Maximizing gains toward communication goals: Putting the “fun” in functional speech and language therapy for individuals with Down syndrome

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Speech-Language Pathology
Background

Training

• University of Wisconsin-Madison
  – BS in psychology and communication sciences and disorders
  – MS in speech-language pathology

• Wisconsin Leadership Education in Neurodevelopmental and Related Disabilities (WI LEND) trainee

Clinical Experiences

• Waisman Center Clinics
  – Down Syndrome Clinic
  – Newborn Follow-Up Clinic
  – Feeding Clinic
  – Autism and Other Developmental Disabilities Clinic
  – Neuromotor Developmental Disabilities Clinic
Disclosures

• Associate Clinical Speech-Language Pathologist: Communication Aids and Systems Clinic (CASC) at the Waisman Center Clinics

• Speech-Language Pathologist: Amina Grace Speech and Language Program at GiGi’s Playhouse Down Syndrome Achievement Center, Madison, WI

• Study Coordination for the Assessment of Early Intervention Outcomes Research Project for Children with Hearing Loss in Wisconsin
Thank you

• Thank you to the individuals with DS, families, and colleagues from the Waisman Center Clinics and GiGi’s Playhouse Down Syndrome Achievement Center
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Image from: The Little Blue Truck written by Alice Schertle & illustrated by Jill McElmurry
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receptive language</td>
<td>Language understanding</td>
<td>Following directions, responding to specific words</td>
</tr>
<tr>
<td>Expressive language</td>
<td>Language production</td>
<td>Making sentences</td>
</tr>
<tr>
<td>Term</td>
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<tr>
<td>Core words</td>
<td>Sentence building words</td>
<td>Go, jump, big, funny, who</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
<td>Example</td>
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<td>-------------------------------------------</td>
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<tr>
<td>Aided language stimulation</td>
<td>Modeling a written word, picture, sign, and/or symbol <strong>with</strong> speech</td>
<td>Talking about steps in a task while you point to the words and pictures representing the steps</td>
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<tr>
<td>Multi-modal communication strategy</td>
<td>Use of multiple communication strategies, such as speech <strong>with</strong> sign language, gestures, pictures, symbols, etc.</td>
<td>Waving hello while you say “hi;” texting “I love you” and adding a ♥; saying “baby” and selecting the symbols “I want – to listen to – Hush Little Baby”</td>
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<td>Joint attention</td>
<td>Sharing attention</td>
<td>Pointing, giving, showing</td>
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<tr>
<td>Code switching</td>
<td>Using information about how your partner communicates to select your modes of communication</td>
<td>Switching languages depending on your partner’s understanding of each language</td>
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Learning Objectives

- Review benefits of team communication
- Identify communication considerations for individuals with Down syndrome
- Consider communication opportunities across environments
- Identify supports to generalize skills across environments
• Ongoing authorizations for communication AND ongoing conversations between SLP, family, and team

Increase SLP’s understanding of the individual
Benefits of Team Communication

- Ongoing authorizations for communication AND ongoing conversations between SLP, family, and team

  Increase SLP’s understanding of the individual

  Increase shared understanding of communication profile, goals, strategies
Benefits of Team Communication

- Ongoing authorizations for communication AND ongoing conversations between SLP, family, and team

  - Increase SLP’s understanding of the individual
  - Increase understanding of existing communication opportunities in all languages spoken by family and next steps
  - Increase shared understanding of communication profile, goals, strategies

(Bird et al., 2005)
Communication Considerations for Individuals with Down Syndrome

• Martha, Tyler, and Karl*
  – Consideration of Rosin’s integrated treatment model for individuals with Down syndrome
  – Comprehensive speech and language assessment
  – Review of available literature
  – Ongoing team communication

*Permission given by families to include general descriptions in presentation; names changed to protect privacy

(Rosin & Miolo, 2007)
Integrated Treatment Model: Rosin & Miolo (2007)

• Individualize assessment and treatment
• Incorporate interests and strengths
• Address challenges across multiple communication domains (e.g., speech, language, literacy)
• Use strategies for teaching that are evidence-based and promote success
Martha

• **Interests**: play, music, art, family

• **Strengths**: receptive language, joint attention

• **Areas of need most impacting participation**: expressive vocabulary, spontaneous speech sound production at the word level
Evidence-Based Strategies: Næss et al. (2011)

Communication areas of need:
• Receptive vocabulary
• Expressive vocabulary
• Grammar understanding
• Verbal short-term memory

Variability across individuals!
Evidence-Based Strategies: Checa, Galeote, & Soto (2016)

• Leverage strength of nouns in early vocabularies

• Support need for “core” vocabulary focus
  – Adjectives, verbs, position words, question words, pronouns, etc.

