

## EARLY CHILDHOOD LEARNING

Knowledge Centre

# Bulletin

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## Language Development in Young Children

by Donald G. Jamieson

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A child's first words are eagerly anticipated by parents, who proudly celebrate the astonishingly rapid progress we see as most children acquire new words and new language skills during their first years of life.

While spoken language comes naturally to most children, all children make errors of various kinds, and language learning unfolds over our entire lifetimes. Thus, for a time, I called my older sister "Buff" – rather than by her real name, Beth. I could hear the final "th" sound but I just couldn't get my mouth to pronounce this.

Without doubt, every family has a story along these lines. But how do we decide when a child's speech errors are part of the normal learning and maturation process and when they reflect a real, underlying problem? If it is the latter, the underlying problem will not correct itself and we want to ensure that there is an appropriate intervention. On the other hand, if the error will resolve itself, we want to leave well enough alone, so we can direct costly intervention services to those who really do need them.

Just when speech errors should cause concern and when they should not has been a source of much confusion. Approximately 16% of children are considered to have a speech sound disorder (SSD). These children do not speak as well as

their peers and they are often difficult to understand. SSDs are usually of unknown origin, and not the result of a basic sensory (e.g., hearing), structural (e.g., cleft palate), or neurological (e.g., cerebral palsy) problem.

Untreated SSDs can have a lifelong impact. More than half of children with SSDs develop academic difficulties in language, reading, and spelling during their school years. Furthermore, adults with a history of SSDs complete fewer years of formal education and generally have weaker spelling and reading skills. Thus, leaving an early SSD untreated may impact a person's educational achievement, occupation, and quality of life.

For effective intervention, we need to identify a communication disorder and its causes early on, and provide effective treatment. When a parent or caregiver suspects that a child has an SSD, they should consult a speech-language pathologist for an evaluation. Most children with SSDs can benefit from a speech-therapy intervention of an appropriate type and at an appropriate intensity. Effective therapy recognizes and builds on the important role parents play in their children's language development. More generally, there is much that parents can do to foster their children's speech and language development, including creating a language-rich, supportive environment at home, where children are encouraged to express themselves verbally. ☺

# Language is the Door to Living and Learning

by Alison Palkhivala

From laughter and smiles to hand gestures and ear-splitting screams, babies find some pretty effective ways to communicate with those around them. For humans, nothing quite beats language for effective, precise communication. Those initial words are crucial first steps to ongoing psychosocial development and learning.

In most children, language development follows a fairly predictable pattern. First words usually emerge at some point in a child's second year of life. By age two, most children will know at least 50 words and be able to combine them into short phrases. By the time they enter school, most children use increasingly complex grammatical structures and vocabulary.

## When Language Fails to Take Root

But what about the children who do not follow this path? In the United States and Canada, as many as 8% to 12% of preschoolers and 12% of children entering school have language impairment, defined as poor listening and speaking skills compared with peers.

Because the development of language is tightly linked with both social interaction and learning to read – which in itself is crucial to early learning – children with language impairment potentially face major challenges in their abilities to communicate, develop, and learn.

Studies show that children with impaired language development are at an increased risk for developing behaviour problems (particularly Attention Deficit Hyperactivity Disorder or ADHD), academic difficulties, learning disabilities, shyness, and even anxiety disorders. These children also have a more difficult time making friends and getting along with people outside their families.



*“Most children’s language abilities will flourish under the right circumstances, which include a secure home that encourages verbal interaction.”*

An estimated 10% to 18% of school-age children have a reading disorder, and problems with early language development are closely linked with such reading problems. As many as 25% to 90% of children with language impairment go on to develop a reading disorder.

Currently, the best known predictor of school-age reading ability in preschoolers is phonemic awareness, or the ability to identify and work with the smallest component sounds that make up words. Most children with language impairment also have poor phonemic awareness, and are thus at increased risk for developing a reading disorder after they start school. In addition, even children who are able to speak

and understand spoken language well when they enter school may be at risk for developing a reading disorder if they are having trouble with phonemic awareness.

Another preschool language ability that predicts school-age reading success is vocabulary. Specifically, stronger preschooler vocabulary skills predict better reading comprehension, or the ability to understand what one is reading.

## Preventing Language Impairment

Most children’s language abilities will flourish under the right circumstances, which include a secure home that encourages verbal interaction. Talking and reading to children as well as encouraging them to express themselves verbally and playing word games that emphasize the structure of language are all good ways to encourage the development of language skills. During these instructional interactions, adults should be non-controlling, sensitive, and responsive to the children.

## Targeted Interventions

But some children need more intensive help to develop their language skills. Fortunately, several effective interventions that help improve early language skills before they lead to later difficulties are available. The key is to initiate them early in life. That means children having difficulty acquiring language skills must be identified during the infancy to preschool years. Current screening tests for language impairment are not sensitive enough to make testing of all youngsters worthwhile. Instead, experts suggest that children at highest risk as well as children whose parents are concerned about their language development, be tested.

