

Over the course of the month, we will be sharing information about the profession of Speech Language Pathology as well as information about speech/language/hearing/feeding development and disorders. If you have any further questions, please reach out to your school-based SLP or us.



Sincerely,

Roxane Burlack, IS for SLPs

Veronica Parsons, Coordinator of Related Services

The Brain of a Speech Language Pathologist

Expert Multitaskers:

Listening to one student's /r/ while recording data, giving another child the "sit on your bottom" look, and restarting the app on the Ipad for another all at the same time.

Planning Savant:

Can plan therapy for 60 kids who can't miss anything during the school day, IEP meetings around at least four individual's varying schedules, and therapy groups where five different kids have at least twenty different goals between them.

Nurturing Specialists:

Every child is told "Good job!" and "I like the way you did that!" with a hug or high-five added in to make sure they know how special they are.

Creative Genius:

Glue, pics from the
Super Duper Jumbo Artic Book,
and anything that can be cut,
colored, or covered in glitter
becomes a therapy activity AND
homework for carryover.

Diadochokinesis anyone? How about reading and writing words using fənɛ̃tɪks? Apples to Apples or

Word Nerd

BuzzWord, anyone?

"Our Gears Are Always Turning!"

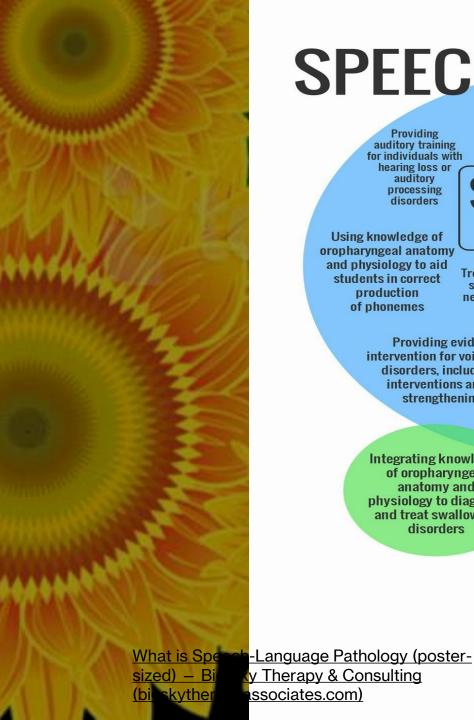


Cheerful Speech Chatter: SLP Humor: The Brain of a Speech Language Pathologist



- Expressive vocabulary delays at 24 months of age increase children's risk for later speech/language services. (Morgan et al., 2016)
- ❖ Between 40% and 50% of children receiving services through the Individuals with Disabilities Education Act's Early Intervention or Early Childhood Special Education (EI/ECSE) programs do so because of speech and/or language impairments (Hebbeler et al., 2007; Scarborough, Hebbeler, & Spiker, 2006).
- Children with speech and/or language impairments typically display lower reading, mathematics, and behavioral functioning at both the start of kindergarten and throughout elementary school (Harrison, McLeod, Berthelsen, & Walker, 2009; McCormack, Harrison, McLeod, & McAllister, 2011; Morgan, Farkas, Hillemeier, & Maczuga, 2012).

31 FACTS ABOUT THE Pediatric Speech
Pathologist Jobs - Therapy 2000 (t2000.com



What is SPEECH LANGUAGE PATHOLOGY?

Research

best practice

for all speech and

language disorders,

including taking

extensive data to

determine treatment

efficacy

Providing auditory training for individuals with hearing loss or auditory processing disorders

Using knowledge of oropharyngeal anatomy and physiology to aid students in correct production of phonemes

Providing multi-faceted therapy for individuals with congenital or acquired fluency disorders

express thoughts and feelings by articulate sounds

Treating congenital and acquired motor speech disorders, using knowledge of neurology, principles of motor planning and theories on neuroplasticity

Providing evidenced-based intervention for voice and resonance disorders, including behavioral interventions and pharyngeal strengthening exercises

Integrating knowledge of oropharyngeal anatomy and physiology to diagnose and treat swallowing disorders

Utilizing extensive knowledge in neurology, and oropharyngeal anatomy and physiology to make appropriate diagnoses and referrals

Synthesizing

findings to diagnose,

treat, and determine

progress on treatment for

Ensuring quality of life through functional communication!

speech sound disorders Interviewing family members to determine prior level of function or developmental

history

Addressing disorders of the phonological system. including those that impact speech production, language development. and literacy

Programming and training use of low-tech and high-tech augmentative and alternative communication. including sign language

Instruction in all aspects of written, oral, and augmentative language, including the comprehension and use of vocabulary, syntax, grammar, written language, phonological processing, nonverbal communication sign language, and social language

LANGUAGE

spoken or written, consisting of the use of words in a structured and conventional way.

findings to on treatment of language

Training communicative partners to support individuals with complex communication needs

> Treating and diagnosing cognitive communication disorders, including disorders of executive function, verbal problem solving. language memory, and attention.

