

CHAPTER 9: COMMUNICATION DISORDERS

Within the group of students receiving special education services under IDEA, the second most common eligibility category is speech or language impairment ([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 also have speech or language impairments that are secondary to a primary impairment such as deafness, cerebral palsy, autism, or intellectual disability ([CPIR, 2015](#)). The prevalence of speech or language impairment is highest amongst children ages 3-6 ([NIDCD, 2024](#)). This may be because the milestones for development of speech and language skills in children are well established, thus parents and other caregivers of young children become concerned when a child’s language development lags behind that of same-age peers ([NASET, 2024](#)).

DEFINITION

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 the tools used by the sender to encode the message. Speech is the physical action of producing the sounds and combinations of sounds which make up language. These combinations of sounds are then sequenced in a way that produces meaning. Each language contains an agreed upon set of rules which govern the relationship between sounds and their corresponding symbols and a system for how these sounds are combined to form words and units of meaning ([NASET, 2024](#)). According to [Ethnologue](#), there are 7,164 distinct languages in use today. Much of the work to document the languages of the world has been done by missionary organizations working to translate the Christian Bible, at least a portion of which has now been translated into 2,608 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 as a student with a speech or language impairment, the communication disorder must adversely affect the child's educational performance. Many children who receive special education services under the category of speech or language impairment have a combination of both speech and language challenges. A child may also have speech or language difficulties that are related to another impairment such as deafness, cerebral palsy, autism, or intellectual disability ([CPIR, 2015](#)).



TYPICAL SPEECH AND LANGUAGE DEVELOPMENT

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. At this age, children begin imitating different speech sounds and may even say one or two words ([ASHA, 2024](#)).

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, 2024](#)). 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 caregivers ([ASHA, 2024](#)).



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, 2024](#)).

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, 2024](#)).



SPEECH DISORDERS

Speech disorders affect a person's ability to clearly and consistently produce oral language. Speech disorders are the most common type of communication disorder in school age children ([Black et al., 2015](#)).

Articulation disorders are a type of speech disorder. Articulation specifically pertains to the ability to make certain speech sounds. When a child has an articulation disorder, certain sounds might be added, omitted, changed, or distorted. Articulation disorders can make it difficult for others to understand the child's speech ([CPIR, 2015](#)). By 4 years of age, most children are able to say almost all the speech sounds correctly ([ASHA, 2024](#)).

Fluency is a measure of "continuity, smoothness, rate, and effort in speech production" ([ASHA, 2019](#)). With a fluency disorder, the rhythm and flow of the child's speech is 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. It also includes "maze behaviors," which refers to when the child makes frequent topic shifts within a conversational statement. Children who clutter are often unaware that their speech is unclear and thus they do not attempt to repair the resulting breakdown in communication. This can have an adverse effect on 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](#)).

It is common for speech disorders to co-occur with other disorders. Some common comorbid disorders for either stuttering or cluttering are attention deficit hyperactivity disorder (ADHD), autism spectrum disorder, and

learning disabilities. Stuttering also frequently co-occurs with intellectual disability, seizure disorders, and social anxiety disorder. Additional typical comorbid conditions for cluttering include auditory processing disorders and Tourette's syndrome. Furthermore, children with fluency disorders are at higher risk for experiencing negative social and emotional effects as a result of their 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.

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VOICE DISORDERS

In addition to speech disorders, children may 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 include problems with the pitch, volume or quality of these voice sounds. 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 have low endurance for speaking or may even feel pain with voice use. ([NIDCD, 2024](#); [CPIR, 2015](#); [NASET, 2024](#)).

LANGUAGE DISORDERS

Languages have a structured system of rules that govern how the sounds of the language are combined to form words and how the words are combined to form phrases and sentences that communicate meaning. The form of a

language system consists of phonology, morphology, and syntax. Phonology is the study of speech sounds and how sounds change based on context or on the location of the sound in a word or syllable. Morphology is the study of words, including the smallest parts of words that carry meaning such as prefixes and suffixes. Syntax governs rules for choosing the most appropriate word for a particular context and for determining the way words are arranged to form correct sentences. Semantics and pragmatics are also important components of the language system. 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 ([NASET, 2024](#)).

Expressive language is language output. Words, signs, and gestures that are used to convey meaning are all examples of expressive language. Receptive language is language input and refers to the ability to take in and comprehend the information that is being communicated. Language disorders can affect expressive language or receptive language. A mixed receptive/expressive language disorder indicates that both types of language are affected ([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 ([ASHA, 2024](#))

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 can be caused by hearing loss, brain injury, neurological disorders, and physical impairments. Often the cause is unknown ([CPIR, 2015](#)). Two examples of language

disorders are aphasia and central auditory processing disorder. Aphasia is a language disorder that affects both expressive and receptive language and is caused by damage to the language areas of the brain. Central auditory processing disorder is a receptive language disorder caused by a deficit in the neural processing of speech sounds. The child with central auditory processing disorder has difficulty attaching meaning to the auditory input the ear is sending to the brain. This disorder is not well understood and there is some disagreement among professionals on how central auditory processing disorder 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, reduced vocabulary, and difficulty following directions ([CPIR, 2015](#)). Before assessing 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. Then, the evaluator will determine the type of language problem the child is experiencing. An evaluation for a language disorder will include assessments of a child's ability to communicate effectively using appropriate vocabulary and grammar as well as assessments of the child's ability to understand words, sentences and connected speech ([ASHA, 2023](#)).

