

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

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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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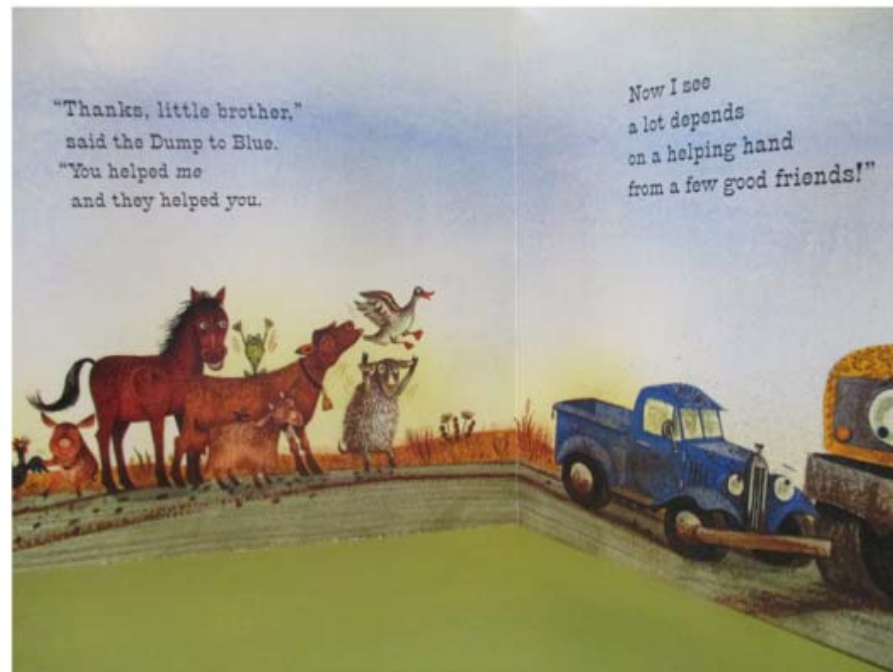



Image from: *The Little Blue Truck*
written by Alice Schertle & illustrated by Jill McElmurry

Term	Definition	Example
Receptive language	Language understanding	Following directions, responding to specific words
Expressive language	Language production	Making sentences

Term	Definition	Example
Core words	Sentence building words	Go, jump, big, funny, who

Term	Definition	Example
Aided language stimulation	Modeling a written word, picture, sign, and/or symbol <u>with</u> speech	Talking about steps in a task while you point to the words and pictures representing the steps

Term	Definition	Example
Multi-modal communication strategy	Use of multiple communication strategies, such as speech <u>with</u> sign language, gestures, pictures, symbols, etc.	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”

Term	Definition	Example
Joint attention	Sharing attention	Pointing, giving, showing

Term	Definition	Example
Code switching	Using information about how your partner communicates to select your modes of communication	Switching languages depending on your partner's understanding of each language

