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**Language-Based Treatment for  
Children with Speech Sound  
Disorders, presented in partnership  
with Cincinnati Children's Hospital**

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# Language-Based Treatment for Children with Speech Sound Disorders

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## Welcome & Introduction

As a result of this continuing education activity, participants will be able to:

- describe the relationship between language and speech sound disorders (SSDs)
- discriminate among different treatment approaches and state their clinical implications
- explain how to implement at least 5 language-based treatment activities targeting speech sound disorders

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## Outline

Time	Topic
0-5 minutes	Introduction
5-25 minutes	Background: Research Principles
24-45 minutes	Where to Start: Intervention Principles
45-80 minutes	Treatment Activities with Videos
80-90 minutes	Summary, Q & A

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## Background: Research Principles

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## Relationship between Language and Speech Sound Disorders (SSD)

- The comorbidity of language and SSD in early childhood is close to 60%, (Shriberg, 1986)
- Having a SSD seems to increase the likelihood of language disorder, (Bernthal, Bankson & Flipson, 2013)
- Children with a SSD are at increased risk for reading and spelling challenges, (Mcniell, Justice, Gillon & Schuele, 2013)

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## Relationship between Language and Speech Sound Disorders (SSD)

- There is a synergistic relationship between language and phonology/speech sounds
  - Speech sounds carry the meaning of language
  - Speech sounds can affect syntax and semantics
- There is a relationship between phonological awareness and articulation, (Mcniell, Justice, Gillon & Schuele, 2013)

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## Syntax and Speech Sounds

Grammatical Morphemes	Examples
Plurals	key-keys, boat-boats
Possessives	Bea-Bea's, cat-cat's
Regular Past Tense	row-rowed, kiss-kissed
Third Person Singular Tense	see-sees, walk-walks

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## Semantics and Speech Sounds

Phonological Processes	Examples
Final Consonant Deletion	bee-bead
Velar Fronting	tea-key
Stopping	two-shoe
Cluster Reduction	top-stop
Liquid Gliding	white-light

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## Evidence: Language versus Phonological Domains Evidence

- Does phonological intervention help improve language skills?
  - **YES** - (Fey et al., 1994; Tyler & Sandoval, 1994; Tyler et al 2002)
- Does language intervention alone help improve phonology skills?
  - **YES** - (Hoffman et al., 1990; Hoffman et al., 1996; Tyler et al., 2002)
  - **LITTLE EFFECT** - (Tyler & Waterson, 1991; Tyler & Sandoval, 1994 and Fey et al. 1994)

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## Evidence: Language versus Phonological Domains

- Language Therapy Only:
    - Severe receptive/expressive or cognitive deficits and mildly impaired or normal speech sounds
  - Phonological Therapy Only:
    - Moderate-severe speech sound deficits with unequal deficits
    - Mildly impaired with normal language skills concurrently
  - Language and Phonological Therapy:
    - Equally moderate-severe speech sound and language deficits
    - Mild speech and language deficits when targeting conversational carryover
- (Hoffman, et al, 1996; Tyler & Watterson, 1991; Tyler et al, 2002; Tyler, et al 2003)

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## Evidence: Combining Treatment Domains

- Alternating language and phonology treatment
- Simultaneous non-integrated language and phonology treatment
- Simultaneous integrated language and phonology treatment

(Tyler, A.A., Leis, K.E., Haskill, A., & Tolbert, L.C., 2003)

## Inconclusive Evidence

- The evidence is inconclusive. Why?
- There were differences from study to study in:
  - severity of impairments across studies and participants
  - research methodology
  - duration of treatment programs
  - treatment methods

## Where to Start: Intervention Principles

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## Intervention Principles: Basics

- Basic principles for embedding speech sound intervention into language based activities: (Norris & Hoffman, 1990)
  - Systematically set up the environment and stimulus materials
  - Select activities that provide frequent communicative opportunities that allow for both modeling and production
  - Provide feedback and natural consequences based on the effectiveness of the child's productions