PREVALENCE

Nearly 8% of school age children have been diagnosed with a communication disorder. Younger children and male students are more likely to be identified as having a communication disorder. Across the grade levels speech problems are slightly more common than language problems. Approximately 5% of children have speech disorders and 3.3% have language disorders. In addition, 1.4% of children have voice disorders. A child may have only one of these types of disorders or a combination of two

or more of these difficulties. About a third of the children ages 3-10 years old who have a communication disorder have more than one type of communication disorder. For children ages 11-17 years old who have a communication disorder, approximately a fourth have more than one type of communication disorder ([Black et al., 2015](#); [NIDCD, 2024](#)).

EDUCATIONAL IMPLICATIONS

Most children with speech or language impairments will qualify for an Individualized Education Program (IEP). The school speech-language pathologist (SLP) will be an important member of the IEP team for these children. The SLP will conduct formal assessments of speech and language development, identify strengths and challenges, and develop a therapy plan for addressing the identified areas of need. The special education teacher will work collaboratively with the SLP and the family, as well as other IEP team members, to develop appropriate goals and educational programming for the child. This plan will likely include either one or more pull-out sessions of speech or language therapy per week or a more integrated in-class provision of services to address student goals. In some cases, it may also be necessary for a school to address the need for improved acoustics in the classroom in order to better support learning for students with receptive language challenges ([ASHA, 2019](#); [ASHA, 2024](#); [ASHA, 2021](#); [KidsHealth, 2021](#)).

Teachers should consult with the child's SLP on the most effective ways to support and facilitate the child's communication in the school setting. Tips for teachers include speaking slowly and clearly, providing visual supports, seating the child closer to the front of the class to make it easier for the teacher to answer questions and provide assistance, providing a note-taker or copies of class notes, and regularly checking to ensure the child understands assignments and class content. Technology can also be used to

make learning easier. For example, technology is available which provides real-time captioning of videos that are shown in class, which can be helpful for the child with receptive language struggles. When assigning oral presentations, teachers should give the child with a communication disorder the option of presenting one-on-one or of doing a written paper or project instead. Children with speech and language impairments are also easy targets for bullies, so teachers should be mindful of the potential for bullying and work to create a classroom that celebrates differences and models acceptance for all children ([KidsHealth, 2021](#); [CPIR, 2015](#)).



AUGMENTATIVE AND ALTERNATIVE COMMUNICATION

In some cases, a child with significant communication barriers will also need tools and strategies that can supplement or replace their natural speech.

Augmentative and alternative communication refers to a variety of devices and strategies that can serve this purpose. Augment means to add or supplement. A child who uses augmentative communication has some natural speech but supplements that with an additional means of communication such as sign language or picture cards to make the message

clearer. When a child has no vocal speech or their speech is so unclear that it cannot be understood by others, the child needs an alternative means of communication. Sign language or picture cards, as well as a variety of other tools, can also be used as an alternative means of communication. The purpose of augmentative and alternative communication is to enable a person to communicate when they cannot rely on using vocal verbal speech ([ASHA, 2024](#); [Hartmann, 2016a](#));).

The tools and strategies of augmentative and alternative communication (AAC) can be divided into two categories, unaided and aided. Unaided means that a physical tool or device is not needed to use the communication strategy. Unaided AAC includes gestures, body language, facial expressions, and sign language. Aided AAC utilizes a tool or device and includes both low-tech and high-tech options. Low tech tools include picture cards, symbol boards, alphabet charts, and communication books. High-tech options range from a communication app on an iPad to a dedicated speech-generating device. A person who can read and spell will typically use an AAC device that has a text-based system with a keyboard while those who cannot yet read or spell will need an AAC system that uses pictures or symbols to represent words and phrases. Many users of augmentative and assistive communication are multimodal communicators and will use a combination of both aided and unaided methods to communicate ([ASHA, 2024](#); [Hartmann, 2016a](#)).

Having a reliable means of communication can be life changing for a person. Those who do not have a reliable way to communicate are more socially isolated, experience greater frustration, are more vulnerable, and are unable to show what they know or even to express their opinions on decisions which affect their own lives. The benefits of acquiring these communication tools for those who cannot rely on vocal verbal speech to communicate include stronger relationships, greater community participation, more frequent social

interactions, increased independence, improved personal safety, and more opportunities for employment. Augmentative and alternative communication can be used with people of all ages, including very young children. Sometimes there is a concern that using an AAC system will slow down or impede a child from acquiring vocal speech; however, research shows the opposite to be true. Rather than delaying speech development, this type of support helps with the development of vocal speech as well as with the acquisition of reading and writing skills. There are no prerequisite skills that must be mastered before AAC can be introduced. A speech-language pathologist (SLP) can help determine the type of ACC that is appropriate for a particular child's needs. There are even AAC systems for those who have difficulty using their arms and hands. An occupational therapist or a physical therapist can work with the SLP to develop an accessible system that will provide that person with a reliable means of communication. It is important to presume competence and give every child the tools and supports needed for communication ([ASHA, 2024](#); [Hartmann, 2016a](#); [Hartmann, 2016b](#); [Hartmann, 2016c](#)).



CHAPTER 9: SOURCES

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