her own- Looks up and raises eyebrows when someone comes in- Throws objects on the floor after using for a while- Reaches for a full or empty cup on her own		
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Communication Signal Inventory

Signal	What It Means	What Do You Do/Say?
<ul style="list-style-type: none">- Bangs a noisy object on a table on her own- Looks up and raises eyebrows when someone comes in- Throws objects on the floor after using for a while- Reaches for a full or empty cup on her own	<ul style="list-style-type: none">- Likes the sound- Exploring- Not sure of use- Greeting- Wants attention- Curious- Done with them- Bored- Frustrated- Thirsty- Wonders if full- Wants more	

III. Ways of Responding to Communication Signals

- There are 3 basic strategies of responding to signals - to maintain, increase, or decrease present aspects of the interaction
- If you do want to build the child's ability to do a new behavior, your response has to show them doing the new behavior (not just your actions)
- Remember that we only want to emphasize one hard thing at a time, and sometimes that hard thing is processing the existing signal or situation, not expanding the skill

A. Reinforce or strengthen an

individual's use of an existing skill

- Our typical reaction is to want to expand the complexity of an individual's signals.
- We may want to reinforce the effect or nature of the signals, particularly if:
 - The signal is not well-established in the repertoire
 - The signal already challenges communicative complexity relative to other signals
 - We want to increase awareness of the signal before moving to other expansion strategies
 - We want to elicit the signal more often in routines
 - We want to emphasize a new concept
 - We are working with non-intentional communicators

Examples of A Responses:

Sample signal: “shifts shoulders forward and pauses” interpreted as “ready to get out of chair”

- Sample response: Touch shoulders lightly just before taking out & say “you told me OUT”

Sample Signal: “Reaches for another object and vocalizes to partner”, meaning “wants another object”

- Sample Response: Hold the object nearby but wait to offer it, to see if they will look, reach and/or vocalize

Sample signal: “Squeezes lips and eyebrows together, wrinkles nose”, interpreted as “frustrated” or “mad”

- Sample response: Say the message you think they are saying, e.g. “Your face says mad”, as you touch face and change activity

B. Help or prompt a new strategy or skill

- When we think of expanding, we tend to think of moving up a level of complexity
- Other ways of expanding a signal are to add breadth at the same level of communicative complexity
- Remember to expand in one dimension at a time in our responses
- If you find yourself writing mostly B's on your CSI, you may be working on too many hard things at once, or narrowing your goals

Examples of B Responses:

Sample signal: “Reaches toward object but doesn’t look at partner” (intentional behavior) – means “wants object”

- Sample response: Hold object near face so that individual looks at and reaches toward partner to get the object (intentional communication)

Sample signal: “points at object partner is holding”, meaning either “interested in object” or “wants object”

- Sample response: Spend time having fun with object and pointing to show things about the interesting object

- Sample signal: “Hits objects that make noise or other effect” interpreted as “likes the effect”, “wants effect to happen”
- Sample response: Provide device with a social message (e.g. Hey, hey!) to experience as “talking”
- Sample signal: “Vocalizes loudly at a partner”, interpreted as “greeting” or “getting attention”
- Sample response: Help use a wave or handshake as greeting (hand-over-hand as needed)
- Ambiguous signal (e.g. vocalize and look – functions could be “want” or “don’t want”)
- Response: Help them lean in then away from the object to see what they’ll do on their own

C. Building or elaborating a social routine

- Many kinds of social routines happen without explicit communication, just to have fun
- For some, this can contribute to the sense of “magic” of communication, not active role
- By making the individual’s role clear and creating communication turns, they can see an immediate purpose for conveying a message
- Because social routines are highly predictable, the individual can anticipate behaviors

Examples of C Responses:

Sample Signal: Giggles after someone swings their arm when walking, means “enjoy swing”, “anticipate”

- Sample Response: Pauses with your hand toward the individual without swinging and wait till the individual looks or makes a sound for a turn

