

Pre-linguistics the Building Blocks for Communication

Amanda Hopkins MS CCC-SLP, LSLIS Cert. AVT
Rachel Flynn MA, CCC-SLP



Introduction

- Work at Comprehensive Speech and Therapy Center in Jackson, Michigan
- No relevant financial disclosures
- Informed waiver of consent was obtained from all patients that served as case studies for today's seminar.



Learning Objectives

- Understand what pre-linguistic skills are and what specific skills fall into this category
- How pre-linguistic skills impact communication
- Assessment and intervention strategies
- Parent education and coaching strategies



Background

- Our experiences with pre-linguistics
- Origin of this presentation
- What about you?



What are Prelinguistic Skills?

"Intentional pre-verbal communication skills and the beginning use of single words" (Walt et al. 2006)

The definition we use in our evaluation is:

Prelinguistic communication skills form the foundation for talking and understanding language. They are a set of skills that children use to communicate without using words. Prelinguistic communication includes skills such as gestures, joint attention, turn-taking, and imitation.



Why are they important?

- Lay the foundation for language development
 - Treating the developmental needs vs. the chronological development stage will build a stronger foundation for later development
- Research shows correlations between pre-linguistic skills and language outcomes.
- Early Identification+Early Intervention= Better outcomes
- Understanding pre-linguistic skills will help you know when and what a child is communicating
- Helping parents understand all forms of communication will allow you to coach them for maximizing communication attempts



What does the Research Say?

- O'Neil et al (2019)
 - Two year old's use and understanding of gestures were correlated with expressive language skills at kindergarten entry
- Morin-Lessar et al (2021)
 - Measured the use of gestures (e.g., pointing, nodding yes, etc) and symbolic actions (e.g., make a toy plane "fly")
 - Found gestures at 12 months, but not symbolic actions, directly predicted communicative language at five years of age



What Does the Research Say?

- Watt et. al (2006)
 - Wanted to see the correlation between pre-linguistic skills and expressive and receptive language by their 3rd birthday
 - Both acts for joint attention and inventory of conventional gestures showed significant relations with receptive language outcomes
 - Acts for joint attention were predictive of later expressive language (after controlling for all other early pre-linguistic skills, with significant correlations with expressive outcomes)
- Smith et al (2007)
 - Prelinguistic skills such as verbal imitation, use of objects to pretend, and the number of gestures used to initiate joint attention were found to be associated with greater vocabulary growth over time.



Where to Begin: The Whole Child and Natural Interests

- Motor planning, fine motor skills, gross motor skills, and visual processing also impact a child's ability to engage with environment and communication partners
- Tapping into a child's natural interests and preferred sensory systems are a great place to start:
 - If a child enjoys watching wheels spin on a car, how can we tap into their desire for visual stimulation while turning it into an activity that lends itself to shared attention?
 - If a child loves cars, how can we take that motivating and meaningful activity and turn it into an opportunity to engage and communicate?



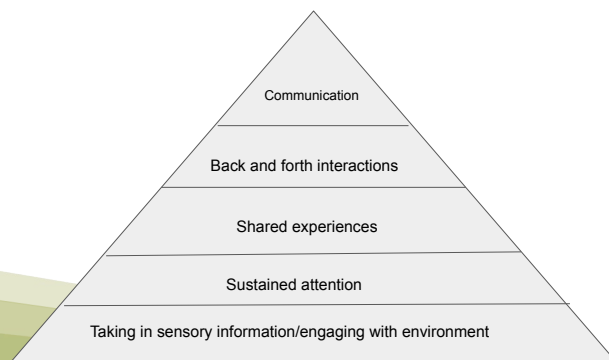
Where to Begin: Sensory Processing

- For autistic children and children with sensory processing challenges, collaborating with occupational therapy is a great place to start.
 - Many children have difficulty with pre-linguistic skills because they are in a state of over arousal or under arousal
 - Children seeking constant movement /input will have a hard time sustaining attention
 - There are minimal opportunities for communication if your primary objective is keeping a sensory seeking child safe in your session
 - Children who are under aroused need "revving up" to create opportunities for shared attention and engagement.