Interventions aimed at improving language skills in youngsters usually take place in one-on-one sessions between the child and a language expert, in small groups, or in a classroom setting. An alternative approach, however, is to train the child's caregiver (usually a parent) to facilitate the child's language development during their normal, daily routine. While this has been shown to be effective in the short-term, studies on its long-term effects are not yet available.

No matter which of the evidence-based teaching strategies are used, during speech-therapy intervention it is important to set the stage for learning language by giving children the opportunity to communicate verbally, following their lead, and working within social routines.

Social policy initiatives can go a long way toward ensuring that children with language impairment receive the help they need early enough to make a difference, believe the experts. Such policies should include focusing on early identification and assessment of these children as well as ensuring that all children grow up in secure, responsive environments. In addition, those who work with children or young families should receive ongoing training about language impairment. ☞

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# Evaluating Speech Disorders is the First Step to Helping Children Communicate Better

by Alison Palkhivala

Speech therapy can greatly help children who, for unknown reasons, are having more trouble than expected pronouncing words and being understood. These children are said to have speech sound disorder, or SSD. The key to helping these children is identifying the problem and targeting speech therapy to their specific speech-related difficulties.

## Identifying & Evaluating SSD

When a child is believed to have SSD, he or she must see a speech-language pathologist, who can conduct a complete evaluation to see if there is indeed a problem (given the child's age and living environment), and, if so, how severe it is. The speech expert will also determine what the cause or causes of the problem might be and develop a plan for therapy.

As part of this evaluation, speech-language pathologists usually look at children's complete medical records as well as any other available reports, such as evaluations by other language experts or reports from teachers. They will also typically meet with the children's parents in order to obtain as clear as possible a picture of the speech and language problem at hand.

## Evaluating Speech

The key component of the evaluation of children with SSD, however, is directly assessing their speech. The children may name pictures or objects, repeat another person's speech, or simply talk at will. Several samples of speech are necessary because each carries its own information and limitations. A sample of a child simply chatting away, for instance, can give experts a good sense of how he or she talks, but it can be hard to analyse if most of it cannot be understood. Also,



*“Assessing a child's speech is a complex process that goes beyond determining if the child's speech is delayed.”*

children speaking at will may simply avoid sounds they know they cannot make correctly. Having the child repeat what someone else is saying allows the speech-language pathologist to choose what sounds the children try to make and to compare the children's utterances with how they are *supposed* to sound, but some children may actually pronounce something they are imitating differently from how they would pronounce it if they were saying it spontaneously. Also, some young children simply refuse to repeat sentences.

Speech-language pathologists may use one or more of several scoring systems to evaluate the severity of children's speech problems. Some of these systems tell only part of the story because they require that both missing and incorrect sounds be given the same weight. So, a child who says "keem" instead of "cream" would receive the same score as a child who says "kweem," even though their pronunciation errors are quite different. Although it takes more time, the evaluator should make note of the specific errors each child makes and try to understand the child's individual patterns of speech errors so that the most efficient treatment plan can be devised.

In addition to detecting errors, speech-language pathologists look for the degree of *stimulability* in the speech of children with SSD. Stimulability refers to the ability of children to produce a sound or word structure with someone's help even if they cannot produce it spontaneously. Research suggests that children progress faster if their speech therapy targets sounds that are stimulable.

Children with SSD may also be evaluated for their level of speech perception, or ability to recognize correct speech by, for instance, asking them to identify correctly and incorrectly pronounced words. Children who have trouble with speech perception should practice this skill as part of their speech therapy.

### Implications

Children whose speech is difficult to understand should be assessed by a qualified speech-language pathologist. Assessing a child's speech is a complex process that goes beyond determining if the child's speech is delayed. The speech-language pathologist must also take the time to understand the underlying nature of the child's speech problem so that the most efficient and effective therapy plan can be developed. ☞

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# Teaching Tykes to Talk

by Alison Palkhivala

Learning to talk is an especially frustrating task for children with SSD. For unknown reasons, these children have more trouble correctly pronouncing words or parts of words than other children their age. For these children, speech therapy is crucial to their learning to talk so that others can understand.

### Making it Work

Research shows that not just any speech therapy will help children with SSD. Speech-therapy programs that are carefully structured and adhere to a single underlying theory seem to be most effective. Most children require about 20 hours of therapy, spread over about 15 weeks, for their speech to become noticeably easier to understand. This number can vary dramatically, however. Children with uncomplicated speech problems may need as few as 10 hours of speech therapy, especially when the parents follow-up by working with their child at home on a regular basis. On the other hand, children who have complex speech problems may need as many as 100 hours of speech therapy to achieve a noticeable improvement in the clarity of their speech.

### Types of Speech Therapy

The traditional approach to speech therapy, called *articulation therapy*, involves teaching children to correctly pronounce the individual sounds that they are mispronouncing. A more recent and probably more effective method, however, called the *phonological approach*, involves teaching children to correct *patterns* of pronunciation errors they are making. For instance, if a child says the word "bee"



***“An important component of teaching children to pronounce a sound correctly is ensuring they can hear it correctly in the first place.”***

instead of 'beet' and 'dee' instead of 'deep', a speech therapist using the articulation-therapy approach would teach that child to properly use the missing 't' and 'p' sounds. A therapist using the phonological approach would instead teach the child to put the ending sounds on all words.