• Support need for grammatical marker focus
Martha: Maximizing Communication Gains

- **Evidence-based strategy**: aided language stimulation

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<td>Relative strength in visual</td>
<td>Verbal short-term memory</td>
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<td>spatial memory</td>
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Martha: Maximizing Communication Gains

• **Evidence-based strategy**: aided language stimulation

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Martha: Maximizing Communication Gains

- **Evidence-based strategy**: aided language stimulation

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Martha: Maximizing Communication Gains

- Address challenges across multiple domains

/b/

Manner: “bouncing sound/popping sound”
Placement: lips come together and pop open
Voicing: “buzzy” sound, can feel voicing on throat
Martha: Putting the “fun” in functional speech and language therapy
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Tyler

• **Interests**: games

• **Strengths**: receptive language, sense of humor

• **Areas of need most impacting participation**: fluency, expressive language
Tyler: Identifying Evidence-Based Strategies

• Prevalence of disfluency for individuals with Down syndrome: 10-45% (Kent & Vorperian, 2013)

• Growing evidence base on stuttering treatment for individuals with Down syndrome through descriptive case reports
  – Harasym & Langevin (2012) recommend teaching direct fluency shaping techniques

• Need for dynamic assessment
Tyler: Maximizing Communication Gains
Tyler: Maximizing Communication Gains

1. Game

2. Practice Talking to a Police Officer

3. Game

4. Practice Ordering at Denny’s
Tyler: Putting the “fun” in functional speech and language therapy

1. Game
   - [ ]
   - [x]
   - [x]
   - [ ]
   - [x]

2. Practice Talking to a Police Officer
   - [x]
   - [x]
   - [ ]
   - [ ]
   - [x]

3. Game
   - [ ]
   - [ ]
   - [ ]
   - [ ]
   - [ ]

4. Practice Ordering at Denny’s
   - [ ]
   - [ ]
   - [ ]
   - [ ]
   - [ ]
Karl

• **Interests**: music, telling jokes, success at work

• **Strengths**: social language, receptive language, multi-modal communication strategy

• **Areas of need that most impacting participation**: speech intelligibility
Karl
Karl: Putting the “fun” in functional speech and language therapy

Learning Objectives

• **Review benefits of team communication**
  – **Martha**: feedback from family on use of multi-modal communication strategy
  – **Tyler**: identification of meaningful community practice opportunities from family, communication with school about visuals
  – **Karl**: identification of need outside of current goals, input from Karl, family, and vocational team to support creation and use of visual
Learning Objectives

• Review benefits of team communication

• Identify communication considerations for individuals with Down syndrome
  – Martha: benefit of aided language stimulation and multi-modal communication strategy
  – Tyler: benefit of fluency shaping techniques
  – Karl: benefit of pairing speech sound intervention with supports for loudness variation
Learning Objectives

• Review benefits of team communication
• Identify communication considerations for individuals with Down syndrome
• Consider communication opportunities across environments
  – **Martha**: home, community settings
  – **Tyler**: home, community settings, school
  – **Karl**: home, community settings, work
Learning Objectives

• Review benefits of team communication
• Identify communication considerations for individuals with Down syndrome
• Consider communication opportunities across environments
• **Identify supports to generalize skills across environments**
  – **Martha**: multi-modal strategies so Martha could code switch with partners
  – **Tyler**: visual schedules, behavior charts, communication with teams
  – **Karl**: visual, communication with teams
In Summary

Maximizing Gains
- Review of Literature
- Comprehensive Assessment
- Identify evidence-based strategies
- Address multiple communication domains

Promoting Fun
- Partnerships
  - Utilize shared expertise
  - Identification of community practice opportunities in all languages
- Celebration of strengths
- Celebration of interests
- Individual with Down syndrome “leader” of communication
Thank you

"Thanks, little brother," said the Dump to Blue.
"You helped me and they helped you.

Now I see a lot depends on a helping hand from a few good friends!"

Image from: *The Little Blue Truck* written by Alice Schertle & illustrated by Jill McElmurry
Questions?
References


Images

• UW Madison Logo: https://www.wisc.edu/
• GiGi’s Madison Logo: https://gigisplayhouse.org/madison/
• Waisman Center Logo: https://cow.waisman.wisc.edu/contact/
• Volume meter scale adapted from https://www.teacherspayteachers.com/Product/Voice-Volume-Meter-Detailed-Boardmaker-Word-Doc-1325798
Communication Opportunities
Brainstorm
No evidence for decreases in speech with multi-modal communication strategies
