

Speech & Language Bootcamp: What's the Connection to Literacy?

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BOOT CAMP

Learning Objectives:

- ▶ 1. Improve understanding of the parameters of speech and language
- ▶ 2. Better understand the relationship between language and literacy
- ▶ 3. Learn how to recognize signs of language deficits
- ▶ 4. Be provided with information regarding how to best support those with underlying speech and language deficits.

USD Scottish Rite Children's Clinic

For Speech & Language Disorders

520 S. First Ave, Sioux Falls SD

Serving children (birth to 21) & their families with communication disorders through providing screenings, evaluations, treatment, and parent/professional education services. All areas of oral and written speech & language disorders are served.

Provides clinical training to advanced students in the Communication Sciences & Disorders Department at the University of South Dakota.

Clinical services provided both by certified clinical staff and by USD students as part of their clinical training.

Three partners:

- ▶ University of South Dakota: Communication Sciences & Disorders Department
- ▶ Scottish Rite Foundation of South Dakota
- ▶ Sioux Empire United Way



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Dyslexia Definition:

- ▶ “Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.”

▶ Adopted by the IDA Board of Directors, Nov 12, 2002. This definition is also used by the National Institute of Child Health and Human Development (NICHD). Many state education codes have adopted this definition.

Dyslexia defined as a language-based reading disability. What is the nature of this language disability? How is it related to other difficulties in language development?

“punctuation
! adjective ;
Language
noun invert



Speech & Language Basics

**BOOT
CAMP**



Speech

- ▶ Articulation
- ▶ Phonological Processes
- ▶ Apraxia of Speech
- ▶ Fluency
- ▶ Voice (resonance, pitch, volume)



Signs of speech difficulties:

- ▶ By age 4 cannot be understood by those with whom they do not associate regularly (as well as family and/or caregivers)
- ▶ By age 5 cannot be understood in all situations by most listeners
- ▶ May have consistent or variable sound errors
- ▶ Range from rarely being able to produce sounds to ongoing speech that is rarely understood, or speech that is usually understood with frequent sound errors

Speech Sound Phonology

- ▶ https://www.youtube.com/watch?v=6Pw6_tHmztk
- ▶ Although early childhood difficulties with speech sound discrimination may result in an articulation problem, these same discrimination problems may cause later reading and spelling difficulties. These children are unable to associate letters with the sounds they represent.

Oral Language: the knowledge & skills we use to produce and understand spoken language

- ▶ Language knowledge and skills also serve as the foundation for learning to read and write.
- ▶ Although children acquire most aspects of oral language during early childhood, language learning lasts well into adolescence & adulthood

Parameters of Language

Phonology

Semantics

Morphology

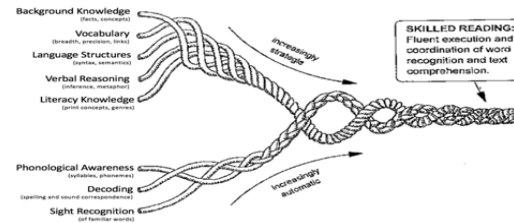
Pragmatics

Syntax

Language



Phonology—study of the speech sound (i.e., phoneme) system of a language, including the rules for combining and using phonemes. Phonological Awareness: refers to the specific ability to focus on and manipulate individual sounds (phonemes) in spoken words.



Phonological Awareness



Figure 1. A continuum of complexity of phonological awareness activities.