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## Intervention Principles: Other Considerations

- The acquisition of phonemes and phonological rules is not an all-or-none process. Accuracy comes gradually and not for one sound at a time
- All exemplars of a phoneme do not have to be practiced for acquisition to occur
- Like other language rules, phonological rules are learned through the process of communication in natural and meaningful contexts

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## Intervention Principles: Reinforcement

- Improves motivation and cooperation
- Allows for multiple productions
- Some children need token reinforcement, but the frequency can be varied to have the child complete multiple productions before giving the “reward”
- Suggested activities include:
  - games with pieces, piggy bank, potato head, blocks, Legos, magnetic bingo chips, dot paints, stickers, craft pieces, cheerios, etc

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## Intervention Principles: Phonological Approaches

- Any phonological approach can be incorporated into a language-based treatment activity
  - Distinctive Features
  - Minimal Contrasts
  - Maximal Opposition
  - Cycles
  - Traditional Motor Learning
  - Facilitative Context Utilization
  - Core Vocabulary
  - Biofeedback

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## Intervention Principles: Target Selection

- Target selection should consider:
  - Patterns/phonological process selection
  - Phoneme/word target selection
  - Stimulability
  - Intelligibility
  - Frequency of the occurring phoneme/word
  - Developmental appropriateness
  - Facilitating contexts
  - Phonological knowledge

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## Intervention Principles: Incorporating Domains

- How?
  - Seize the moment
    - Use the curriculum
    - Use books
    - Intervene during play
    - Create structured activities

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## Treatment Activities

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## Using the Curriculum

Example Preschool Theme: Beach

Sample Speech Goal: Fricatives - /s, s-blends, z, sh, f/

Sample Language Goals: vocabulary, directions, concepts

Preschool Areas	Activity
Book	<i>Rainbow Fish</i> by Marcus Pfister
Sensory Table	Sand, sea, shells, fish, swim, splash, swish, same/different
Craft	Painting sea shells, brush
Snack	Goldfish snacks
Song/Poem	Sally Sells Seashells tongue twister

## Using the Curriculum

- Phonemic and Phonological Awareness Activities
  - Syllable Awareness
  - Rhyming
  - Alliteration
  - Onset/Rime
  - Segmenting
  - Blending
  - Manipulating

## Books

- What to look for in a good book:
  - Stories or pictures that allow for frequent communicative opportunities
  - Repetitive text or stories with recurring vocabulary/speech sounds
  - Ability to adapt the book to focus on speech and language targets
  - Popular characters, themes or topics that easily draw interest

## Books: Suggestions

Book	Author	Speech Goals	Sample Target Words	Sample Language Goals
<i>No David</i>	David Shannon	/s/, /s/-blends	stop, sorry	expected/unexpected, predictions
<i>The Very Busy Spider</i>	Eric Carle	/s/-blends	spider, still, spinning, answer	animal vocabulary, actions
<i>Biggest, Strongest, Fastest</i>	Steve Jenkins	/s/-blends	biggest, strongest, tallest, smallest	comparatives, superlatives
<i>The Grouchy Ladybug</i>	Eric Carle	/t/	fight, flew, off, enough, leaf	vocabulary, sharing, size concepts
<i>Today I Feel Silly</i>	Jamie Lee Curtis	/t/	feel	emotions
<i>First Look and Find books</i>	Various authors	/t/	find, found	verb tense, prepositions, where
<i>Sheep in a Jeep</i>	Nancy Shaw	/sh/	sheep, shrug, shove, shout, push	verbs
<i>Pete the Cat I Love My White Shoes</i>	James Dean	/sh/	shoes	describing, predictions
<i>Maisy's Big Book of Words</i>	Lucy Cousins	/ch/	choose, which	vocabulary, categorizing
<i>Click, Clack Moo Cows That Type</i>	Doreen Cronin	/k/	cow, click, clack, duck, quack	print awareness
<i>Yummy, Yucky</i>	Leslie Patricelli	/k/	yucky, icky, like, not like	categorizing
<i>Go, Dog. Go!</i>	P.D. Eastman	/g/	go, going, goodbye, green, dog, big	describing, prepositions
<i>Little Cloud</i>	Eric Carle	/l/, /l/-blends	little, look, like, cloud	describing
<i>Llama, Llama Red Pajama</i>	Anna Dewdney	/l/	llama	emotions, describing, why
<i>Polar Bear, Polar Bear...</i>	Bill Martin Jr., Eric Carle	vocalic /r/	hear, roaring, snorting, snarling	vocabulary, verbs, sounds
<i>Where's Spot?</i>	Eric Hill	final consonants	not, get, out, knock	negation, prepositions, where
<i>Hop on Pop</i>	Dr. Seuss	final consonants	hop/pop/top, cat/sat/hat, etc.	rhyming, phonological awareness