An important component of teaching children to pronounce a sound correctly is ensuring they can hear it correctly in the first place. In *speech perception intervention*, children are taught to hear the difference between a sound they are mispronouncing and the sound they should be making. Adding this listening component can double the speed with which children learn to make correct speech sounds.

A helpful exercise for children with SSD is called *minimal pair activities*. In this activity, children must correctly pronounce similar sounding

words in a meaningful context (e.g., a *bee* flies and a *beet* grows in the ground) and are rewarded for good pronunciation by being understood. Not surprisingly, this activity is only effective if the child is able to hear the difference between the correct and incorrect sounds and has some idea how to make the correct sound.

Another effective speech therapy activity is called *phonetic placement*. With this approach, children watch their own mouth movements in a mirror as they make sounds. At the same time, the speech therapist explains how to make the correct movements using models of the mouth and may even use tongue depressors to help children make the right mouth movements and shapes. Available technologies, including ultrasound and computer images, are being used in innovative ways to help children see how their mouths are, and should, be moving. Spectrographic displays, or computer-generated visual displays of sounds, can also help children 'see' correct and incorrect pronunciations.

### Conclusion

Research shows that speech therapy is effective – children with SSD who receive speech therapy make much faster progress than children who are left to progress on their own. Emerging technologies may lead to even greater effectiveness, when used in combination with traditional speech therapy practices. Some approaches to speech therapy appear to be more effective than others, so it is important that speech-language pathologists use evidence-based procedures and that children with SSD receive enough therapy to make a difference. ☞

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## Untreated Speech and Language Disorders Can Have Long-Term Consequences

by Alison Palkhivala

Children with speech sound disorder (SSD) must see a speech and language expert to help them improve their communication skills. SSD is a condition in which children, for reasons that are usually not well understood, do not speak as well or as clearly as their peers. Left untreated, children with SSD can go on to have language, academic, and social problems during their early school years, adolescence, and possibly even beyond.

SSD is the most common type of speech or language problem seen in youngsters. As many as 16% of three-year olds have SSD, and nearly 4% of six-year olds continue to suffer from delays in speech.

### SSD can be Persistent or Self-Limiting

Some preschoolers with SSD seem to get better on their own, while others maintain problems with speech and language for years to come. It's not clear exactly what separates those who improve independently from those whose problems persist, but children with SSD whose speech problems do not resolve by age 5 ½ perform more poorly on tests of their ability to process language-related sounds and on tests of literacy. Language impairment (LI), a more global form of difficulty learning to use and understand language, is more likely to have a genetic connection if it is persistent than if it resolves on its own in a short time, but it is not clear if this is also true for SSD.



*“In studies of preschoolers with SSD, half or more developed academic difficulties during their school years.”*

## Persistent SSD: Effects into School Years

Recent research has shown that there is genetic overlap between SSD and dyslexia, which helps explain why children with SSD often have difficulty in school. In studies of preschoolers with SSD, half or more developed academic difficulties during their school years. Nearly 20% of children with SSD in one study had reading difficulties by the middle of elementary school. Children with both SSD and LI were far more likely to have these difficulties than those with SSD alone. Other studies have shown that children with SSD may continue for years to have language deficits as well as problems with spelling and reading. As they continue through school and grow into adolescents, children with SSD and LI are more likely to have both behavioural and social problems, even after their speech and language difficulties appear to have been resolved.



## Persistent SSD: Effects into Adulthood

Few studies have explored the relationship between SSD in childhood and problems in adulthood, although there are studies linking childhood LI with poorer academic abilities and an increased risk of learning disabilities later in life. The available data on SSD suggest that adults who had SSD as young children are generally weaker spellers and readers, and are less aware of the sound patterns of language.

One small study showed that adults who had SSD as young children performed

more poorly on tests of articulation and language. These adults had also completed fewer years of formal schooling and needed more remedial services during their school years. This same study revealed that, while adults with a history of SSD were just as happy with their jobs as those without SSD, they were more likely to have jobs that required fewer skills.

Another study revealed that people who had severe LI in childhood were more likely to have thought and language problems in adulthood. These individuals were also at increased risk for social problems and psychiatric disorders. It's not clear, however, the degree to which findings in people with severe LI can be generalized to those with SSD.

### Implications

Most children with SSD eventually acquire speech that is generally intelligible and error-free. However, many of these children have difficulties with reading when they begin school, which may lead to an ongoing struggle to achieve academic and vocational success. Recent research on the long-term outcomes for these children and on the genetic link between SSD and dyslexia highlights the need for early identification and treatment of children who have speech problems as preschoolers. These children must receive ongoing monitoring of their reading skills in school, even if their overt speech problem has been resolved. ↗

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Knowledge Centre

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