



Foundations of Special Education

By Dr. Kathleen VanTol

Chapter 9: Communication Disorders

Let your conversation be always full of grace, seasoned with salt, so that you may know how to answer everyone. (Holy Bible, New International Version, Colossians 4:6)



Image: j4p4n. (2022, March 23). Seasoning shaker. Openclipart.org (CC0)

Introduction

Communication is fundamental to learning, building relationships, and participating fully in school and community life. From the earliest years, children use many forms of communication to express their needs, share ideas, ask questions, solve problems, and connect with others. While children develop communication skills at different rates, most

acquire speech and language naturally through everyday interactions with family members, peers, and teachers.

For some children, however, communication does not develop as expected. Speech and language impairments can affect a student's ability to understand others, express ideas clearly, or participate effectively in classroom instruction and social interactions. The nature and severity of these communication challenges vary widely. Some students require only short-term intervention to address a specific speech sound or fluency disorder, while others need ongoing speech-language therapy, specialized instruction, or augmentative and alternative communication (AAC) to communicate successfully.

Effective teachers recognize that communication is essential not only for academic learning but also for developing friendships, participating in classroom discussions, and advocating for one's own needs. By understanding the characteristics of communication disorders and collaborating with speech-language pathologists, families, and other professionals, educators can create supportive learning environments in which every student has meaningful opportunities to communicate, participate, and succeed.

Overview: Speech or Language Impairment

Within the group of students receiving special education services under IDEA, speech or language impairment is the second most common eligibility category ([NCES, 2023](#)). Under IDEA, a speech or language impairment is defined as "a communication disorder, such as stuttering, impaired articulation, a language impairment, or a voice impairment, that adversely affects a child's educational performance" ([IDEA, 2017](#)). Many children with other disabilities, such as deafness, cerebral palsy, autism, or intellectual disability, also have speech or language impairments in addition to their primary disability ([CPIR, 2015](#)). The prevalence of speech or language impairment is highest among children ages 3-6 ([NIDCD, 2024](#)). One reason for this may be that developmental milestones for speech and language are well established. As a result, parents, caregivers, and early childhood professionals are often able to recognize when a young child's communication skills are developing more slowly than those of same-age peers ([NASET, 2024](#)).

Definition of Communication



Communication will always require at least two participants, one participant to be the sender of information and one participant to be the receiver.

Image: Lach, R. (2021, July 10). *Two girls laying on grass and playing telephone call using paper cups on a string.*

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Communication occurs whenever people exchange information, ideas, thoughts, or feelings with one another. The [Merriam-Webster Dictionary](#) defines **communication** as “the act or process of using words, sounds, signs, or behaviors to express or exchange information or to express your ideas, thoughts, feelings, etc., to someone else.” Given this definition, communication will always require at least two participants, one participant to be the sender of information and one participant to be the receiver. Speech and language are the tools the sender uses to encode the message in a form that can then be decoded and understood by the receiver. This process serves many communicative functions such as requesting items, labeling objects, sharing ideas, participating in social interactions, and expressing opinions ([NASET, 2024](#)).

Speech and language are two important components of communication, but they are not the same thing. **Speech** is the physical action of producing the sounds and combinations of sounds which make up spoken language. It involves coordinating the muscles of the mouth, tongue, lips, and vocal mechanism to produce speech sounds clearly and fluently.

These combinations of sounds are then sequenced in a way that produces meaning.

Language, in contrast, is the system of rules used to organize sounds, words, and sentences into meaningful communication. Each language contains an agreed upon set of rules which govern the relationship between sounds and their corresponding symbols, as well as how words are combined to express ideas and convey meaning ([NASET, 2024](#)).

According to *Ethnologue* ([Eberhard et al., 2024](#)), there are more than 7,000 distinct languages spoken throughout the world. Much of the effort to document these languages has been carried out by organizations working to translate the Christian Bible, at least a portion of which has now been translated into more than 2,600 languages ([Wycliffe Global Alliance, 2023](#)).

A speech and language impairment affects communication either through a speech disorder, such as stuttering or impaired articulation, or through a language disorder, such as aphasia or central auditory processing disorder. To qualify for special education services under the IDEA category of Speech or Language Impairment, the communication disorder must adversely affect the child's educational performance. Many children who receive special education services under this category have a combination of both speech and language challenges. In addition, speech or language impairments may occur in combination with other disabilities, including deafness, cerebral palsy, autism spectrum disorder, and intellectual disability ([CPIR, 2015](#)).