Phonological Awareness Development

<http://www.readingrockets.org/article/development-phonological-skills>

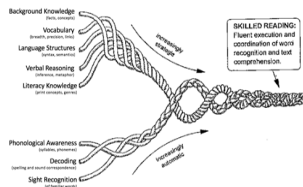
Age	Skill Domain	Sample Tasks
4	Rate initiation and enjoyment of rhyming activities	"post, drop, foot" "Which girl makes song songs around?"
	Rhyme recognition, odd word out	"Which two words rhyme: stair, steel, chair?"
5	Recognition of phonemic changes in words	"Mystery Dictionary Check: That's not right!"
	Clapping, counting syllables	truck (1 syllable) appliance (2 syllables) boat (1 syllable) automobile (4 syllables)
5½	Distinguishing and remembering separate phonemes in a series	Show sequences of single phonemes with colored blocks: /d/ /e/ /f/ /g/ /h/ /i/.
	Blending onset and rime	"What word?" fr-ank qu-een fr-idge
5½	Producing a rhyme	"Tell me a word that rhymes with car." (star)
	Matching initial sounds; isolating an initial sound	"Say the first sound in ride (/r/)." sock (/s/); love (/l/)."
6	Compound word deletion	"Say cowboy. Say it again, but don't say cow."
	Syllable deletion	"Say paramp. Say it again, but don't say par."
6	Blending of two and three phonemes	/f/ /d/ (soo) /sh/ /ou/ /p/ (shop) /h/ /ou/ /s/ (house)
	Phoneme segmentation of words that have simple syllables with two or three phonemes (no blends)	"Say the word as you move a chip for each sound." sh-e m-a-n l-e-g
6½	Phoneme segmentation of words that have up to three or four phonemes (include blends)	"Say the word slowly while you tap the sounds." br-ack ch-ee-se ch-ice
	Phoneme substitution to build new words that have simple syllables (no blends)	"Change the /y/ in cage to /m/. Change the /k/ in cave to /d/."
7	Sound deletion (initial and final positions)	"Say meat. Say it again, without the /m/. "Say safe. Say it again, without the /f/."
	Sound deletion (initial position, include blends)	"Say prank. Say it again, without the /p/."
9	Sound deletion (medial and final blend positions)	"Say snail. Say it again, without the /n/. "Say fork. Say it again, without the /k/."

Phonological Awareness Development

<http://www.readingrockets.org/article/development-phonological-skills>

Age	Skill Domain	Sample Tasks
4	Rote imitation and enjoyment of rhyme and alliteration	pool, drool, tool "Seven silly snakes sang songs seriously."
5	Rhyme recognition, odd word out	"Which two words rhyme: stair, steel, chair? "
	Recognition of phonemic changes in words	" <i>Hickory Dickory Clock</i> . That's not right!"
	Clapping, counting syllables	truck (1 syllable) airplane (2 syllables) boat (1 syllable) automobile (4 syllables)
5½	Distinguishing and remembering separate phonemes in a series	Show sequences of single phonemes with colored blocks: /s/ /s/ /f/; /z/ /sh/ /z/.
	Blending onset and rime	"What word?" th-umb qu-een h-o-pe
	Producing a rhyme	"Tell me a word that rhymes with car ." (star)
	Matching initial sounds; isolating an initial sound	"Say the first sound in ride (/r/); sock (/s/); love (/l/)."
6	Compound word deletion	"Say cowboy . Say it again, but don't say cow ."
	Syllable deletion	"Say parsnip . Say it again, but don't say par ."
	Blending of two and three phonemes	/z/ /ū/ (zoo) /sh/ /ō/ /p/ (shop) /h/ /ou/ /s/ (house)
	Phoneme segmentation of words that have simple syllables with two or three phonemes (no blends)	"Say the word as you move a chip for each sound." sh-e m-a-n l-e-g
6½	Phoneme segmentation of words that have up to three or four phonemes (include blends)	"Say the word slowly while you tap the sounds." b-a-ck ch-ee-se c-l-ou-d
	Phoneme substitution to build new words that have simple syllables (no blends)	"Change the /j/ in cage to /n/. Change the /ā/ in cane to /ō/."
7	Sound deletion (initial and final positions)	"Say meat . Say it again, without the /m/." "Say safe . Say it again, without the /f/."
8	Sound deletion (initial position, include blends)	"Say prank . Say it again, without the /p/."
9	Sound deletion (medial and final blend positions)	"Say snail . Say it again, without the /n/." "Say fork . Say it again, without the /k/."

Morphology



► Understanding & use of word parts

Morphemes: Linguistic entities that may be whole words, parts of words, or single phonemes.