PATHOLOGY[noun] the science of the causes and effects of diseases

> Reviewing medical records, including imaging, reports, past medical history, previous therapy notes, and physician notes

Taking inventory of symptoms and comorbid conditions to determine diagnosis and evidenced-base treatment options

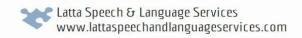
Communicating with medical and

non-medical professionals including

physicians, teachers, social workers.

psychologists, physical and

occupational therapists, and nurses



- Speech and/or language impairments increase children's risk of later being diagnosed as having reading (Catts, Fey, Tomlin, & Zhang, 2002) and behavioral disabilities (Yew & O'Kearney, 2013).
- ❖ Early intervention enhances the development of children at biological risk for developmental delay (Resnick et al. 1987).
- ❖ The prevalence of speech sound disorders in young children is 8 to 9 %. By the first grade, roughly 5 percent of children have noticeable speech disorders; the majority of these speech disorders have no known cause. (NIDCD, 2015)
- Research suggests that the first 6 months of life are the most crucial to a child's development of language skills. For a person to become fully competent in any language, exposure must begin as early as possible, preferably before school age. (NIDCD, 2015)

ntoduction to Linguistics: Brain and Language (eductech8910.blogspot com) Language in Which brain regions What happens in brain are activated? brain when you. In which order and how quickly? - read? - listen to speech? Which areas are connected? - speak? Speaking Simplified model of language processing in brain Reading text meaning When you read, listen to speech, or speak, a network of thousands of SNOW neurons is activated in your brain. This figure gives an overview of brain selection of feature analysis sound form regions that have been suggested to participate in various stages of individual letters language processing. syllabification whole word Feature analysis Analysis of articulation of (visual cortex) letter strings. speech sounds meaning sound form 'S-N-O-W Selection of Articulation of speech Meaning Understanding soun form sounds (motor cortex) speech Time after seeing/ 'S-N-O-W hearing a word 0,15 s 0.18 acoustic analysis of sound waves recognition of Here is a combination of regions More info: speech sounds that different brain imaging in English in Finnish methods have suggested to Hän Bäinen, Läne, Indefreyja Levelt, recognition participate in analysis of Aaltonen ja Rievonssio Cognition, 2004 of word form doin). 2006: meaning of words. Saln elin, Clinical Mieli ja aivot Neurophysiology, 2007 meaning Analysis of speech sounds (auditory cortex)



- In typically developing fetuses, the auditory system is fully functional at 25 weeks' gestation. In other words, your developing baby can hear you in utero at 25 weeks. This means that your unborn baby has 20 weeks of auditory stimulation to mother's voice prior to being born (if born full term). (Flexer, 2016)
- 92% of children with permanent hearing loss are born to two hearing parents.
 (Mitchell & Karchmer, 2004)
- If a child wears hearing aids for only 4 hours/day for one year, it will take him/her SIX years to catch up to equal the amount of time a child with normal hearing hears in one year. (Flexer, 2016)
- ❖ The 6-year-old child typically has a 2,600 word expressive vocabulary (words he or she says), and a receptive vocabulary (words he or she understands) of 20,000−24,000 words. (asha.org)
- ❖ It is estimated that more than 3 million Americans stutter. Stuttering affects individuals of all ages but occurs most frequently in young children between the ages of 2 and 6 who are developing language. Boys are 3 times more likely stutter than girls. Most children, however, outgrow their stuttering, and it is estimated that fewer than 1 percent of adults stutter.(NIDCD, 2016)

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Communication Difficulties can arise from problems with...

Cognition

Attention
Orientation
Memory
Organization
Reasoning
Judgment
Executive Functions

Communication

Understanding
Speaking
Reading
Writing
Conversation
Social Interaction

Emotional Control & Self Regulation

Initiation (starting)
Inhibition (stopping)
Anger control
Stress
Anxiety
Confidence