Typical Speech and Language Development



Between one and two years of age, a child with typical speech development begins to put together short phrases and questions.

Image: Vander Kooi, A. (2022). *Where kitty?* (CC BY-NC-SA 4.0)

By six months of age, infants should be cooing, babbling, giggling, and laughing. They should make sounds to indicate that they are happy and make different sounds to indicate that they are upset. By one year of age, they should be using gestures to communicate such as reaching up to indicate that they want to be picked up or pointing at objects they want others to notice. Around this time, they also begin imitating speech sounds and may even say one or two words ([ASHA, 2024b](#)).

Between one and two years of age, children begin to use many new words and to put two words together to form phrases and questions such as “more book” and “Where kitty?” They start using the sounds p, b, m, h, and w in words ([ASHA, 2024b](#)). By age three, children start using the sounds k, g, f, t, d, and n in words. They know words for most things they commonly encounter, and they can even talk about things that are not in the room with them. They are able to put three words together when talking about things and they begin using prepositions like in, on, and under. “Why?” often seems to be a three-year-old’s favorite word. By three years old, a child’s speech should be generally understandable to family and familiar caregivers ([ASHA, 2024b](#)).

Between three and four years of age, children begin using pronouns like I, me, we, you, and they. At this age, children can begin saying rhyming words like hat and sat. They also begin saying plural words such as toys and cars. They now ask who, what, where, when, and how questions in addition to why. They can put four words together into a sentence and can string 4 sentences together at a time. By age four, the child's speech should be understandable to most listeners ([ASHA, 2024b](#)).

By age five, children should be able to make all the speech sounds in words, although they may still make articulation mistakes on harder to pronounce sounds such as l, s, f, v, z, ch, sh, and th. They are able to use sentences that have more than one verb. They can participate in a conversation and can tell simple stories. They are capable of modulating their speech to match the setting such as using a quieter voice inside and a louder voice outside. Most five-year-olds are also able to name many letters and numbers ([ASHA, 2024b](#)).

Speech Disorders



When a child has an articulation disorder, speech sounds may be omitted, substituted, distorted, or added, making the child's speech difficult for others to understand.

Image: Fring, G. (2020, April 5). *Cheerful woman and kid having fun in office*. Pexels.com (CC free to use)

Speech disorders affect a person's ability to produce spoken language clearly and fluently. They are the most common type of communication disorder among school-age children ([Black et al., 2015](#)). Articulation disorders are a type of speech disorder. **Articulation** specifically pertains to the ability to correctly produce individual speech sounds. When a child has an articulation disorder, speech sounds may be omitted, substituted, distorted, or added, making the child's speech difficult for others to understand ([CPIR, 2015](#)). By approximately 4 years of age, most children are able to correctly produce nearly all speech sounds ([ASHA, 2024b](#)).

Another type of speech disorder is a fluency disorder. **Fluency** refers to the “continuity, smoothness, rate, and effort in speech production” ([ASHA, 2019](#)). When a child has a fluency disorder, the normal rhythm and flow of speech are disrupted ([CPIR, 2015](#)). Two common fluency disorders are stuttering and cluttering. **Stuttering** is when the flow of speech is interrupted by an unintended repetition of sounds (b-b-baby) or syllables, including the repetition of one-syllable words (e.g., “let’s go out-out-out”), or the prolongation of a consonant sound (e.g., “ssssssssssometimes”). Stuttering can also be characterized by moments, called blocks, when the speaker is unable to initiate audible sound. Stuttering is the most common fluency disorder ([ASHA, 2019](#)).

Cluttering is also a fluency disorder but is much less well-known. It is characterized by dysfluencies that result in a breakdown in speech clarity. Examples of cluttering include the deletion of syllables in words, collapsing parts of multiple words together into one word (e.g., “I wanwatevision” instead of “I want to watch television”), omission of word endings, and the insertion of unexpected pauses into atypical places in a sentence. Cluttering may also involve “maze behaviors,” in which the speaker frequently revises, restarts, or changes direction before completing a thought. Children who clutter are often unaware that their speech is unclear and thus they do not attempt to repair the resulting breakdown in communication. As a result, cluttering can negatively affect both academic participation and social interactions ([ASHA, 2019](#)).