What Does the Research Say?

- Watson et al. (2011)
 - Examined impact of sensory patterns on social communication and language for autistic children and children with other developmental delays
 - Results:
 - **Hyporesponsivity:** correlated to increased deficits in language and social interaction
 - **Hyperresponsiveness:** no significant correlation with deficits in language and social interaction
 - We implement compensatory strategies early for these children
 - **Sensory Seeking:**
 - For children with ASD, positive correlation with social-communication
 - Children with other DDs not a strong correlation for social communication.
 - May not be sensory seeking, but engaging with environment
 - Both children with ASD and DD identified as sensory seekers demonstrated increased difficulty with language.



Social



Responds to People When They Talk or Play With Child

- How this looks
 - Child enjoys being around people and responds to them consistently.
- Why is it important?
 - Communicating requires two people
- What to look for during assessment
 - Reciprocal smile, smiles and vocalizes when being played or talked with
 - Has interest in others
 - Plays simple routine games
 - Anticipation skills
 - Responds to speaker



Responds to People When They Talk or Play With Child

- How to target
 - Don't let the child zone out or be alone for too long
 - Look and sound fun!
 - Position yourself in front of the child
 - Follow the child's interest
 - Use high affect and anticipatory pauses
 - Use big exaggerated inhale and pause when blowing bubbles



Takes Turns With You During Interactions

- How this looks
 - Child participates in extended back and forth exchanges with others.
- Why is it important?
 - Taking turns is the foundation for two-way communication
- What to look for during assessment
 - Rolls a ball back and forth
 - Blowing bubbles
 - Hands you a toy to play with
 - Plays simple routine games
 - Anticipation skills



Takes Turns With You During Interactions

- How to Target
 - Treat actions as if they are purposeful toward you
 - Play trading games with everyday objects and toys
 - Join in by asking for a turn if the child is okay with it
 - Roll a ball
 - Blow bubbles
 - Peek-a-boo



Shifts and Shares Joint Attention With Others

- How this Looks
 - Child shifts attention between an object and you while you're sharing the same focus.
 - Looks at you, looks at toy, looks back at you as if to say, "Hey look at this!"
- Why is it important?
 - Kids learn to understand and talk by listening to the important things other people want to share.
- What to look for during assessment
 - Three point gaze
 - Follow line of regard
 - Shows objects
 - Points to share



Shifts and Shares Joint Attention With Others

- How to target
 - Place yourself within the child's field of vision.
 - Teach a child to show, hold and give you objects during daily routines.
 - Play games to teach him/her to look for you and look at what you're talking about
 - Point and often gesture to direct attention
 - Look at books



Initiates Interactions With Others to Get Needs Met or to Play

- How this looks
 - Deliberately uses gestures, sounds, or words to get your attention to meet needs
- Why is it important?
 - We can't always depend on another person to come to us to get needs met
 - Gives child control over their world
- What to look for during assessment
 - Nonverbal performatives (giving, showing, pushing, waving)
 - Initiation of an interaction
 - Attempts to gain attention from others
 - Shows objects to others to share interest
 - Means to an end- use of a person to gain desired outcome



Initiates Interactions With Others to get Needs Met or to Play

- How to target
 - Make the shift from initiator to responder
 - Observe the child and respond to any indication they give that they are requesting something
 - Look for when a child "almost" initiates and teach them to expand
 - Set up opportunities for a child to request or initiate interactions
 - Use sabotage
 - Model and use wait time if child tries to do it themselves
 - Repeat, repeat, repeat!
 - Child's brains thrive on the repetition of the same activities, songs, books, etc.