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

Benefits of Team Communication

- 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



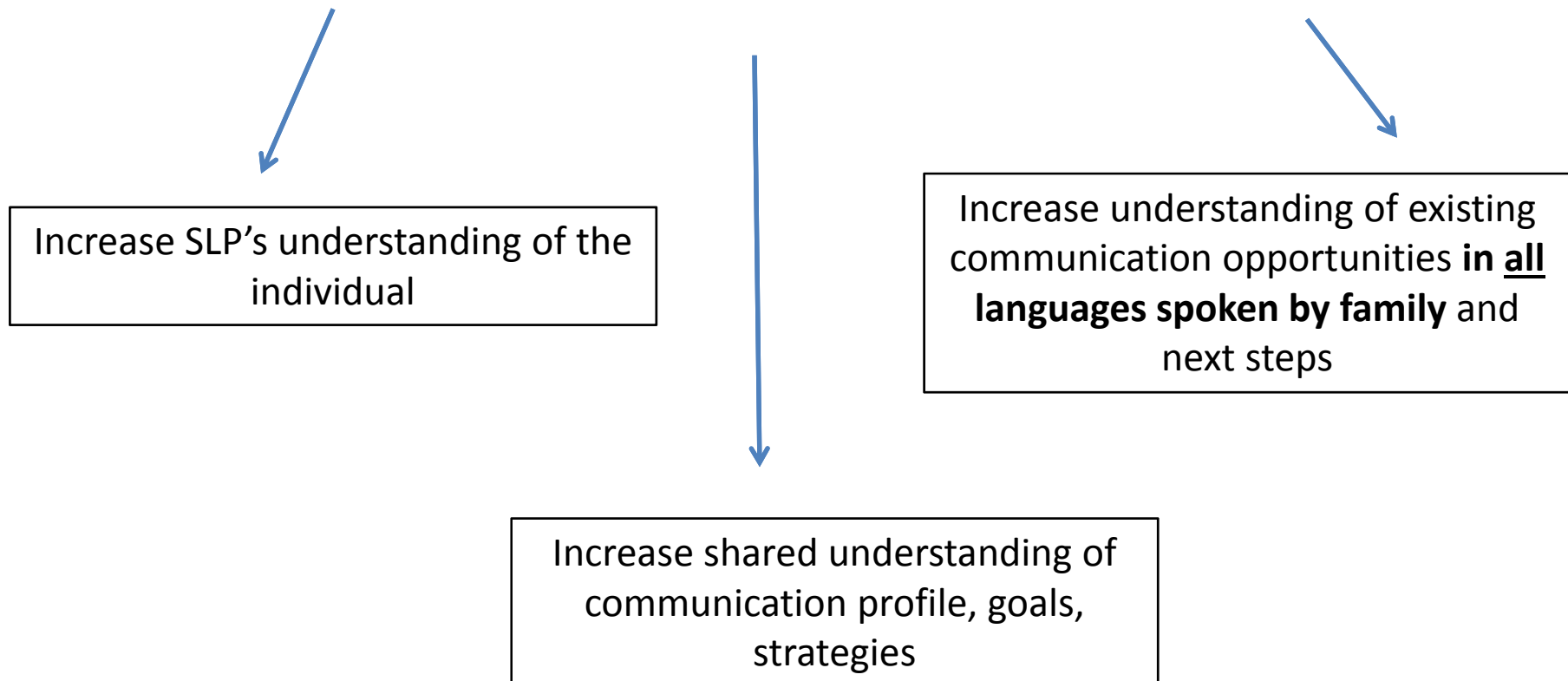
Increase SLP's understanding of the individual



Increase shared understanding of communication profile, goals, strategies

Benefits of Team Communication

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



(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

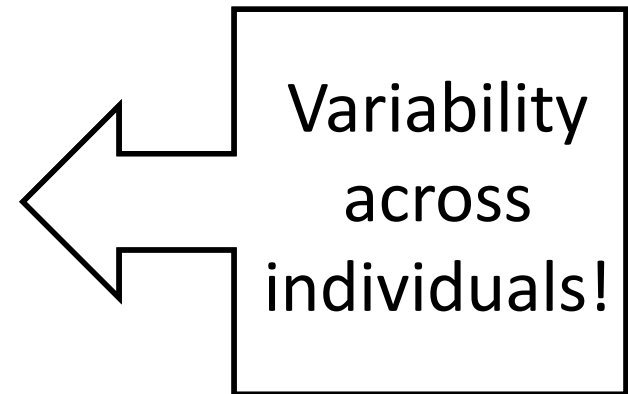
Martha

- **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



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

<u>Leverage strengths</u>	<u>Support areas of need</u>
Receptive language	Expressive language
Joint attention	Understanding of grammatical markers
Relative strength in visual spatial memory	Verbal short-term memory

Martha: Maximizing Communication Gains

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

<u>Leverage strengths</u>	<u>Support areas of need</u>
Receptive language	Expressive language
Joint attention	Understanding of grammatical markers
Relative strength in visual spatial memory	Verbal short-term memory

