SPOTLIGHT ON THE BEGINNING COMMUNICATOR – PART 1

Assessment Tools/Practices for Moving Forward with AAC
Susan Mapes, M.A., CCC-SLP

Learner Objectives:
• Name at least 3 methods/tools for assessing low-incidence student’s current communication
• Explain the importance of dynamic assessment when developing an AAC system for a student with complex communication needs
• Describe 3 possible components of a communication system for a student with multiple disabilities

Beginning Communicator = „….refers to individuals across the age range who have one or more of the following characteristics:
• Rely primarily on non-symbolic modes of communication such as gestures, vocalizations, eye gaze, and body language (either intentional or nonintentional)
• Learning to use aided or unaided symbols to represent basic messages….
• Use non-electronic communication displays or simple technologies (switches, devices with limited message capabilities) for participation and communication.*

Goal of Assessment:
Identify student’s current level of performance and best tools/strategies to ensure development of most effective efficient communication for the present with an eye toward the future.


Relevant Financial Disclosure
• I am receiving an honorarium and travel support for this presentation.
• I am a paid employee of Chesterfield County Public Schools.
### Why?

- Gather information
- Takes a team
- Happens over time
- Trial & error
- Ever-evolving

### HOW?

- Gather information
- Takes a team
- Happens over time
- Trial & error
- Ever-evolving

### Assumptions:

- No prerequisites for teaching communication
- Presume competency – least dangerous assumption
- Work in “Zone of Proximal Development”
  - Vygotsky (1978)
- Use Dynamic assessment>feature matching>stimulability testing> evidence-based trials >adapt/reassess ongoing
  - Visvader (2013)

### Quote from Linda Burkhart

“There is a catch-22 when it comes to teaching communication skills for children who do not have a current means of communication. It is frequently impossible to know how a child will progress with language, until they have a way to communicate.”

### Where do I begin?

Gather information….

- What?
- Who?
- How?

### Assessment Tools

- Observation
- Parent/Teacher Interview
- Functional Communication Profile
- Communication Matrix
- Augmentative & Alternative Communication Profile
- Functional Behavioral Analysis
- Response to Engagement Activities
- Response to Technology- Diagnostic Therapy
**Begin with the whole picture**

- Language/Cognition
- Vision/Hearing
- Health concerns
- Seating/Positioning
- Access

**It takes a team... know what you don’t know**

- Physical/motor challenges:
- Gross Motor - Mobility (P.T.)
- Fine Motor – Access/Sensory Needs (O.T.)
- Vision/Hearing (V.I./H.I)
- Interfering factors - medical/behavioral (M.D.)
- Preferences (Parents/Teacher)
- Language/Cognitive Skills
- Current Communication Skills (SLP/Private Therapists)

**Observations: What’s wrong with this picture?**

- Seating/positioning

**What do you see?**

- **Questions/Negatives**
  - Hips not back in chair
  - Does chair fit?
  - How much recline needed?
  - Head support?
  - Arm supports?

**General Positioning Considerations**

- Stability of trunk/head to provide base for movement
  - Head supports
  - Consider how recline of chair impacts ability to visually attend to switch/activity
  - Secure at pelvis/feet- impacts ability to maintain trunk position
  - Use wheelchair tray to provide additional support for arms/hands
It can make all the difference

Begin with the whole picture

Fine Motor (Access)
- Ability to direct select:
  - Hand, eyes (dwell/blink)
  - With tool (stylus, infrared, head pointer)
  - Switch use/placement
  - Type of scanning – low tech (partner-assisted)
- Electronic-step scan, auditory, etc.

Switch site placement
Susan Price, OTR, CCPS
Through observation of the student you want to identify the body part and movement that show the most consistent VOLITIONAL control.

The student needs to:
- initiate contact with a switch
- maintain contact
- release contact.

What Not to do:
- Use movements that elicit or use abnormal reflexes (at times there are no other options)
- Use movements that increase muscle tone
- Use movements that are excessively fatigueing – the movement must be performed repeatedly

Location hierarchy
Susan Price, OTR, CCPS
- Hand - using whole hand or fingers
  - Arm - forearm or whole arm
  - Head - forward/backward movement, side to side movement or rotation
  - Mouth - sip and puff; tongue switches
Location Hierarch continued
• Foot-whole foot or toe movement

• Leg- using knee as contact point or raising leg to hit switch under a lap tray.

• This sequence does not include consideration of head pointing or eye gaze using high tech devices, which are becoming more commonly used. These require consistent head positioning.

Considerations for the type of switch and mounting:
• Sensitivity- pressure required
• Feedback from switch-auditory and tactile
• Amount of travel for activation (e.g. lever switch)
• Durability
• Stability-using mounting device, velcro, tape, etc.

Often angled or vertical placement of a switch is easier to activate and release than one in a flat position.