Receptive



Reacts to Events in the Environment

- How This Looks
 - Child consistently reacts to things they see, hear and feel.
- Why is it important?
 - The act of responding is the basis for interacting and communicating
- What to look for during assessment
 - Awareness and localization of sound
 - Visual pursuit of objects
 - Moves head toward music
 - Startles at a loud sound



Reacts to Events in the Environment

- How to Target:
 - Help child engage with world using senses
 - Strategies will vary based on hyperresponsivity/hyporesponsivity
 - Consult with occupational therapists for strategies
 - Use toys and activities that a child can look at, listen to, mouth, feel and explore!
 - Musical toys and instruments
 - Light up toys
 - Knocking on the door
 - Singing
 - Big silly gestures, sneezing, pretending to sleep



Develops a Longer Attention Span

- How this looks
 - Child stays with an activity for an increasing amount of time alone and even longer with adults
- Why is it important?
 - Attention is the gate-keeper for learning anything new, including language
 - Minimal opportunities for engagement or communication when a child is moving from one activity to the next, dumping containers
 - Focus shifts to maintaining safety, securing environment
- What to look for during assessment
 - Appropriate use of objects (stimming is good too!)
 - Child needs to stick with something to play or stim with it
 - Self regulation
 - Cause/effect
 - Anticipation skills



Develops a Longer Attention Span

- How to target
 - Incorporate sensory regulation strategies in collaboration with OT
 - Movement
 - Heavy work
 - Start with most meaningful and motivating activities
 - Keep only a few toys available at a time
 - Ideal set up: a room with a swing, mat or sensory activity; bring in a few toys at a time
 - Model/teach a cleanup routine before moving onto another toy
 - Try "one more" rule
 - Do one more, and then move on to something else
 - Timers can be used to help child know how long they have to stay with an activity



Plays With a Variety of Toys

- What does this look like?
 - Plays with different toys and uses familiar objects in everyday routines
 - Examples:
 - Rolls a ball to you
 - Drives a car
 - Puts food on a plate
 - Feeds a baby
- Why is it important?
 - Children learn through playing. When they don't, they miss opportunities for language exposure



Plays With a Variety of Toys

- What to look for during assessment
 - How a child interacts with toys
 - What stage of play do you see? (Westby's Developmental Playscale (revised 2000))
 - exploratory - looking, reaching, mouthing
 - Nonfunctional- banging, patting, turning, throwing
 - Beginning Functional- cause and effect, using for intended purpose
 - Early Symbolic- early pretending
- How to target
 - Begin with the child's level of play development
 - Imitate their play
 - Expand it to a higher level of play through modeling
 - Get face-to-face on the floor
 - Provide a variety of toys with various motor actions
 - Be the toy!



Considerations in Pre-linguistics: Play

- Accept all forms of play if it will lend itself to sustained attention, interaction, and opportunities for communication
 - Stimming is meaningful to children and often can be "our way in" it can also highlight areas for more support
 - Watching things spin, let's use a know they enjoy visual stimulation
 - Join in and bring more items that can spin
 - Lining items up
 - Do they have the motor planning
 - Can you hand them things to line up?



Understands Early Words and Follows Simple Directions

- What does this look like?
 - Completes different requests consistently
 - Examples:
 - Follows routines or shows awareness such as "time to go", "clean up"
 - May cry or run away when told to clean up
 - Take note of whether they understand with or without gestures
- Why is it important?
 - A child must understand before they can use those words to communicate
- What to look for during assessment
 - Understanding of greetings
 - Understands gestures/signs used by others
 - Follows simple commands with and without gestures



Understands Early Words and Follows Simple Directions

- How to target
 - Keep language simple and narrate events
 - Tell/show/help
 - Tell child the direction
 - Show child by providing visual cues/gestures
 - Help child by providing physical cues to follow task
 - Target in daily routines consistently
 - Potty- "let's go potty!"
 - Leaving- "Time to go, let's get your shoes"
 - Bath time- "Time for a bath, go to the bathroom"
 - Break directions down into simpler tasks if needed
 - Repetition and routine is key!



Expressive



Vocalizes or Makes Sounds Purposefully

- How this looks
 - Noisy to purposefully get your attention using their voice
- Why is it important?
 - We need to make purposeful noises/speech to communicate
- What to look for during assessment
 - Screeching or vocalizing when you are not paying attention to them
 - Babbling and using using gestures to communicate
 - "Calling" to get attention
 - Attempts to gain attention from others
 - Do vocalizations look purposeful?