Stuttering usually begins in early childhood. On average, stuttering typically appears shortly before a child’s third birthday and 95% of children who stutter began doing so by the

age of 4. Data on cluttering is more limited but does indicate that the age of onset is similar to that of stuttering. However, most children who exhibit cluttering aren't identified until age 8 or later. It is estimated that a third of children who stutter also exhibit characteristics of cluttering. Teachers and parents may notice that asking the child to slow down their speech or directing the child to pay attention to their speech may improve speech clarity or fluency in the moment; however, children with speech disorders should also receive speech therapy to address their dysfluencies" ([ASHA, 2019](#)).

Speech disorders frequently co-occur with other disorders. Attention-deficit/hyperactivity disorder (ADHD), autism spectrum disorder, and learning disabilities are common comorbid conditions associated with both stuttering and cluttering. Stuttering also commonly co-occurs with intellectual disability, seizure disorders, and social anxiety disorder. Additional comorbid conditions associated with cluttering include auditory processing disorders and Tourette syndrome. Furthermore, children with fluency disorders are at increased risk for experiencing social and emotional difficulties as a result of their communication disorder ([ASHA, 2019](#)).

Eli's Story

My son, Eli, was diagnosed with cluttering last year when he was five years old. I knew there was something not quite right with the fluency of his speech for the past couple years, but it didn't seem exactly like stuttering. Eli is very bright, friendly, and has had a great vocabulary from a very young age. But whenever he tried to communicate with us in longer sentences, it seemed like his brain was working faster than his words could come out. He would start out fine, but then get stuck repeating sounds or words: "Mommy, did you see that video with the... uh, uh, uh, uh.... I liked that movie with, with, with, with...."

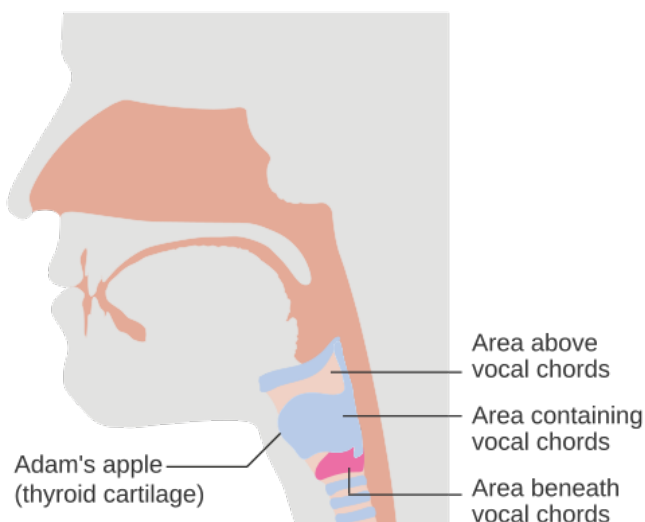
Sometimes he could come up with the words to complete his thought, or I could figure out what he was trying to say and supply the words for him. He usually seemed completely unaware of the communication breakdown and would just

continue trying to come up with the right words, or eventually give up and go back to playing, saying, “Never mind!”

Our friends and family had trouble understanding Eli, sometimes starting to laugh, or turning away from him when he was trying to talk. It required a lot of patience to let him take the time he needed to communicate. Since his cluttering diagnosis, we have worked with two different speech and language pathologists. Both of them have said that he is the first student they have worked with who has cluttering! I’ve been grateful that they have sought out extra training and consulted with an expert on cluttering to provide Eli with the appropriate speech therapy for his needs.

By Rachel, 2022, Used with permission.

Voice Disorders



Voice sounds are generated when air moves past the vocal folds in the larynx with enough pressure to cause the vocal folds to vibrate.

Image: Cancer Research UK. (2015, December 10). *Diagram of the larynx*. Wikimedia Commons (CC BY-SA 4.0)

In addition to speech and fluency disorders, some children have voice disorders. Voice sounds are generated when air moves past the vocal folds in the larynx with enough pressure to cause the vocal folds to vibrate. Voice disorders affect one or more characteristics of the voice, including pitch, volume, and quality. [Pitch](#) refers to the frequency of the sound waves that are produced, that is, the highness or lowness of a

sound in relation to the full range of sounds. [Volume](#) refers to the whether the sound produced is too loud or too soft. [Voice quality](#) may also be affected. For example, the voice may be breathy, harsh, monotone, hoarse, or raspy or it may have a pronounced nasal quality. In addition, some people with voice disorders also experience vocal fatigue or pain when speaking. Voice disorders can make it difficult for students to participate in classroom discussions, read aloud, or communicate comfortably with peers throughout the school day ([NIDCD, 2024](#); [CPIR, 2015](#); [NASET, 2024](#)).