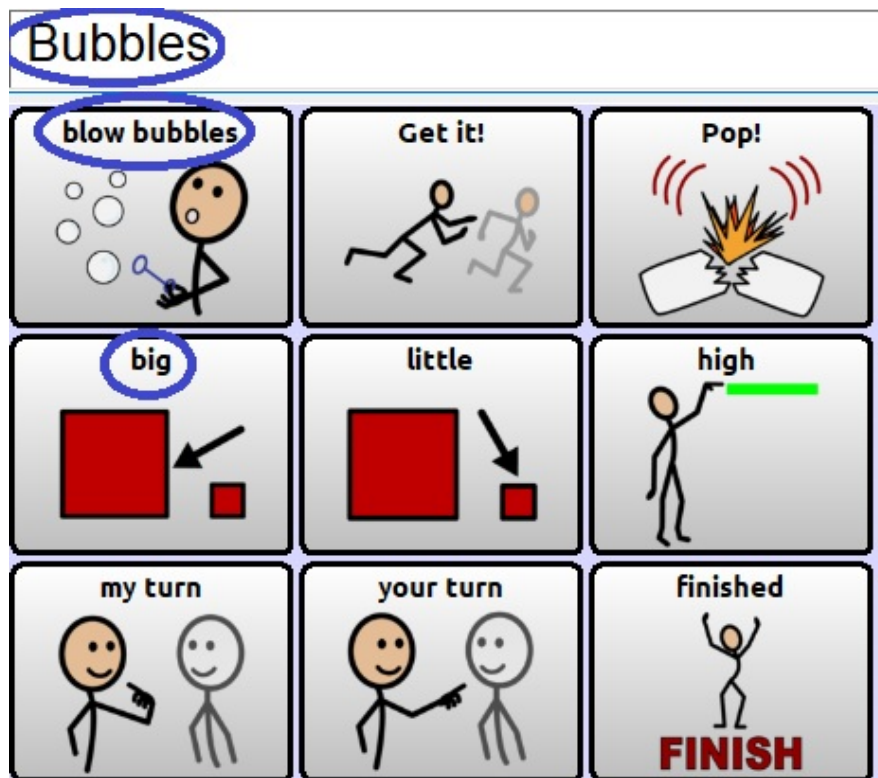
Martha: Maximizing Communication Gains

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

<u>Leverage strengths</u>	<u>Support areas of need</u>
Receptive language	Expressive language
Joint attention	Understanding of grammatical markers
Relative strength in visual spatial memory	Verbal short-term memory

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

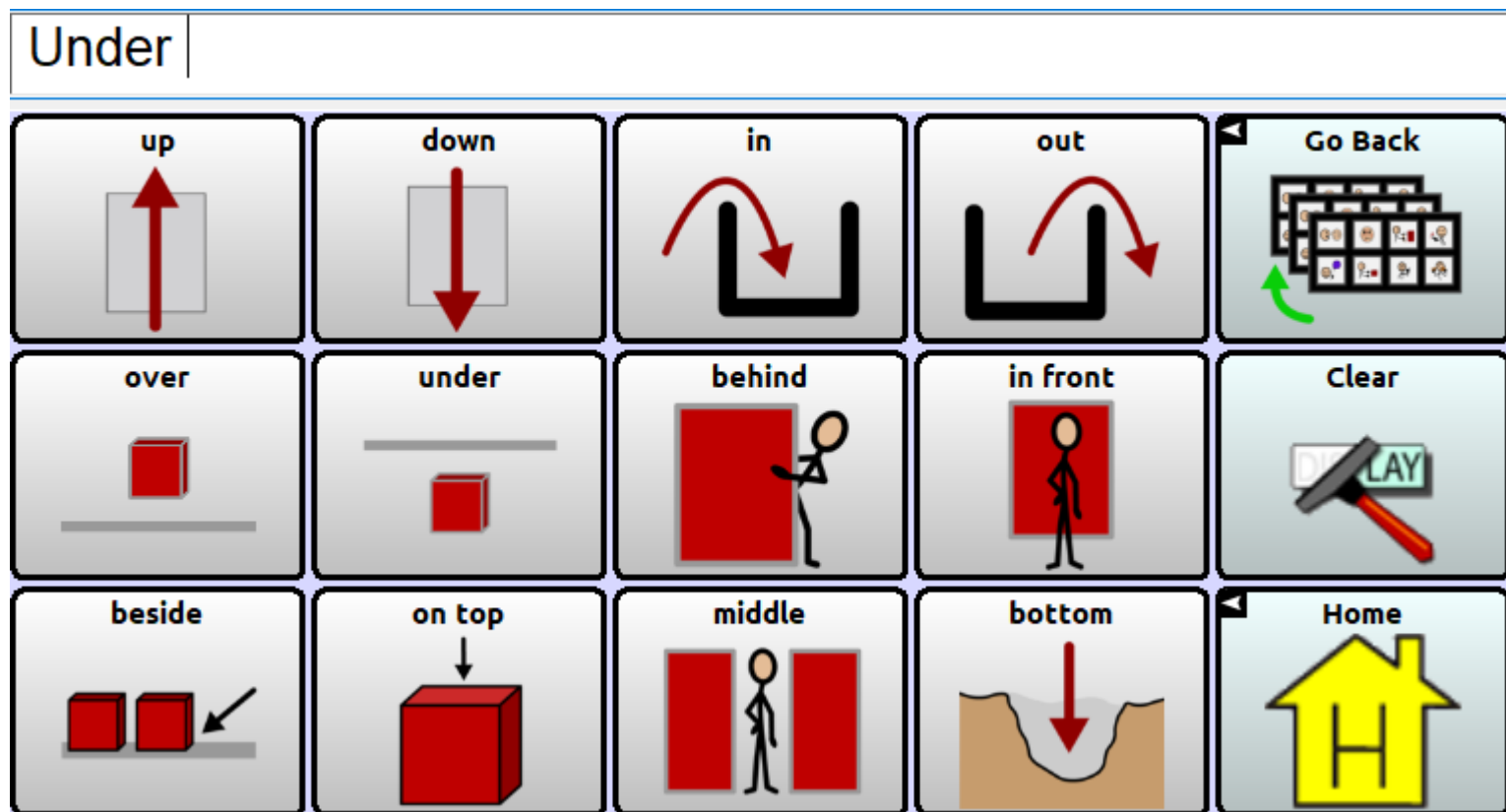
Martha: Putting the “fun” in functional speech and language therapy