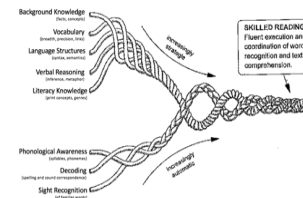
- Morphemes are the smallest meaningful units in language.

► Morphological knowledge enhances reading, vocabulary, and spelling

- Ex: prefixes, roots, and suffixes

(Moats, 2010)

Literacy and Vocabulary



► Vocabulary is a prime contributor to effective reading and writing

► Text cannot be understood unless the meanings of most words are known, nor can it be created without a large store of vocabulary knowledge

► Strong correlations exist between vocabulary and comprehension

What are oral language impairments?

- Impairments in use and/or understanding of spoken language, pronouncing words, acquiring vocabulary, and/or learning the grammatical rules of language.
- When these deficits are severe and unexpected, children may be diagnosed with *Specific Language Impairment*.

Signs of receptive language difficulties (school age):

- Difficulty understanding teacher's instructions, class instructions, & class discussion
- Difficulty following directions/rules, understanding conversation and/or movies
- Difficulty in reading comprehension across subjects, esp those with abstract material with complex grammatical structure & technical vocab.
- Difficulty in mathematical reasoning/problem solving

Receptive Language Disorder



<https://youtu.be/GnbVpzFEumg>

https://www.youtube.com/watch?v=JAsf_Wqjz4g

Receptive language means the ability to understand information. It involves understanding the words, sentences, and meaning of what others say or is read.

Signs of Expressive Language difficulties (school-age):

- ▶ Difficulty learning appropriate word production & usage, relationships of words, phrases, sentences to express needs/desires (frustration & embarrassment)
- ▶ Difficulty with expression affects interactions with peers
- ▶ Intent in communication often misunderstood
- ▶ Odd/unusual language (delayed or no response, difficulty using pronouns properly, immature language compared to peers, one-sided conversations with others, social isolation/reduced interest in communication)
- ▶ Difficulty in written expression, basic reading skills, drawing inferences, conclusions and associations

Expressive Language Disorder

<https://www.youtube.com/watch?v=BnRNeDtme0g>

Expressive Language means being able to put thoughts into words and sentences in a way that makes sense and is grammatically accurate.



Word Finding



▶ https://youtu.be/_y7TJ7Th8cY

- ▶ Those with word finding difficulties have difficulties retrieving words in the presence of good comprehension of the words they are unable to find. They appear not to know the answers when in reality they do know, but are unable to express their knowledge.

Vocabulary Deficits

VOCABULARY
Words Are Important!

- ▶ Children with language deficits can learn words, but they need more exposures to new words than children who are typically developing. They are also less able to retain newly learned words over time.
- ▶ Vocabulary impacts reading comprehension. “Those who enter fourth grade with significant vocabulary deficits show increasing problems with reading comprehension, even if they have good reading (word identification) skills”, Biemiller 1999.
- ▶ The poorest readers have the weakest vocabulary. They lack the vocabulary needed to understand grade-level texts, even if they can identify the printed words.

Social Pragmatic Disorder



- ▶ <https://youtu.be/vkSwXL3cGUg>
- ▶ Pragmatics refer to the social language skills we use in our daily interactions with others. They include what we say, how we say it, our body language, and whether it is appropriate to the given situation.



Supralinguistic Language Skills

- ▶ Complex language in which meaning is not directly available from lexical or grammatical information. Ex: intonation, body movements, sarcasm, inference, verbal reasoning, figurative language, indirect requests, humor.



What about auditory processing problems?



“The inability to understand spoken language in a meaningful way in the absence of what is commonly considered a hearing loss is called an auditory processing problem.”

Or:

“How well the ear talks to the brain, and how well the brain understands what the ear tells it”.

APD, CAPD, Auditory Perceptual Processing Dysfunction, etc...