Language Disorders

Languages have a structured system of rules that govern how speech sounds are combined to form words and how the words are combined to form phrases and sentences that communicate meaning. The structure, or form, of language includes three major components: phonology, morphology, and syntax. [Phonology](#) is the study of the sound system of a language, including how speech sounds are organized and how they change depending on their position within a word or the sounds that surround them. [Morphology](#) is the study of words, including the smallest parts of words that carry meaning such as prefixes, suffixes, and root words. [Syntax](#) refers to the rules that determine how words are organized into grammatically correct phrases and sentences. Two additional components of language are semantics and pragmatics. [Semantics](#) refers to the rules for attaching meaning to words and sentences and [pragmatics](#) are the rules which govern the functional use of language in social contexts. Together, these five components enable people to understand and communicate ideas effectively ([NASET, 2024](#)).

Language disorders may affect either expressive language, receptive language, or both. [Expressive language](#) refers to language output and includes the words, signs, gestures, and other forms of communication used to convey meaning. [Receptive language](#) is language input and refers to the ability to take in and comprehend the information that is being communicated. When both expressive and receptive language are affected, the disorder is referred to as a mixed receptive-expressive language disorder ([NASET, 2024](#)). Children already begin learning components of language as infants and, while rates of

learning may vary, most children are using language effortlessly by age five. It is important to note that children who are learning to speak more than one language are not at greater risk for developing language disorders than their monolingual peers, although they may progress through developmental milestones in speech and language at a slightly different rate ([Communication Health Support Association, n.d.b](#)).

With an expressive language disorder, the child has difficulty communicating ideas and needs. With a receptive language disorder, the child has difficulty understanding what others say. Language disorders may result from hearing loss, brain injury, neurological disorders, or certain physical impairments, although in many cases the underlying cause is unknown ([CPIR, 2015](#)). Two examples of disorders that affect language are aphasia and **[central auditory processing disorder \(CAPD\)](#)**. **Aphasia** is a language disorder caused by damage to the language centers of the brain and can affect both expressive and receptive language. CAPD involves difficulty processing and interpreting spoken language despite normal hearing sensitivity. This disorder is not well understood and there is some disagreement among professionals on how CAPD affects language development and how it should be diagnosed and treated ([ASHA, 2023](#)).

Some signs of a possible language disorder include incorrect word usage and grammar patterns, limited vocabulary, difficulty following directions, and challenges understanding or expressing ideas ([CPIR, 2015](#)). Before assessing a child for a language disorder, it is important to first evaluate the child's hearing as hearing impairments can affect development of speech and language skills. If hearing loss is ruled out, a comprehensive language evaluation is conducted to identify the nature of the child's communication difficulties. This evaluation typically includes assessments of expressive language, receptive language, vocabulary, grammar, and the child's ability to understand and use spoken language effectively in a variety of situations ([ASHA, 2023](#)).

Prevalence

Nearly 8% of school-age children have been diagnosed with a communication disorder. Younger children and boys are more likely to be identified with communication disorders

than older children and girls ([Black et al., 2015](#); [NIDCD, 2024](#)). Speech disorders are slightly more common than language disorders across all grade levels. Approximately 5% of children have a speech disorder, 3.3% have a language disorder, and 1.4% have a voice disorder. Some children have only one type of communication disorder, while others experience difficulties in multiple areas. Among children between the ages of 3 and 10 who have a communication disorder, approximately one-third have more than one type of communication disorder. By ages 11 to 17, this decreases to about one-fourth of affected children ([Black et al., 2015](#); [NIDCD, 2024](#)). This decrease may reflect the effects of early intervention, as many speech and language difficulties improve with appropriate therapy and instruction.

Educational Implications



Services for children with hearing disorders may be provided through pull-out speech-language therapy, integrated services within the classroom, or a combination of both, depending on the student's individual needs.