## Books: Video Demonstrations

- Video #1
- Video #2

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## Play: Toy Suggestions

Toy Suggestions		
Mr. Potato Head <sup>TM</sup>	animals	doll house
Little People <sup>TM</sup>	puzzles	construction toys
pretend food	doctor set	wind-up toys
character toys	marble tower	miniatures

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## Play: Toy Miniatures



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## Play: Toy Video Demonstrations

- Video #3
- Video #4

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## Play: Games

- Games can be used to increase production practice
- In addition to using game pieces for token reinforcement, brainstorm functional words with target sounds that can be naturally repeated during play
  - Example: Don't Break the Ice <sup>TM</sup>
    - /s/-blends: slip, stay, squeeze, slide, skate, stop

## Play: Game Suggestions

Game	Sample Speech Goals	Sample Target Words	Sample Language Goals
Don't Break the Ice <sup>TM</sup>	/k/	careful, break, can, can't	<ul style="list-style-type: none"> <li>- sportsmanship</li> <li>- turn taking</li> <li>- waiting</li> <li>- following directions</li> <li>- giving directions</li> <li>- sentence formulation</li> <li>- vocabulary</li> <li>- verb tenses</li> </ul>
Hold On Scooby Doo <sup>TM</sup>	/s/-blend	stay up, don't slip, scared, Scooby,	
Hungry, Hungry Hippos <sup>TM</sup>	final /t/	eat, bite, get, got, lot, little bit, want	
Pop Up Pirate <sup>TM</sup>	final /p/	pop, up, jump, hop, bop, top	
Loopin' Louie <sup>TM</sup>	/l/	loopin, Louie, lift off, land, leave, fly	

## Play: Game Suggestions

Game	Sample Speech Goals	Sample Target Words	Sample Language Goals
Let's Go Fishing <sup>TM</sup>	/k/, /g/	catch, caught, keep, come, get, got, go	- sportsmanship - turn taking
Pop the Pig <sup>TM</sup>	/ch/	chomp, chew, much, sandwich	- waiting - following directions
Raccoon Rumpus <sup>TM</sup>	/r/, vocalic /r/	raccoon, roll, wear, occupations (-er)	- giving directions
Sneaky Snacky Squirrel <sup>TM</sup>	/s/-blends	spin, squirrel, steal, squeeze, snack	- sentence formulation
Connect Four <sup>TM</sup>	/l/, /l/-blends	yellow, black, block, please	- vocabulary - verb tenses

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## Play: Game Video Demonstration

- Video #5

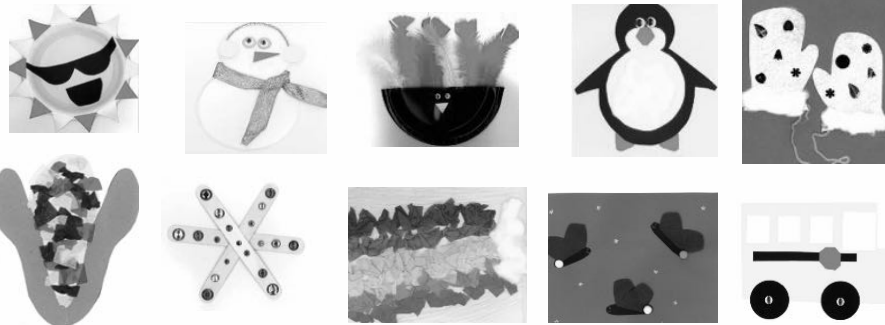
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## Structured Activities: Crafts

- Incorporate functional words with targeted speech sounds while creating a craft project.