- ▶ Involves evaluations by audiologist and speech language pathologist
- ▶ Audiologist: hearing acuity, auditory perceptual skills
- ▶ SLP: speech perception, receptive/expressive language

Two General tx approaches:

- Training certain auditory and listening skills, such as auditory discrimination, localization of sound, sequencing sounds, identifying a target sound in a noisy background. (training skills in isolation may not help a child to understand complex language).
- Concentrates on teaching more functional language skills & uses strategies (ex: visual aids, repeating directions) to facilitate the processing of language

Auditory Processing Disorder Strategies

- ▶ Seating: away from auditory & visual distractions to help focus and maintain attention (ex: close to the teacher and blackboard, and away from window and door).
- ▶ Setting: reduce external visual & auditory distractions (ex: cluttered bulletin boards, use study carrels, ear plugs, place mats and cloth poster boards on walls to decrease reverberation of noise, FM systems, etc).
- ▶ Speaking: gain attention before giving directions, speak slowly and clearly, use simple directions, use visual aids and write instructions, emphasize key words, use gestures, vary loudness, etc.

Oral Language impairments associated with dyslexia:

Children with dyslexia most often have the following problems with the phonological component of dyslexia:

Phonological awareness (explicit awareness of the sounds of language)

Phonological memory (memory for the sounds in words)

Phonological retrieval (word and name retrieval)

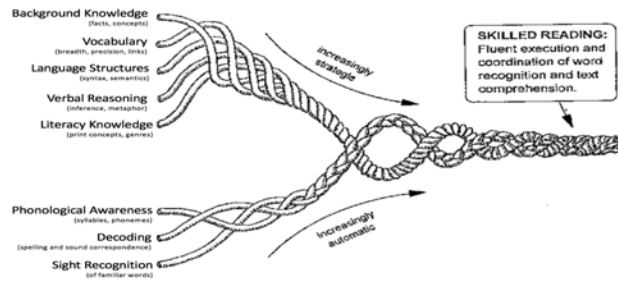
Phonological production (pronunciation of multisyllabic and phonologically complex words—aluminum, specific)

Early Childhood Dyslexia Indicators

- ▶ Delay in speaking
- ▶ Difficulty in Pronunciation
- ▶ Insensitivity to Rhyme
- ▶ Problems with word retrieval
- ▶ Indistinct, vague language
- ▶ Difficulty learning the names & sounds for letters of the alphabet
- ▶ Family History
- ▶ Extra Instruction

Simple View of Reading

Scarborough, H (2001). Connecting early language and literacy to later reading disabilities: evidence, theory, and practice. In S.B. Neuman & DK Dickenson, Handbook of early literacy and early literacy research, p98.



Dyslexia

Language System

- ▶ Discourse
- ▶ Syntax
- ▶ Semantics



Reading

- ▶ Comprehension

- ▶ Phonology
- ▶ A phonologic weakness interferes with decoding, higher abilities necessary for comprehension are intact

- ▶ Decoding

What to do if language deficits are suspected?

- ▶ **Refer to SLP for evaluation!!!** The importance of early identification and remediation is well known. Less commonly known is the importance of identifying and remediation language disorders in the adolescent (such disorders can lead to feelings of failure, low self-esteem, poor academic and social success, and a high drop out rate).
- ▶ Contact your school SLP, ASHA's website www.asha.org for information and referrals.

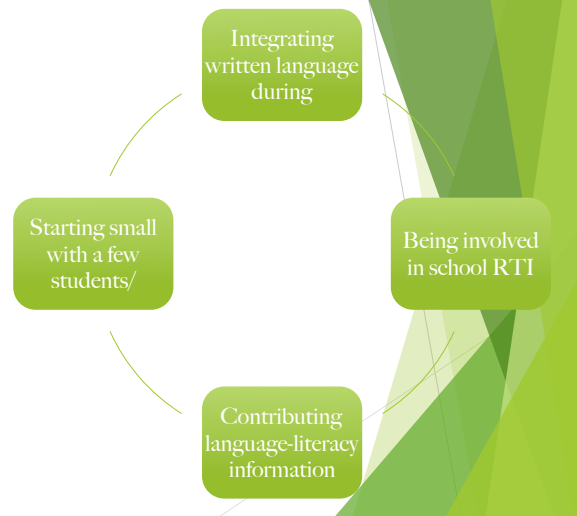
Language & Literacy Groups

- ▶ Run by SLPs with support of learning specialist
- ▶ Ideally 2x/week (ex: hour sessions for 10 weeks with pre and post testing) some models 1x/week for extended periods
- ▶ Target population: children with speech/language delays with emerging literacy skills
- ▶ Systematic, sequential, multi-sensory language/early literacy