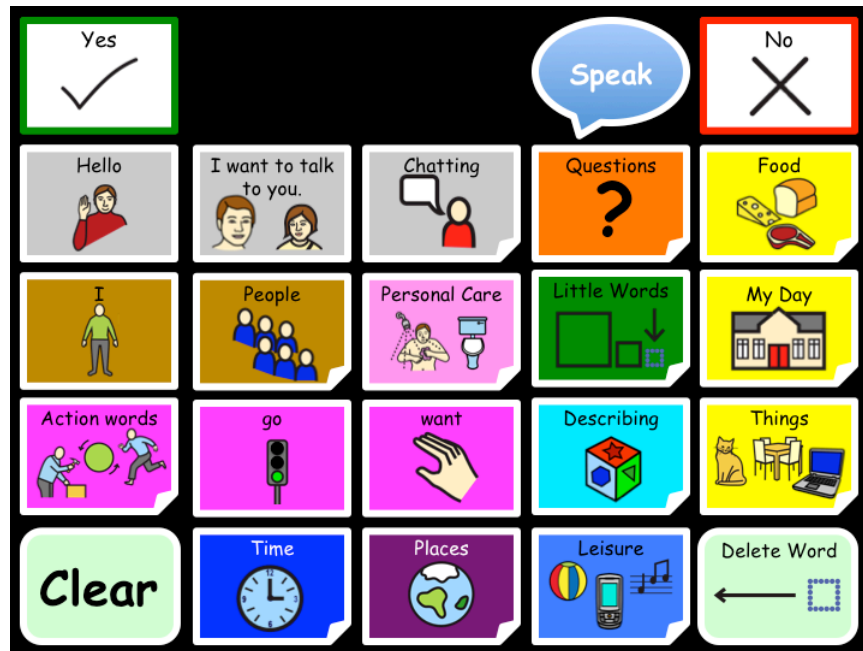
Image: Felton, R. (2020, May 11). *Deaf teacher and student in Mexico*. Unsplash.com (Unsplash free to use)

Most students with speech or language impairments who receive special education services will have an Individualized Education Program (IEP). The school speech-language pathologist (SLP) is an important member of the IEP team and is responsible for assessing the student's communication skills, identifying strengths and areas of need, and developing an individualized therapy plan. The special education teacher collaborates with

the SLP, the family, and other members of the IEP team to develop educational goals and plan appropriate instructional supports. Services may be provided through pull-out speech-language therapy, integrated services within the classroom, or a combination of both, depending on the student's individual needs. In some cases, schools may also need to improve classroom acoustics or reduce background noise to better support students with receptive language difficulties ([ASHA, 2019](#); [ASHA, 2024b](#); [ASHA, 2021](#); [KidsHealth, 2021](#)).

Teachers should work closely with the student's speech-language pathologist to identify the most effective ways to support communication in the classroom and to ensure that the student has meaningful opportunities to communicate, participate, and demonstrate learning throughout the school day. Tips for teachers include speaking clearly and at an appropriate pace, providing visual supports, checking frequently for understanding, and giving students adequate time to process information and respond. Preferential seating near the teacher can make it easier for students to hear instruction, ask questions, and receive assistance. Additional accommodations may include providing copies of class notes or assigning a peer note-taker. Technology can also support communication and learning. For example, real-time captioning of classroom videos can improve access for students with receptive language difficulties. When assigning oral presentations, teachers should offer alternative ways for students with speech and language impairments to demonstrate their learning, such as presenting one-on-one with the teacher, creating a recorded presentation, or completing a written project when appropriate. Because students with communication disorders may be at increased risk for bullying, teachers should intentionally foster a classroom culture that celebrates differences and models acceptance for all children ([KidsHealth, 2021](#); [CPIR, 2015](#)).

Augmentative and Alternative Communication



AAC devices allow people to communicate when they cannot rely on using vocal verbal speech.

Image: Reddington, J. (2014, November 22). AAC device layout for English speakers. Wikimedia Commons. (CC BY-SA 4.0)

Some children with significant communication challenges need tools or strategies that supplement or replace natural speech. These supports are known collectively as augmentative and alternative communication (AAC). The word *augmentative* means to add to or supplement existing communication. Children who have some understandable speech may use AAC, such as sign language or picture cards, to make their messages clearer or more complete. In contrast, alternative communication refers to systems that replace spoken language when a child has little or no functional speech. AAC may also include sign language or picture cards in addition to communication boards, speech-generating devices, and many other tools. The purpose of augmentative and alternative communication is to enable a person to communicate when they cannot rely on using vocal verbal speech ([Communication Health Support Association, n.d.a](#); [Hartmann, 2016c](#)).

AAC systems can be divided into two broad categories: unaided and aided. Unaided AAC does not require an external tool or device and includes gestures, facial expressions, body

language, and sign language. Aided AAC requires the use of a communication tool or device and includes both low-technology and high-technology options. Low-tech AAC includes picture cards, communication boards, alphabet charts, and communication books. High-tech AAC ranges from a communication app on a tablet such as an iPad to dedicated speech-generating devices. Individuals who can read and spell often use text-based AAC systems with keyboards, while those who are not yet reading or spelling require an AAC system that uses pictures or symbols to represent words and phrases. Many individuals who use AAC are multimodal communicators, meaning they use a combination of both aided and unaided methods to communicate ([Communication Health Support Association, n.d.a.](#); [Hartmann, 2016c](#)).