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## Structured Activities: Crafts

Speech Goals	Target Words	Language Goals
velars	cut, stick, pick, glue, keep, careful, can	<ul style="list-style-type: none"> <li>- following directions</li> <li>- giving directions</li> <li>- prepositions</li> <li>- concepts</li> <li>- colors, shapes, numbers</li> </ul>
/s/-blends	squeeze, stick, stay, spot	
fricatives	find, off, very, have, please, push, this, there, that, thin, thick, thanks	
final consonants	pick, take, make, want, get, dot, keep	
liquids	line, like, place, please, glue, clean	

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## Structured Activities: Craft Video Demonstration

- Video #6

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## Structured Activities: Velcro Tasks



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## Structured Activities: Velcro Tasks



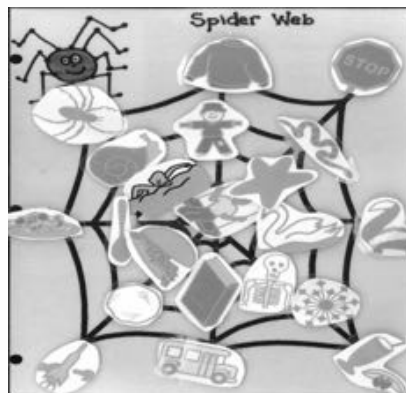
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## Structured Activities: Velcro Tasks



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## Structured Activities: Velcro Tasks



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## Structured Activities: Velcro Tasks



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## Structured Activities: Toy Catalogues



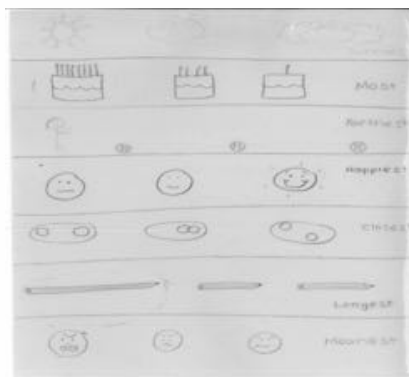
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## Structured Activities: Worksheets



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## Structured Activities: Other Ideas

- Story telling
- Sequencing picture cards
- Describing/guessing games
- Songs, finger play, nursery rhymes
- Gross motor

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## Structured Activities: Video Demonstrations

- Video #7
- Video #8
- Video #9

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## Commercially-Based Materials

- Using commercially produced materials is fine in moderation, just remember:
  - Most typical kids do not learn through flash cards
  - Families do not have easy access to therapy materials unless you send home a copy
  - There is often little relevance to the child's real life. For example, a child working on /s/-blends probably does not need to know what a spool is.

## Commercially-Based Materials

- What do you do when you have to reach for that box of picture cards?
  - Go-Fish and matching are fun, but kids tend to burn out pretty quickly on these games
  - Try to single out words that are appropriate for the child's skills, language level, and interests

## Commercially-Based Materials

### Suggestions for using picture cards:

Say the word using silly, quiet, or loud voices

Put pictures on the floor and name them as you toss a bean bag, roll a ball, or drive a toy car over them

Put pictures on stairs and say each word when you go up and down each steps

Put pictures on the floor a few inches apart. Jump across the floor to each picture and say the word that you land on

Hide pictures throughout a room and have the child find and name them

Say a sentence about each picture but say the target word wrong. Have the child correct your errors

Pick two or more cards from a pile and make silly sentences using the words

Staple the pictures into a mini book. Tell or write the story

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## Questions/Comments?

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