Strategies to Support Interaction and Communication Development

for Students who are Deaf-Blind or Have Multiple Disabilities

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Outline

- Overview of Pre-symbolic Communication
- Strategies to Support Interaction and Communication Development
  - Interaction and rapport
  - Hand use and responsive strategies
  - Receptive and expressive modes
  - Tangible Symbols

Introducing a Tool for Educational Teams!

- Recognize student's expressive communication
- Respond with appropriate strategies
- Share with entire team

Today we will be focusing on these areas...
Pre-symbolic Communication and Students with Sensory Impairments

Basic Assumptions

- All of our students CAN and ARE communicating. Presume competence.
- We have to interpret the meaning or intent of many of our students’ behaviors.
- We provide the WHO, WHAT, WHEN, and WHERE of many of our students’ opportunities to communicate.
- Many of our students have processing delays.

Modes of Communication

- Individuals who are deaf-blind will utilize multiple modes of communication, either simultaneously or at different times for different purposes.

- The student may:
  - Shift modes throughout the course of a day based on lighting needs, fatigue, or ease of access,
  - Use multiple modes within the same setting, or
  - Use different modes with different communication partners.
Modes of Communication

**Pre-symbolic (concrete) modes**
- Behaviors, Communicative behaviors
- Touch cues, name cues and name signs
- CONCRETE: Object cues, some tangible symbols

**Symbolic (abstract) modes**
- Tangible symbols
- Line drawings (some)
- Sign Language
- Spoken Language – AAC, speech
- Literacy modes (Braille, printed language)

Functions of Communication

**Why Communicate?**
- Refuse / Reject
- Obtain
- Social interaction
- Seek or provide information

Stages of Communication Leading to Language

- Pre-intentional Communicative Behaviors
- Intentional Behaviors
- Unconventional Communication
- Conventional Communication
- Concrete Symbols
- Abstract Symbols
- Language
Pre-Intentional Behaviors

**Reflexive Actions**
Reflexive and reactive behaviors that are associated with internal states of being

- *Apparently* random behaviors

**What Do Pre-Intentional Communicative Behaviors Look Like?**
- Change in posture, stiffening of body, turning away, arching of back
- Limb movements, kicking of legs, moving arms
- Head movement, turning away, shaking
- Facial expressions, smiles, frowns
- Vocalizations, crying, grunting, cooing
- Changes in respiration, color, body temperature

**Pre-Intentional by Function**
- **REFUSE**: Express discomfort
- **OBTAIN**: Express comfort
- **SOCIAL**: Express interest in other people
  - Specific people?
Example – Preintentional

Intentionality

‘Deliberate pursuit of a goal, as well as the means to obtain that goal.’
~Bruce & Bashinski, 2011

Intentional Behaviors

Behaviors that are purposeful

- The child knows he/she is doing it
- It serves a function that may or may not be known to the child

- NOT directed at another person
Intentional behaviors / Purposeful Actions

- Moving toward or away from item, taking wanted item or throwing/dropping unwanted item
- Intentional facial expression not directed at a person (smile, frown)
- Self-injurious behaviors
- Sensory-seeking behaviors

What purpose do self-injurious and sensory-seeking behaviors serve?

How could a behavior be shaped into communication?

Intentional Communication (Unconventional)

- Have communicative intent, but are NOT easily recognizable as typical ways to communicate
  - Gestures, vocalizations
  - Action toward a person
  - Could “self-stim” be communicative?

Unconventional Communication Variations

- Directed at another person, interactive

What Do Intentional Communicative Behaviors Look Like?

- Pulling hand or clothing
- Vocalizing towards a person
- Directed facial expression (to a person or item)

- Approaching a desired object or person
- Head movement
- Arm or leg movement
- Vocalization in response
- Gaze at desired object or person
- Reach for desired object or person
Example – Intentional

Unconventional by Function

- REFUSE: Push away an object or person
  - OBTAIN: Reach toward or touch object or person
    - Make choices, request more of an action or object, request a new object or action
  - SOCIAL: Look at or touch a person, smile
    - Request attention, show affection

Conventional Communication

- Using gestures that are not formal symbols or words, but are generally understood by others
  - Directed at another person, interactive
Conventional Communication

- Pointing
- Shaking head yes/no
- Looking back/forth between person & wanted item
- Waving hi/bye

- Holding out hand flat with palms up to obtain
- Holding out hand vertically with palms out to refuse

These and other conventional gestures can be precursors to actual signs (want, don’t want, eat, drink, play, etc.)

