

What is Speech-LANGUAGE?

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Speech-language impairment is determined through the demonstration of impairments in the areas of **articulation/phonology, language, voice, and/or fluency. SLPs do not ONLY work on sounds.**

Articulation

Articulation is the process by which sounds, syllables, and words are formed when your tongue, jaw, teeth, lips, and palate alter the air stream coming from the vocal folds. When an individual cannot produce or distorts an age-expected sound/s, it draws attention away from the speaker's message. Articulation errors can occur among people of any age; however, they are most common in children whose articulators have not matured/developed properly, or who simplify the adult model of correct articulation through the use of phonological processes.

Normal Development and Age Acquisition of Sounds

Children are not expected to master all phonemes (or sounds) as soon as they begin talking. All children have some errors as their speech develops. Very young children tend to master visual sounds first (sounds made with the lips, /p, m, b/) Some sounds such as /r, l, s/ are not visual sounds and are harder to produce physically. These sounds are usually the last to arrive in a child who is developing speech normally.

The expected ages for sound mastery is in the chart that follows.

3.5	p, m, n, w, h
4.5	k, f, g, b, y, d, t
5.5	Ng
6.5	sh, ch, v, l, j, sz
7.5-8.5	r, s, th, z, wh, blends

Articulation/Phonological Disorders

An articulation impairment is a significant deficiency in ability to produce sounds in conversational speech which is not consistent with chronological age. Articulation errors are considered motor-based errors. An articulation problem may be defined as difficulty in producing a single or a few sounds with no pattern or derivable rule. The most common articulation errors are substitution and distortion. Substitution is when a child replaces a sound with another sound (wamp/lamp). A distortion error is one that a child makes when he doesn't correctly produce a sound (frontal lisp/s). Childrens'/adults' speech is typically intelligible.

A **phonological process** disorder is a simplification of the sound system that adversely affects intelligibility. Students with phonological process problems demonstrate difficulty in acquiring a phonological system, not necessarily in production of the sounds. A phonological process is a patterned modification of the adult speech system. For example, a phonological process called fronting is when back sounds /k/ and /g/ that are produced by the tongue moving up in the back, are replaced with FRONT sounds /t/ and /d/ which are made by the tongue coming up in the front (tat/cat, doat/goat, etc). This is typically seen in young children whose speech is unintelligible, but it can also be seen in normally developing children at the Kindergarten level. If they are only using one process to simplify their speech, we do not usually evaluate them or enroll them in therapy. Instead, we will monitor them and evaluate at a later time, if necessary.

If a student's speech negatively impacts academic, social, and/or vocational functioning and one or more of the following occur

- Two or more phonemic errors not expected at the current age or developmental level
 - Two or more phonological processes occurring 40% or more of the time
- A student would be eligible for speech (articulation) therapy.

Language

Language is a form of social behavior shaped and maintained by a verbal community. A language impairment occurs when there is a significant deficiency not consistent with the student's chronological age in one or more of the following areas: a deficiency in receptive language skills to gain information, a deficiency in expressive language skills to communicate information, a deficiency in processing (auditory perception) skills to organize information. Specifically, a language impairment may include a deficiency in one or more of the components of language, morphology, syntax, semantics, and pragmatics. Morphology is the study of word structure and includes the use of grammatic structures such as regular past tense/plural, possessives, etc. Syntax is the arrangement of words to form meaningful sentences. Semantics is the meaning of words, and includes vocabulary development. Children with a semantic language disorder may have difficulty with category naming, multiple meaning words, figurative language, antonyms/synonyms, etc. Pragmatics is the use of language in social situations. This includes maintaining a topic, taking turns with the other speaker, etc.