Hierarch of Switch Skills
1. No interest.
2. Movement= activation/ ? Intentional
3. Intentional switch activation with generalized volitional movement = understanding of cause-and-effect.
4. Intentional deactivation or avoidance of switch activation.
5. Intentional switch activation with a specific volitional movement.
6. Intentional switch activation within a specific time.
7. The ability to delay switch activation while attending to the computer screen.
8. The ability to use scanning software to make choices, but it is unclear if the choice is intentional.

Hierarchy of switch skills continued…
The ability to:
• 9. choose a specific favorite item from a menu of:
  • 2-3 choices
  • 3-5 choices
  • 6-9 choices
  • 9-18 choices
• 10. use scanning software to demonstrate knowledge of concepts.
• 11. use scanning software to indicate responses to inquiries.
• 12. use point-and-click software.
• 13. use a mouse to point and click.
• 14. use a mouse to demonstrate knowledge of concepts.
• 15. use a mouse to indicate responses to inquiries.
Why is this important?

Informs how to present communication tool(s)/ access to activities:
Range of reach
Need for key guard
Alternate access (head pointer, stylus, page-turners, switch interface, etc.)
Need for partner-assisted scanning
Size of board/symbols, need for spacing, color-coding
Placement on flat surface, incline, vertical

Begin with the whole picture

Medical/Health Concerns

• Medical conditions that impact performance:
  Feeding issues
  Chronic ear infections
  Seizures
  Sleep issues
  Frequent surgery
• Issues related to diagnosis/syndrome
  Rett Syndrome: breathing problems, irritability, unusual eye movements, abnormal hand movements
  Angelman Syndrome: ataxia, frequent smiling/laughter, jerky body movements, hand flapping, attention deficits, hyperactivity, intellectual disability

Behavioral/sensory considerations

• Distractibility
• Tactile Defensive
• Self-stimulatory behaviors – need for sensory items? - related to medical condition?

Sensory-Hearing

• Known hearing loss – aided?
• Fluctuating hearing loss - Frequent colds/congestion – intermittent fluid
• Behavioral cues: turning to noise, responding to name, seeking input

Begin with the whole picture
### Sensory - Vision

- Clues to Visual Impairment –
  - Staring off into space
  - Flipping pages/materials close to eyes
  - May turn head to listen to a story
  - Response to objects vs. pictures
  - Difference when using high contrast background, colored symbol vs. black and white
  - Response to highlighting

### Consultation with Vision Specialist

- Require a vision report for services*
- Can explain cortical visual impairment — impact and implications
- Can provide information about skills such as tracking, focus, visual field
- Suggest appropriate presentation mode/materials

### Cortical Visual Impairment

*Christine Roman-Lantzy (Perkins School for the Blind)*

- Eye Exam does not explain how child sees
- Hx of neurological event
- Presence of 10 characteristics

### 10 Characteristics of CVI

1. Unusual attention to color
2. Attention to movement
3. Latency of response
4. Complexity (can’t make sense of patterns)/competing sensory information
5. Visual field differences
6. Visual novelty
7. Reflex Response
8. Distance viewing
9. Light-gazing
10. Absence of visually-directed reach

### Ramifications for evaluation/intervention

- Color Background-high contrast
- Attention to movement

### CVI (continued)

- Reduce complexity visually and sensory
  - Reduce background noise in classroom
  - Don’t speak until after child looks
Adapt books to reduce complexity

Joint attention, vision, literacy

Visual Novelty

Classroom considerations

Use of iPads

What about electronic eye gaze?

Adapt books to reduce complexity

Image from So Big

Adapted

Joint attention, vision, literacy

Visual Novelty

Stick with familiar objects/routines

It's all novelty!

Classroom considerations

Distance viewing?

Additional lighting

Use of iPads

• Offer backlighting
• Near-vision viewing
• Boardmaker Online

Suggested Templates:
Slide show (familiar objects/activities/people narration)
Question/Answer (2 choice) if can differentiate
Possible communication app: Go Talk Now

How are you using?

What about electronic eye gaze?

Poster session: “Eye Gaze Access to SGDs for Children with Severe Impairment” by Melissa Hoffman, MA, CCC-SLP, ATP, Mary Free Bed Rehabilitation Hospital, Grand Rapids, MI at ATIA 2017 Orlando, FL
Key Issues

- Stable positioning 18-24" from device for camera to read eye(s)
- Head control to activate device
- Good vision in at least one eye
- Rule out direct selection with hand or other access methods

Looking for...

- Cause/effect
- Joint attention
- Communicative intent
- Following directions
- Choice-making

Motivation is key

- Music videos
- Social exchange with peers
- Familiar voices (narrated story)

Sensory Guru – Sensory Eye-FXV1.2.0

- Sensory Eye-FX is a set of software applications designed to provide opportunities to learn, develop, and enhance eye gaze skills; provide facilitators with an assessment tool to help measure eye gaze suitability; help practitioners with cognitive assessment.
- Eye tracker does not discriminate between eyes that can see and eyes that cannot
- Evaluate incremental steps:
  - Do learners attend to content on screen
  - Do they look around the screen seemingly aware that something is happening?
  - Do they appear interested?
  - Are they engaged?
  - What applications are you using?
  - How much time do they spend looking?
  - Are they fixating, scanning, tracking, targeting, etc.
- "EYE GAZE IS NOT SUITABLE FOR ALL USERS, and careful observation is required at the early stages."