Having a reliable means of communication can be life changing. Individuals who do not have an effective way to communicate are often more socially isolated, experience greater frustration, are more vulnerable to abuse or neglect, and may be unable to demonstrate what they know or even to express their preferences and opinions about decisions that affect their own lives. In contrast, access to augmentative and alternative communication can strengthen relationships, increase participation in school and community life, promote more frequent social interactions, foster greater independence, improve personal safety, and expand opportunities for education and employment. AAC can be used successfully with individuals of all ages, including very young children.

Sometimes there is concern that using an AAC system will slow or impede a child's development of spoken language; however, research has consistently shown the opposite. Rather than delaying speech development, AAC often supports the development of spoken language while also promoting the acquisition of reading and writing skills. There are no prerequisite skills that a child must master before AAC can be introduced. A speech-language pathologist (SLP) can help determine the most appropriate AAC system for each individual. Even individuals who have limited use of their arms or hands can successfully use AAC through appropriate access methods. Occupational therapists and physical therapists may also collaborate with the SLP to develop an accessible communication system that provides the individual with a reliable means of communication. It is important

to presume competence and provide every child with the tools and supports needed to communicate effectively ([Communication Health Support Association, n.d.a.](#); [Hartmann, 2016c](#); [Hartmann, 2016b](#); [Hartmann, 2016a](#)).

Conclusion

Communication is essential for learning, building relationships, and participating fully in school and community life. Students with speech and language impairments benefit when educators presume competence, recognize each learner's unique communication needs, and collaborate with speech-language pathologists, families, and other professionals to provide appropriate supports. By ensuring that every student has a reliable means of communication, teachers help remove barriers to learning and create opportunities for students to develop confidence and independence.

Notice and Reflect

Observe communication in a classroom, church, community program, or other setting where children are interacting. Pay attention to the different ways children communicate with adults and with one another. Consider both verbal and nonverbal communication, including gestures, facial expressions, eye contact, visual supports, sign language, and communication devices.

Reflect

- How did communication influence participation in learning or social interactions?
- Did you notice any child who appeared to have difficulty understanding others or expressing ideas? If so, what strategies did adults or peers use to support that child's communication?
- Based on what you learned in this chapter, what additional supports or instructional strategies might help create a more communication-rich and inclusive environment for all learners?

Glossary

- **Aphasia.** A disorder caused by damage to the language centers of the brain that can affect both expressive and receptive language
- **Articulation.** The ability to correctly produce individual speech sounds.
- **Central auditory processing disorder (CAPD).** A disorder which causes difficulty processing and interpreting spoken language despite normal hearing.
- **Cluttering.** People with this fluency disorder may delete syllables, collapse words together, omit word endings, or add unexpected pauses to sentences.
- **Communication.** Occurs whenever people exchange information, ideas, thoughts, or feelings with one another.
- **Expressive language.** Refers to language output and how it is used to convey meaning.
- **Fluency.** Refers to the continuity, smoothness, rate, and effort in speech production.
- **Language.** The system of rules used to organize sounds, words, and sentences into meaningful communication.
- **Morphology.** The study of words, including the smallest parts of words that carry meaning such as prefixes, suffixes, and root words.
- **Phonology.** The study of the sound system of a language and how speech sounds are organized in context with each other.
- **Pitch.** The frequency of the sound waves produced by the voice, that is, the highness or lowness of a sound in relation to the full range of sounds.
- **Pragmatics.** The rules for functional use of language in social contexts.
- **Receptive language.** Refers to language input and the ability to comprehend the information that is being communicated
- **Semantics.** The rules for attaching meaning to words and sentences
- **Speech.** The physical action of producing the sounds and combinations of sounds which make up spoken language.

- **Stuttering.** The flow of speech is interrupted by an unintended repetition of sounds or syllables.
- **Syntax.** The rules that determine how words are organized into grammatically correct phrases and sentences.
- **Volume.** Refers to the whether the sound produced is too loud or too soft.
- **Voice quality.** The voice may be breathy, harsh, monotone, hoarse, or raspy. It may have a pronounced nasal quality

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About the Author

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