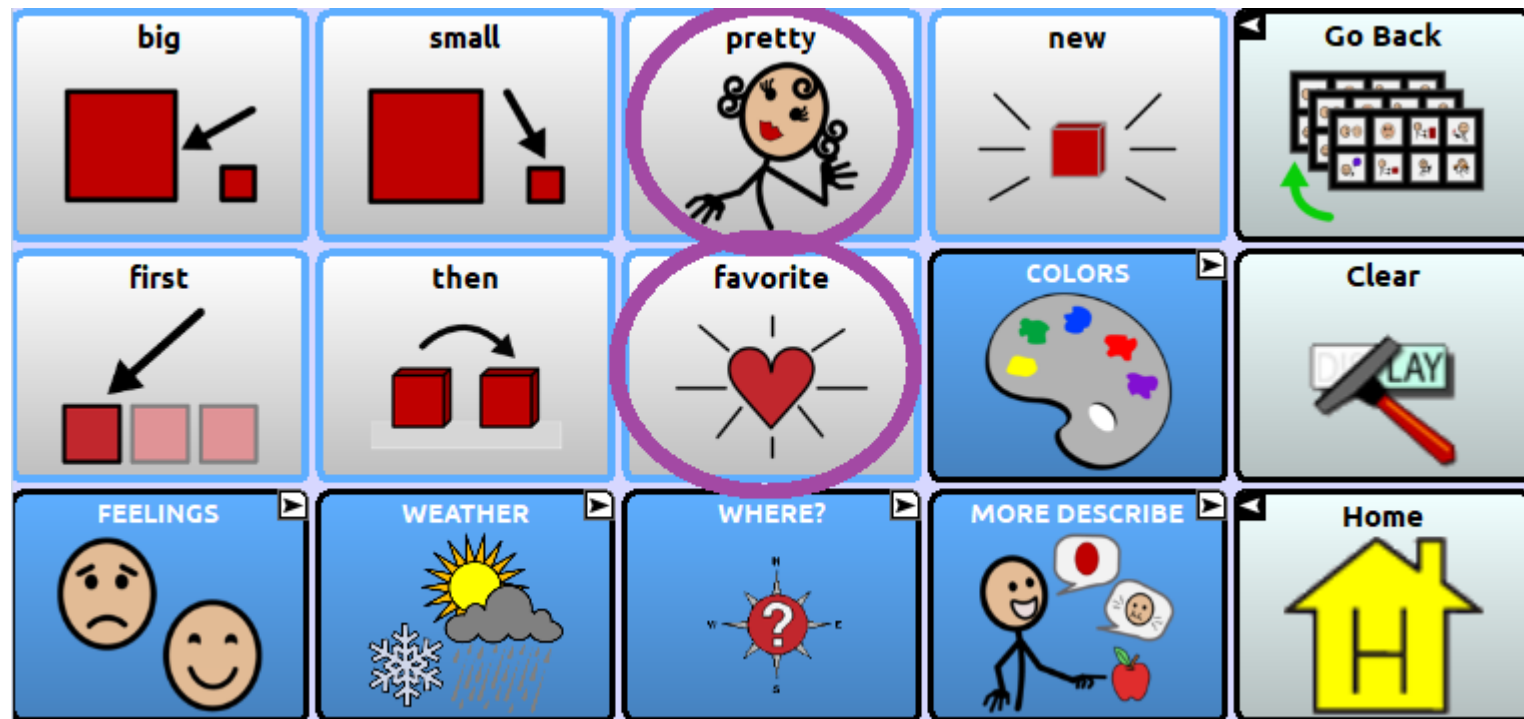
Martha: Putting the “fun” in functional speech and language therapy