Sample Signal: Rolls an object on the floor by themselves without partner interaction

- Sample Response: Take a turn rolling their object after every individual action and waits for them to take a turn, OR make a noise for every roll and watch for the individual to anticipate partner turn

D. Respond in a way that helps the individual to expand specific cognitive skills

- Sometimes we are interested in providing input to individual during an activity to build new vocabulary or concepts
- The “D” response goes beyond the simple A responses, because it expects that the individual will begin to pay attention to the content of our responses, not just their own behaviors
- We want to limit the new behaviors we expect them to produce, if we want new concepts learned

Examples of D Activities:

Sample Signal: Looks at noisy item, means “interested” or “notices item”

- Sample Response: Give them a word to label what they are looking at (e.g. “car”)

Sample Signal: Wrinkles forehead and frowns when an object bumps arm, means “don’t like” or “hurts a little”

- Sample Response: Help them put words to their feeling by saying “ow” or “oops”

Sample Signal: Bangs all objects on the table, means “likes to bang”, “doesn’t know what to do with it”

- Sample Response: Touch their hand and help them roll or put the object into a box, react “whee” to the noise

E. Expand a behavior into new context or activities.

- Many individuals do their best communication with familiar people and things
- Sometimes individuals need to experience that the same behavior can get results in new situations (e.g. more cookie, toy, tickle)
- If partners usually notice & respond to a behavior, we may need new people to try it
- This is particularly important for persons with restricted routines, including autism spectrum
- Sometimes our response can add a new element to the interaction such as a picture symbol

Examples of E Prompts

Sample signal: “Points to picture symbol when asked a question” interpreted as “answers question”, “provides information”

- Sample response: Help them bring picture symbols to an unfamiliar staff person and give opportunities to provide similar info

Sample signal: “wrinkles face, turns away when asked verbal question” means “doesn’t understand question”

- Sample response: Coach partners to point to relevant objects as well as give choices of answers

- Sample signal: “Pushes away task in noisy place, wrinkles face” interpreted as “frustrated”, “confused”
- Sample response: Help new people to touch the individual’s hand and move task to quieter location next time
- Sample signal: “Raises hand whenever other people start changing activities”, interpreted as asking “what’s next”
- Sample response: Partner provides activity or object cues of “what’s next” before transitions start happening

F. Substitute an acceptable behavior form for a challenging behavior

- Sometimes people will convey a message in an effective way that isn't appropriate or accepted
- We can avoid many challenging behaviors by recognizing "warning signals" and helping the person communicate or change the situation
- Any new substitute behavior has to already be in the individual's repertoire, since they're usually already upset and not ready to learn a new skill

Sample F Responses

Sample signal: “Low /ggg/ sound while looking at partner or task” interpreted as “about to get upset with partner or task”

- Sample response: Say “I heard your voice” and add “I think you want...alldone” as you help the individual push the item or person away

Note that a replacement signal needs to not only be in the repertoire but needs to be able to get reactions as promptly and effectively as the challenging behavior

G. Decrease input and help child respond to internal or external stimuli

- Some signals indicate that the current levels of stimulation are not acceptable
- We need to recognize signals of internal state and medical conditions
- When an individual is already agitated or in pain, that's not usually a time to work on new communication skills

Examples of G Responses

Sample signal: “Stares into space after asked a question” means “thinking about what you said”

- Sample response: Pause and watch until the individual looks at a partner, or makes a sound (specific signal)

Sample signal: “Hunches shoulders up” interpreted as “over-stimulated” or “need some down time”

- Sample response: Slow the activity, back off, watch for a look to the partner or reach to the activity for interest

Sample signal: “Turns head to right, sticks arm out stiffly” interpreted as “about to have a seizure”

- Sample response: Help individual lie down, keep comfortable until see recognized signals seizure is over

Communication Signal Inventory

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