Example – Conventional Communication

https://vimeo.com/26442780

Moving from Pre-Intentional to Intentional

- Adults interpret movements, sounds, and other behaviors as communicative and respond accordingly
- Over time, teach the student that their movements and sounds can be meaningful and used to meet a variety of needs
- Provide FEEDBACK
Moving from Intentional Behavior to Intentional Communication

- Involve yourself in the child’s activity/behavior
  - Get in the way!
- “Sabotage” the routine to create an opportunity for communication
- Shaping Behavior
- Model the communication expression/mode you want to teach

Moving from Unconventional to Conventional

- Continue to provide proximity and opportunities to communicate
- Model conventional gestures
- Hand-under-hand support and joint attention
- Model signs, h-u-h

The goals are to increase:

- Levels and functions
- Rate of communication
- Number of different routines in which communication is happening
- Number of communication partners
**Matrix Profile**

[Matrix Profile Diagram]

**Strategies to Support Interaction and Communication Development**

5 minute Simulation:

Half of the room... close your eyes!

Now, the other half of the room: Find a person whose eyes are closed. Introduce yourself, then show him or her an object or place in the room. DO NOT speak or use any conventional language (signs, etc.).
Reflection

Hand-over-hand or Hand-under-hand?
1) How did you feel being touched?
   - Type of touch? Not knowing who was touching you?
   - Not knowing what you were doing/what was expected of you?

2) For the “teachers”: How did you introduce yourself?
   - How did your “student” respond?
   - How did you guide your “student”?

Strategies

- Interaction
  - Rapport
  - Responsiveness
  - Shared Forms
  - Hand-under-hand
  - Provide Processing Time / Wait Time
- Specific strategies
  - Touch cues
  - Name cues
  - Tangible Symbols and Calendar Systems

Before Interacting: Rapport

- We need to develop rapport and a trusting relationship
- Interaction on the child’s terms
  - Consider implications of specific disability
  - Consider history of interactions
A Disability of Access and Experience

Delays in communication development & symbolism
- Use of unconventional gestures and behaviors to communicate
- Low levels of recognition and response
- "Severe mismatch" in communication
- Limited # of opportunities to communicate
- Low rates of expressive communication
- Stress, learned helplessness and other behaviors

(Bruce & Vargas, 2007; Bruce, 2002; Bruce, 2007)

Stress and History of Negative Interactions

- Negative interaction
  - Being pulled around
  - Hand-over-hand instruction, FOR not WITH
- More directive instead of interactive

- Reasons behind behaviors
  - Differentiating between tactile defensiveness and history of negative touch

Establishing Rapport and Building Relationships

Considerations:
- Availability and proximity
- Positioning
- Initiating contact
- Maintaining contact
- Observing the student closely
- Responding
Building Resonance

What is resonance?
• Pre-conscious level (reflexive reactions to stimuli, a reverberation of physical, vocal, and/or affective behaviors).
• The teacher follows (joins in) the learners behavior and begins to lay the foundation for turn-taking interactions.

GOAL: Rapport and trust!

Video Example – Dr. van Dijk
https://vimeo.com/26448748

• How does Dr. van Dijk establish resonance with the child?

• Does this reflect how we typically interact with our students with multiple disabilities at school?

Children with combined vision and hearing loss and/or multiple disabilities require responsive communication partners to facilitate their communication development and their access to interaction and instruction.
Characteristics of Communication Partners

Available
- Proximity (visual, tactile)
- Constant contact

Responsive...

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Responsiveness

The ability to...
- Recognize
- Interpret
- Respond Appropriately
...to a partner’s communication initiations and responses

(Bruce & Vargas, 2007; Miles and Riggs, 1999)

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Interaction

- We are responsible for facilitating interaction
  - The WHO, WHAT, WHEN, WHERE, and WHY
- Lack of meaningful communicative interaction can lead to emotional and behavioral problems in children who are db
Setting the Stage for Interaction

- Make yourself available: PROXIMITY
- Announce yourself
  - touch, name sign or cue
- Constant contact
  - a soft touch so they know you are still there
- Observe: Recognize communication attempts
- Consider your positioning
- WAIT for the child to initiate

Video Example – Emma
https://vimeo.com/32913711

- How does Emma support the child’s initiation of the interaction?