Martha: Putting the “fun” in functional speech and language therapy



Martha: Putting the “fun” in functional speech and language therapy



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

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2.Practice Talking to a Police Officer

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3.Game

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4.Practice Ordering at Denny's

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Tyler: Putting the “fun” in functional speech and language therapy

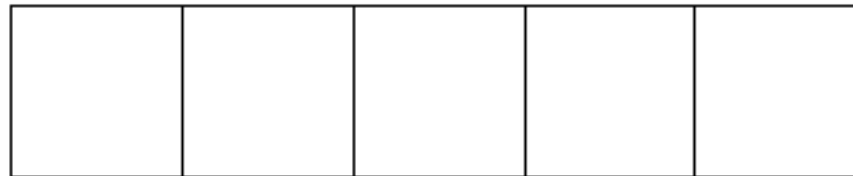
1.Game



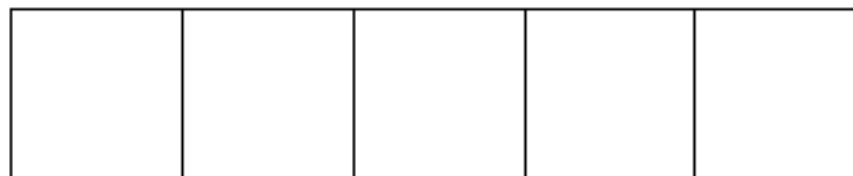
2.Practice Talking to a Police Officer



3.Game



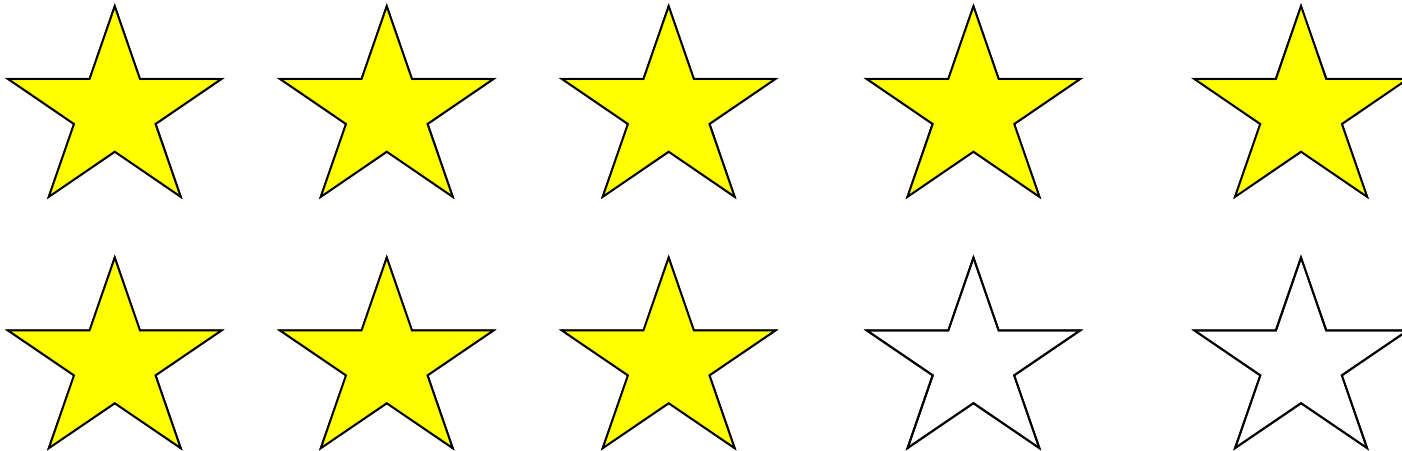
4.Practice Ordering at Denny's



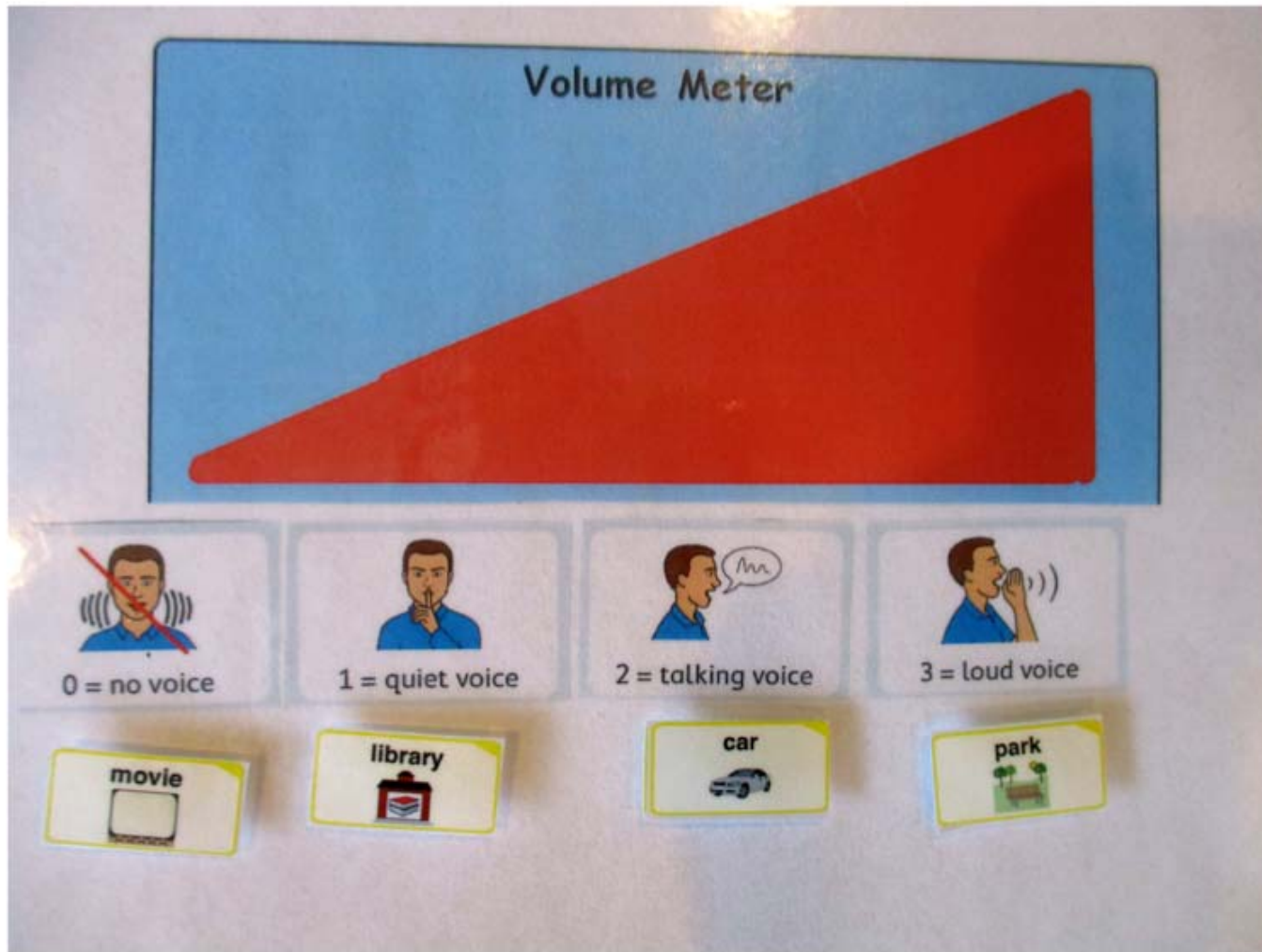
Karl

- **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



Adapted from: <https://www.teacherspayteachers.com/Product/Voice-Volume-Meter-Detailed-Boardmaker-Word-Doc-1325798>