Levels of Engagement – Sensory Guru

- Blank screen engagement
- Object Displacement
- Zoned focusing
- Active exploration
- Controlled targeting
- Tobii-Dynavox (Gaze Viewer)
- ACCENT w/ NuEye

Low Tech Eye Gaze

- Provides information re:
  - Type of symbol
  - Field of vision – scanning, discrimination
  - Readable confirmation signal
  - Language
Begin with the whole picture

Key Team Members – Parents/Teacher/Instructional Assistants/SLPs

*Core Conceptual Language (by 12 mon)
- Cause/Effect
- Object Permanence
- Imitation
- Joint Attention
- Gestural/Nonverbal
- Reciprocity/turn-taking
- Communicative Intent

Questionnaires
- AAC Profile
- Functional Communication Profile
- VCU ACE Center Communication Checklist
- Communication Matrix

Susan K. Lewis, Techknowledge 03/12/19

Cause/effect
- Not taught…discovered
Set up environment….

Joint Attention
1. Focus on partner
2. Focus on object
3. Communication between partners about shared object

Image from Karen Notaci USAAC article

Current Communication Strategies
- Parent/Teacher Checklist & Standard Tools
- How does the student……
  - Accept/reject
  - Protest
  - Request more/help/succession
  - Make choices

Image from Karen Notaci USAAC article
Challenges: Recognizing Cues & Knowing meanings

Non-conventional or subtle cues:
- Differentiated vocalizations
- Affect/state of being changes
- Facial expressions
- Slight body movements
- Eye movements (up/down, blink)
- (Every Move Counts3 Sensory Assessment)

https://www.youtube.com/watch?v=OV35UNwiIZUU&index=8&list=PLF0FF133603F1E89F

Case examples: Recognized by school staff
- Low tech eye gaze to choice of 2 objects/pictures via series of 3 quick glances to selection (J)
- Low tech eye gaze to choice of 2 objects/pictures via sustained gaze + clapping (H)
- Tapping table prior to selecting switch for activation (JP)

Language/Cognition/Current Communication Skills
- Communication Matrix by Charity Rowland

Communication Matrix Questions

AAC Profile-Tracy Kovah
- Operational Learning
  Physically stable and able to access system
  *Partner facilitates positioning and set-up
- Strategic Learning
- Pre-Intentional
  - Behaviors associated with immediate environment and states of being
  - Behaviors purposeful but not planned
  - Behaviors do not depend on presence of communication partner
  - *Partner infers meaning from behavior
- Intentional
  - Joint attention/dual orientation
  - More conventional behaviors
  - Meaningful attention-seeking behaviors/acceptance/rejection signals
  - Multimodal communication

AAC Profile- Tracy Kovach
- Linguistic Learning
  Communication Awareness
  Responds to own name, familiar voices, “no”
  Using natural behaviors to express feelings about immediate environment
  Behaviors used to request, protest, greet, etc.
- Social Area of Learning
  Uses natural behaviors for social interaction; unique behaviors
  * Communication partners interpret natural behaviors, provide the social context
Adapted Assessment

- Engaging Materials
  - Familiar items
  - Sound/lights/smells/movement
- Employ familiar people to assist with evaluation
- Familiar and/or distraction-free environment
- Numerous short sessions
- Talk directly to student vs. about student

Receptive Language-adapted assessment

Response to technology

- Attention
- Shared Attention
- Cause/effect
- Direct selection abilities
- Receptive language
- Level of symbolic representation

Preferences = Motivation

Behavior as communication

Example: crying

- Reflexive – in response to pain/discomfort
- Sensory – Over/Under Stimulation
- Communicative Intent: Call for att'n
  - Reject
  - Ask for item/action

Symbols to present/model

- Actual Object/Partial Object
- Frequently seen/used
- Motivating
- 3 Dimensional
- Miniature Object/Tobii
- Photo/Picture
- 2 Dimensional
Engagement Activities

1. Select preferred vs. nonpreferred object/activity
2. Within activity… sabotage via
time-delay
missing item
wrong item

Begin with the whole picture

Putting it all together

Check your understanding

• Name one method/tool for assessing low-incidence student
• Why would a one hour AAC assessment for a low-incidence student be difficult, if not impossible?
• What are 3 typical communication modes for low-incidence students?

References

- Visit http://teachinglearnerswithmultipleneeds.blogspot.com/, Yes/No Series posted November, 14, 2018

Resources

• https://www.youtube.com/watch? (videos for practice – Developing a Communication Dictionary) Erin Shelden-Angelman’s Syndrome Foundation Communication Training series
• https://strategytosee.com/ (See Handout)
• https://ussaac.org/using-the-communication-matrix-creatively/
• www.project-core.com
• https://www.youtube.com/watch?v=OV35UNwlZUU&index=8&list=PLF0FF135603F1E89F (Every Move Counts)