As teachers we typically instruct instead of interacting.

Giving directives and prompts

- What other ways are there to teach?
Hand-under-hand approach

- is non-controlling.
- allows the child to know that you share the experience of touching the same object or of making the same kind of movements.
- does not obstruct the most important parts of the child's own experience of any object he may be touching.

“Talking the Language of the Hands to the Hands” by Barbara Miles, M.Ed.
Prompt Hierarchy

**Least Intrusive**
- Wait for response
- Gesture, pointing (finger, flashlight, auditory cue to localize/tapping, hand-under-hand pointing)
- Verbal or tactile (signed) prompt, touch cue
  - Note levels of VP
- Visual modeling, hand-under-hand modeling
- Hand-under-hand instruction
- Hand-over-hand instruction / coactive shaping

**Most Intrusive**

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Shared Forms of Communication

How do the forms we use with students match their:

- Sensory Access and Preferred Learning Channels: Vision, Hearing, Tactile
- Receptive and Expressive Levels and Skills

We must use a variety of concrete and abstract forms of communication with children.

Video Example – Shared Forms, Multiple Modes and Routine
https://vimeo.com/26444795

- How does Hilary use share forms and multiple modes of communication with the child and encourage active participation in the routine?
**Touch Cues**

- A touch at a specific place on a student’s body that is done consistently to convey information about an upcoming event
- Provide information, express wants/needs, give a directive, give feedback
- Concrete referent for sign when paired
- NOT meaningless prodding, prompting, or tapping

**Examples of Touch Cues**

- **Sit** Assist to feel chair, gentle pressure on shoulder
- **Stand** Gentle upward pressure to elbow
- **Hello** Touch hand, shoulder or back.
- **Yes** Pat or rub on back with appropriate enthusiasm
- **Finished** Assist to gently push items away
- **Eat/Drink** Touch their fingers to their lips
- **Diapering** Tap or gently lift feet while child is lying down
- **Hand washing** Rub their hands together gently
- **Picking up from lying position** Tap or gently lift shoulders

**Name Cues**

- A concrete representation of an individual
- A feature of or something a person always wears or has with them
- Used to start and end interactions
- Helps students anticipate and set expectations
- Teaches self concept and concept of others
- Necklace, ring, beard, hair, etc...
- Different from a name sign
Students with CVI: Context & Challenges

- Significant mismatches between communication systems and visual access:
  - Communication that is visually inaccessible
  - Communication that is visually accessible, but inappropriate in terms of communication development (current expressive levels)

  - Phase I example: eye gaze system
  - Phase III example: complex 2D iPad system, child is presymbolic/prelinguistic

Use abstract modes of communication as models and for exposure, but make sure you scaffold abstract modes with concrete modes at your student’s current expressive levels.
Tangible Symbols

Does the student have *symbolism*?

- The understanding that a *symbol* refers to an event/activity, object, person

  SYMBOL → REFERENT

- **ICONICITY**

  ICON → INDEX → SYMBOL
  (CONCRETE → ABSTRACT)

**CONCRETE MODES OF COMMUNICATION:**

The bridge from early communication (behaviors) to first words and language
Symbolic Communication: Tangible Symbols

**Tangible symbols** are tactile, manipulative, representations of activities, objects, places, events, concepts, or people which can be used for expressive and receptive communication.

- Abstractions and miniatures (Trief, 2008)

Tangible Symbols

Can be:
- whole objects
- parts of objects
- associated objects
- textures or shapes
- line drawings
- Photographs

Consider:
- level of iconicity / abstraction

Photos and Line Drawings

- Which do you think would be more abstract?

Who should use photos / line drawings?

- Enough vision?
- Understanding of what the photo / drawing represents

Line drawings are very abstract!
Examples of Tangible Symbols


Tactile Tangible Symbols: Considerations

Select based on tactile properties, NOT visual

- **NO MINIATURES!**
- Universal vs. Individualized
- How will the symbol be used? (functions and levels of communication)
- Size, portability, duplicability

Considerations for Picture Symbols

- Focus on the CRITICAL COMPONENT
  - What specific part of the symbol gives it unique meaning?