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

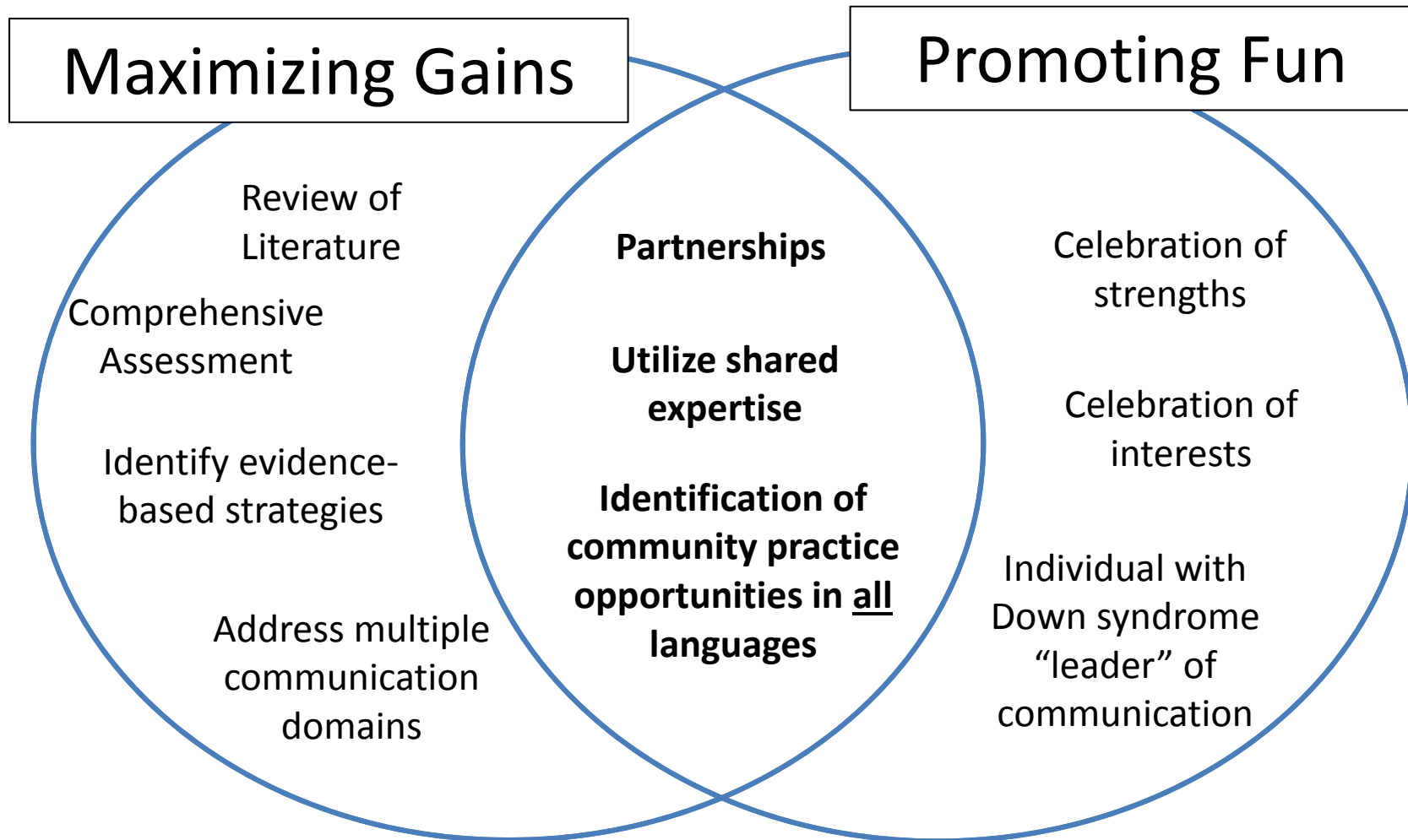
Learning Objectives

- 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



Thank you

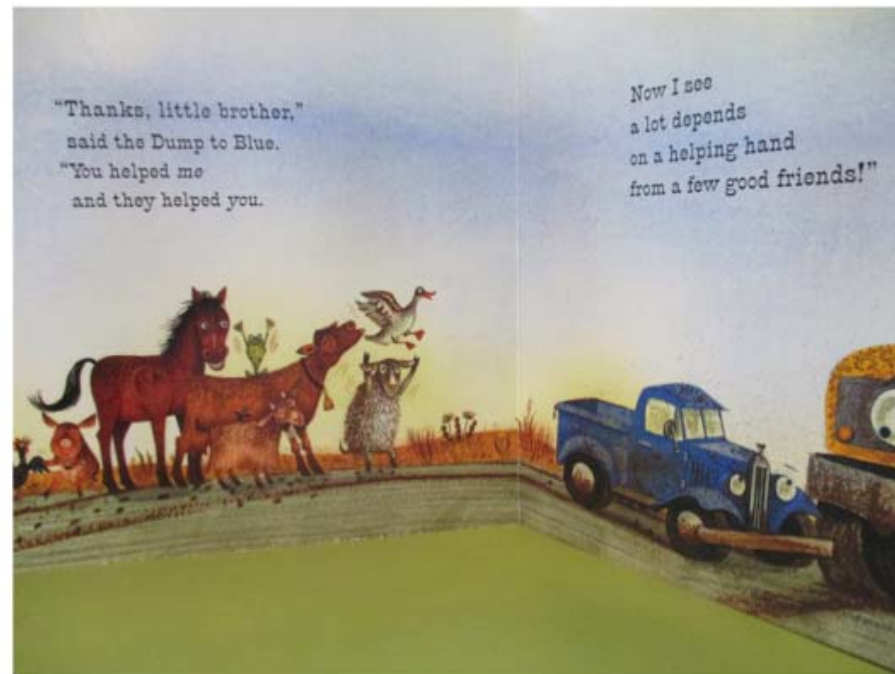


Image from: *The Little Blue Truck* written by Alice Schertle & illustrated by Jill McElmurry

Questions?

References

- Bird, E.K, Cleave, P., Trudeau, N., Thordardottir, E., Sutton, A., Thorpe, A. (2005). The language abilities of children with Down syndrome, *American Journal of Speech-Language Pathology*, 14, 187-199.
- Checa, E., Galeote, M., & Soto, P. (2016). The composition of early vocabulary in Spanish children with Down syndrome and their peers with typical development, *American Journal of Speech-Language Pathology*, 25, 605-619.
- Harasym, J. & Langevin, M. (2012). Stuttering treatment for a school-age child with Down syndrome: A descriptive case report, *Journal of Fluency Disorders*, 37, 253-262.
- Kent, R., & Vorperian, H. (2013). Speech impairment in Down syndrome, *Journal of Speech, Language, and Hearing Research*, 56, 178-210.
- Næss, K.A. Lyster, S.A., Hulme, C., & Melby-Lervåg, M. (2011). Language and verbal short-term memory skills in children with Down syndrome: A meta-analytic review, *Res Dev Disabil*, 32(6).
- Rosin, P., & Miolo, G. (2007, November). *Integrated Treatment: A Communication Program for Children with Down Syndrome*. Presentation at the American Speech-Language and Hearing Association, Boston, MA.

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/>
- Image taken by Kristensen of Schertle, A., & McElmurry, J. (2015). *Little Blue Truck*. Boston, MA: Houghton Mifflin Harcourt.
- 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

- Millar, D. C., Light, J. C., Schlosser, R. W. (2006). The impact of augmentative and alternative communication intervention on the speech production of individuals with developmental disabilities: A research review, *Journal of Speech, Language, and Hearing Research*, 49, 248-264.
- Schlosser, R., & Wendt, O., (2008). Effects of augmentative and alternative communication intervention on speech production in children with autism: A systematic review. *American Journal of Speech-Language Pathology*, 17, 212-230.