Vocalizes or Makes Sounds Purposefully

- How to target
 - Model sounds- environmental noises, learning to listen sounds
 - Imitate any sounds the child makes
 - A child may need to increase their arousal level before they will vocalize. Consider gross motor play
 - Sing songs or do nursery rhymes
 - Use objects to make noise- talk into a cup or play microphone



Imitates Actions, Gestures, Sounds, and Words

- How this looks
 - Copies what they see and hear other people do and say
- Why is it important?
 - Toddlers learn to talk by repeating what other people say
- What to look for during assessment
 - Waves "hi" or "bye"
 - Plays simple routine games
 - Imitation of gross motor actions, objects, sounds/words, gestures/signs
 - Imitate motions to songs (e.g., wheels on the bus, patty cake, row row your boat)
 - Imitating words/use word approximations
 - Pretending to do an action they have seen (e.g., pat a baby, try to open objects)



Imitates Actions, Gestures, Sounds, and Words

- How to target
 - Start with actions, gestures and easier sounds before expecting a child to imitate words
 - Model target skills, wait and use an expectant look.
 - Avoid saying "say this...."
 - Use songs and nursery rhymes, make up motions if the song does not have any
 - After modeling a song for a child:
 - Sing it again and pause with an expectant look and wait for the child to fill in a sound/word/movement before continuing the song



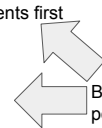
Use Early Gestures

- How this looks
 - Actions or body movements used to send a message to communication partner
- Why is it important?
 - Gestures are a strong predictor for the emergence of words
 - We can communicate without words by using gestures
- What to look for during assessment
 - Points to desired object or to share interest
 - Clapping, Dancing
 - Reaching to be picked up
 - Waving, pointing
 - "Come on" gesture



Use Early Gestures

- How to target
 - Use a lot of gestures as you talk
 - Teach a child to imitate easy whole body movements first
 - Jumping
 - Dancing
 - Then early gestures
 - Reaching
 - High five
 - Waving
 - Shaking head "no"
 - Model, model, model



Before teaching to point!



Considerations in Pre-linguistics

- Addressing pre-linguistic skills is not just for toddlers. Pre-linguistics should be addressed with children of all ages demonstrating deficits in these foundational skills.
- Honor all forms of communication. Pre-verbal communication can come in the form of glances, very subtle gestures, vocalizations etc...
 - Examples:
 - You are pushing a child in a swing, and they gently nudge their leg toward you every time you stop
 - A child places their hand on yours to indicate they want to continue peek-a-boo
 - A loud vocalization while eating a snack indicates they want more



Considerations in Pre-linguistics: Parent Coaching

- Education and coaching are key!
- Parents need to be aware that you are playing with a purpose and trying to elicit these skills.
- Parents are their child's first teacher
 - Teach them how to facilitate the development of these skills at home
 - We spend maybe 1 hour per week with a child, their parent spends every other hour with them
- Help parents to notice when a child has communicated and what that attempt means.



Considerations in Pre-linguistics: Parent Coaching

- Use strategies
 - Modeling the language the child is communicating
 - Wait time
 - Expectant look
 - Sabotage
 - Adult imitation of child behaviors
 - Engagement
- Explain the strategy to the parents
- Model and then give them a chance to use the strategy during the session



Resources

- Assessments:
 - *The Rossetti Infant Toddler Language Scale*
 - *The Receptive-Expressive Emergent Language Test 4th Edition (REEL-4)*
 - *The Functional Communication Profile*
 - *Early Functional Communication Profile*
 - *The Communication Matrix*
 - *Communication and Symbolic Behavior Scales*



Resources

- Treatment
 - DIR Floortime: <https://www.icdl.com/dir>
 - Jessie Ginsberg-SLP (Facebook): <https://www.jessieginsburg.com/>
 - STAR Institute: <https://sensoryhealth.org/>
 - Hanen Centre: <https://www.hanen.org/Home.aspx>
 - Teach Me To Talk: <https://teachmetotalk.com/>



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Thank You!

Amanda- SLPamanda@therapyjackson.com
Rachel- SLPrachelf@therapyjackson.com