How can you bring the student’s attention to the critical component?

(Bent & Buckley, 2013)
**Color Considerations**

- Contrast / bright colors
- **AVOID** Pastels: difficult for CVI, optic nerve atrophy, optic nerve hypoplasia
- Vary the position of colors, use colors to stand out

(Kreuzer & King, 2004; Kreuzer, 2007)

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**Tactile Adaptations to Symbols**

What is the child’s experience with what the symbol refers to (the referent)

Tactile quality - does it *feel* like what it represents?
- Concrete or Abstract (level of *iconicity*)
- How to tactiley represent something abstract?

Don’t overdo it!
- tactile clutter, spacing, point of reference

*Maximize use of residual vision*

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**Teacher-made & Adapted Symbols**

(Images of symbols made and adapted by A. Crayton and P. Leibenguth)
Adapted Individual Uses of STACS (APH)

2-cell Manual Choice Board
1 cell voice output device

Considerations for Using and Presenting Symbols

- Vision / Visual difficulties
  - Contrast, clutter/spacing, visual field, detail, glare, novelty
- Access
- Motor skills / additional adaptations
  - Wheelchairs, belts/aprons
- Preference and context in which to be used

Make it Accessible
Tangible Symbols

Tangible cue to identify room for speech lesson

Uses of Tangible Cues - Levels

1) Anticipation of an activity
   - To learn symbolism – connection between a symbol and referent
   - Reducing stress in transitions

2) Communication systems (more complex uses for children/youth who have symbolism)

Anticipation Level

2. Show symbol
3. Pair with language
4. Within 30 sec, go to activity / referent
5. Carry symbol to activity
6. Continue to re-introduce and refer to the symbol every 2 min during activity
7. Place in a finished box
8. Repeat!
Using Cues for Anticipation

https://vimeo.com/27255274

Tangible Symbols:
Developing Symbolism and Choices


Tangible Symbol / Beginning Calendar Routine

Moving from "Anticipation Cues" to "Calenders"
• # of symbols
• Consistency
• Language exposure
• Adaptations

https://vimeo.com/189017210
Systems that grow with the child

- From 3D to 2D
- From Pre-symbolic to Symbolic
- Developing complex language

Using tangible cues in a calendar system

https://vimeo.com/41709256

Calendar Conversations

- Make the instructor available as a partner for an adequate length of time
- Focused conversation
- Social opportunity
- Immediate feedback to efforts to communicate
- Individually designed to provide the structure
Calendar Conversation

Watch how TVI Chris Montgomery of TSBVI facilitates an engaging and fun, personalized calendar conversation routine.

Experience Books

- Make a story out of a real experience that the child has had
  - Any meaningful, interesting experience
- Use actual items/objects from the experience
  - Must be something the child has tactiley accessed during the experience
- Print/Braille
- Child participates in the whole process

Experience Books

https://www.youtube.com/watch?v=foN-glb27jY

OHOA, 2014 (NCDB)

Experience Books

https://www.pathstoliteracy.org/tactile-experience-books

Experience Books

https://www.wsdsonline.org/video-experience-books/
Experience Books

- “An opportunity to see the connection between words that describe the activities in which they engage and the stories they read – a key prerequisite for reading.” (Lewis, 2003)
- Experiencing independent pleasure reading
- Practice with motor skills associated with reading:
  - Turning pages, orienting books, exploring objects, hand movements used in Braille reading

Memory Boxes

- Collect items from meaningful experiences in a box that can be used to refer to the experience

  “A leaf, a stone, or a twig can bring back a memory of a walk in the park; a shell can help recall a trip to the beach; a straw, a cup, or a napkin can recall a meal in a restaurant, and so on.” (Miles, 2005)

- Use in an experience book, diary or home journal

Story Boxes

- Items in a box that correspond to a story
- Provide more tangible and tactile experience
- Focus attention and engage student actively in the story
- Teach representation
- Connect to peers

Brown & Armstrong, 2012

Miles, 2005
http://www.tsbvi.edu/seehear/spring03/books.htm
Questions?

Thank you for participating. For more information please contact us at the number or email below.

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