Language and ID children (mentally disabled)

According to the North Carolina Department of Public Instruction "many students, including those with developmental disabilities and, in particular, those classified as mentally disabled, exhibit limitations with expressive and/or receptive communication skills. Not all such students are considered to have a speech-language impairment and in need of therapeutic intervention from the speech-language pathologist. The speech-language pathologist and other members of the IEP team should consider the efficacy of therapeutic intervention for each student and, in determining such, should consider whether or not enrolling a student for speech-language services will significantly change his/her ability to communicate." Children with cognitive impairments should not be expected to have language skills equal to their peers with higher cognitive functioning. Not only are these children going to have academic difficulties, but language difficulties as well. One must consider whether language skills are below cognitive functioning and are in need of remediation, or if cognitive level limits the child from developing higher-level language skills. Children in middle and high school who have been tested for language and whose scores indicate a language delay may have missed critical language milestones. In general, the later intervention takes place the less likely remediation will occur. With these children it is important to consider if his/her needs can be met in the general education program by the use of supports and services.

Voice

Voice difficulties in children might include chronic hoarseness, aphonia (absence of voice), low/high pitch, or strained/strangled quality. Speech-language pathologists are not permitted to begin therapy with a child with a suspected voice problem without first having them evaluated by an otolaryngologist (ENT). The ENT will perform a laryngoscopic examination on the child where they are able to view the vocal folds (voice box). This examination is necessary to rule out the presence of:

Nodules: Vocal fold **nodules** are benign growths on both vocal folds that are caused by vocal abuse (yelling, excessive throat clearing etc.). Over time, repeated misuse of the vocal folds results in soft, swollen spots on each vocal fold that develop into harder, callus-like growths. The nodules will become larger and more stiff the longer the vocal abuse continues. Can also be the result of acid reflux.

Polyps: Take a number of forms and are sometimes caused by vocal abuse. Polyps appear on either one or both of the vocal folds and appear as a swelling or bump (like a nodule), a stalk-like growth, or a blister-like lesion. Most polyps are larger than nodules and may be called by other names, such as polypoid degeneration or Reinke's edema.

Cancer: While rare in children, cancer must be ruled out before therapy can begin. Voice therapy involves teaching good vocal hygiene, eliminating vocal abuses, and direct voice treatment to alter pitch, loudness, or breath support for good voicing. Stress reduction techniques and relaxation exercises are often taught, as well.

Fluency

Stuttering is a disorder of speech fluency that interrupts the forward flow of speech. All individuals are disfluent at times, but what differentiates the person who stutters from someone with normal speech disfluencies is the kind and amount of the disfluencies.

Characteristics

- 1) **Repetitions** of sounds (e.g., b-b-b-ball), syllables (e.g., mo-mo-mommy), parts of words (e.g., basket-basket-basketball), whole words, and phrases.
- 2) **Prolongation**, or stretching, of sounds or syllables (e.g., r-----abbit).
- 3) Tense pauses, hesitations, and/or no sound **between words**.
- 4) Speech that occurs in **spurts**, as the client tries to initiate or maintain voice.

Almost all children go through a stage of frequent disfluency in early speech development, usually between the ages of 2 and 5. Speech is produced easily in spite of the disfluencies. As children mature and sharpen their communication skills, these disfluencies typically disappear, but not always. Stuttering usually starts during this same time period, but may occasionally appear for the first time in a school-age child and, more rarely, in an adult.

The speech-language pathologist may work on the follow during therapy:

- 1) reducing the rate of speech and using slow, smooth speech movements
- 2) easing into voicing of speech sounds
- 3) voicing continuously during utterances
- 4) articulating lightly
- 5) starting air flow for speech before any other muscle movement
- 6) Desensitization techniques using hierarchy for strategies usage outside of therapy room.
- 7) Pseudo-stuttering (fake EASY stuttering)

Stuttering therapy is a very complex, higher level type of therapy and requires the child to make many modifications in their speech. **Because of the difficult nature of this therapy, child with limited cognitive skills are not typically enrolled due to lack of understanding and the need for change.**

Your Role As a Teacher

As a teacher you will most likely have some speech/language children in your classroom. You can and should seek out the speech-language pathologist at your school for collaboration. You need to understand why that child goes to therapy and whether they are enrolled for language, articulation or something else. If you have a child that is not going to speech, but you believe they need to be or have heard or seen some things you are concerned about, you will need to inform the SLP so she/he can do a screening and a referral for services, if necessary. In a lot of school systems, SLP's will screen all the kindergarten children for speech/language. However, in schools where they do not, a lot of child that may have speech/language problems are missed.