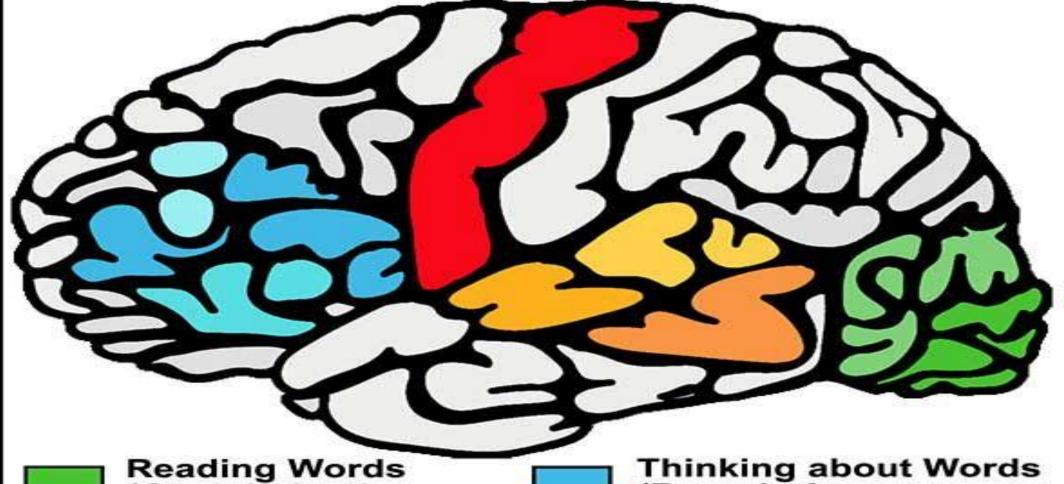
Physical

Muscle Control Speech Voice Stuttering

- Speech and language impairments are considered a high-incidence disability. Approximately 20% of children receiving special education services are receiving services for speech and language disorders. This estimate does not include children who receive services for speech and language disorders that are secondary to other conditions such as deafness. More than one-half (55.2%) of all 3-, 4-, and 5-year olds with a disability receive speech and language services. (Projectidealonline.org)
- Children in whom speech and language impairments persist past five and a half years of age have an increased incidence of attention and social difficulties. Children with specific speech and language impairments at seven and a half to 13 years of age have been shown to have impaired writing skills, with marked deficits in spelling and punctuation compared with children without speech and language impairments. (Snowling MJ, Bishop DV, Stothard SE, Chipchase B, Kaplan C., 2006).
- There are critical developmental transitions that must be negotiated in order for eating to advance properly: gross motor skills, fine motor skills, oral-motor skills, sensory inputs, emotional/cognitive/self-regulatory skills (Erhardt, 2010 & Ross, 2011).
- There are feeding difficulties identified in 40.6% of all infants born 34-36 weeks: 61% of infants at 34, weeks, 42% of infants at 35 weeks, 35% of infants at 36 weeks, Latching and poor effort predominant concerns. (Feeding FUNdamentals; Medoff-Cooper, et al., 2012)

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WORDS AND THE BRAIN

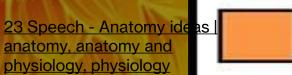




Reading Words (Occipital Lobe -Vision)



Thinking about Words (Broca's Area - Language production)



(pinterest.com)

Hearing Words (Wernicke's Area -Language Comprehension)

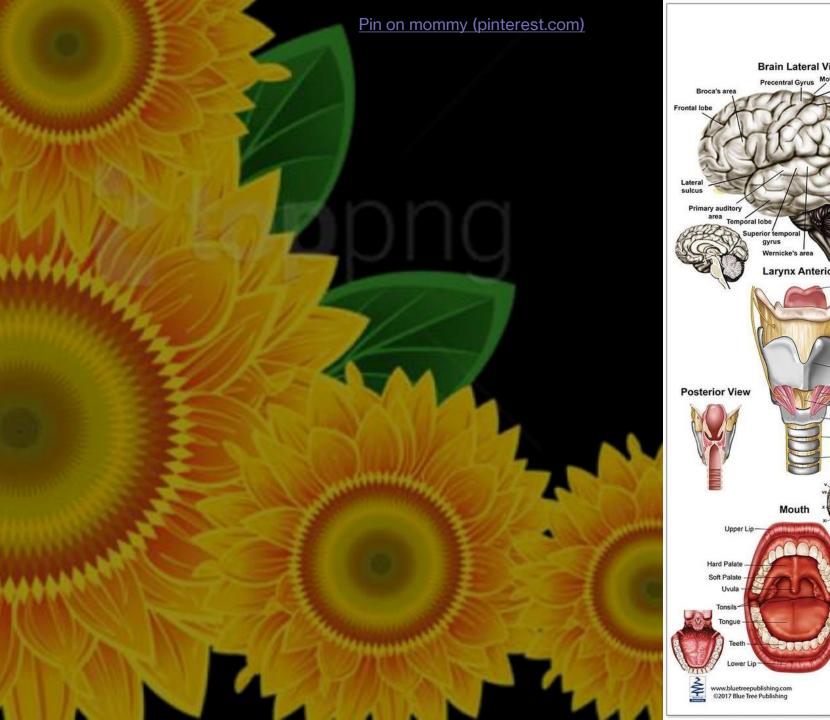


Saying Words (Motor cortex)



- ❖ Did you know the title Speech-language pathologist does not encompass all that we do? Some therapists also work with children with feeding and swallowing difficulties.
- ❖ ThThe smallest bones in the body are the auditory ossicles, located in the middle ear: the incus, the malleus, and the stapes (also called the anvil, hammer, and stirrup). (innerbody.com)
- The inner ear (cochlea) is no larger than a pencil eraser or a pea in circumference. If you were to unroll an average cochlea, it would end up being a tube about 31.5mm long. (medel.com)
- You do not need to clean wax out of your ears unless you have an abnormal condition. Ears push excess wax out as needed. (healthyhearing.org)
- The majority of individuals who have hearing loss are under the age of 65. (hearingaids.com)
- There are over 20,000 nerve/hair cells in the average cochlea; damage to these nerve/hair cells cause hearing loss. (ncbi.nlm.nih.gov/books)

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SLP