Intervention: *Resources & Ideas*

- ▶ Direct speech language therapy
- ▶ Classroom enrichment (RTI?)
- ▶ Parent enrichment
- ▶ Language/literacy sessions (individual or group, SLP guided)
- ▶ Private tutoring
- ▶ School IEP services

How might Speech Language intervention look in a school setting?



What can parents do to promote early language/emergent literacy?

Draw your child's attention to print in everyday settings (traffic signs, logos, food containers, etc)

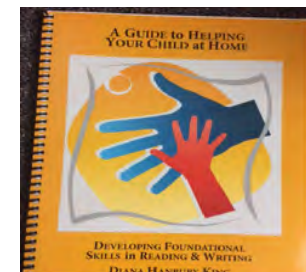
Encourage your child in singing, rhyming games, nursery rhymes, etc

Read, read, read! Especially picture and story books that focus on sounds, rhymes, and alliteration (words that start with the same sound)

Focus your child's attention on books by pointing to words and pictures as you read

Provide a variety of material to encourage drawing, scribbling

Excellent parent resource, for preschool, kindergarten, & primary grades



What can others do to support children with language difficulties?

Consult with SLP for specific needs/strategies

In general, to assist with comprehension:

- *Gain attention before giving directions
- *Speak slowly and clearly
- *Use simple, brief directions (in logical sequence)
- *Use words that make the sequence clear (first, next, finally)
- *Use visual aids and write instructions to supplement spoken directions
- *Emphasize key words
- *Provide demonstrations, gestures
- *Check for comprehension

How to help students with expressive language difficulties

- ▶ Take Time, let the child know there is no rush (directly and indirectly)
- ▶ Comment, don't question. Too many questions become an interview, not a conversation. Providing comments on what's happening also gives words/phrases the child may want to use.
- ▶ Model. It's best not to keep correcting them, but instead to say it back to them with the errors corrected so that they can hear a good example.
- ▶ Expand/Add. Show them language one stage further than they are currently able to say
- ▶ Offer choices.
- ▶ Use context. Ex: if teaching vocabulary, use the words as often as you can in context.

Strategies to help older students with language difficulties

- ▶ Request feedback
- ▶ For problems with speed or content: repeat instructions; restate; slow rate of presentation; use shorter units of explanation; allow students more time to process, organize and structure a response; limit the amount of material
- ▶ Limit the amount of new vocabulary presented at any one time
- ▶ Provide visual cues and concrete materials
- ▶ Use Gestures and/or action
- ▶ Encourage & use a variety of memory strategies (mnemonics, charts, visuals)
- ▶ Avoid sarcasm, ambiguity, and metaphorical language. Restate
- ▶ Evaluate learning styles and be prepared to use a variety of strategies.

Fundamental Principles:

- ▶ Spoken language provides the foundation for the development of reading and writing abilities;
- ▶ Children with spoken language problems often have difficulty learning to read and write;
- ▶ Spoken and written language have a reciprocal relationship;
- ▶ Instruction in one modality (spoken or written) can result in growth in the other modality.



As oral language goes, so does written language.....

Oral language impairments place children at risk for difficulties in reading comprehension. Because oral language is the foundation for written language, a limited vocab or problems with morphology & syntax can cause difficulties deriving meaning from written text. Similar difficulties are seen in output/writing tasks.

The ability to read and write is strongly influenced by the ability to understand and use language



Questions?

Thank you!!

“The limits of my language mean the limits of my world”

Ludwig Wittgenstein

