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## Current Research at the BNCD: Language Acquisition Among Preschoolers

Dr. Holly Storkel and her research staff at the KU Word and Sound Learning Laboratory are conducting a series of studies to understand how children acquire language. One of her current research programs is the *word learning program* which seeks to understand better how children learn new words.

In this study, children listen to a story where they see pictures accompanied by made-up words. After the story, the child hears the word while seeing its corresponding picture and is asked to say the word and remember it. The child is then shown just the picture and is asked to recall its name. This is done for all eight of the new made-up words. The characteristics of the made-up words are varied to determine how different factors influence word learning. For example, in this study half of the made-up words sound similar to many other words in the language and the other half sound similar to few other words in the language. In this way, the results will indicate whether similarity to other words is helpful or harmful in word learning.

With this and other research, Dr. Storkel hopes to better identify how children acquire language. The knowledge gained will be used and shared with other educators to design better educational programs for children and to develop better assessments and interventions for children with speech or language difficulties. You can learn more about Dr. Storkel's studies at <http://www.ku.edu/~wrdrng/>

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## Top 10 things you should know... about children with Specific Language Impairment

*By Joy Simpson and Mabel Rice, BNCD*

Specific Language Impairment has been actively studied for more than 40 years. Language acquisition is the primary area of concern as the child grows and develops. There are no obvious related causes such as hearing loss or low IQ. The condition appears in young children and is known to persist into adulthood. Although the causes are unknown, current research focuses on possible inherited tendencies. Early identification and intervention are considered best practices, in order to minimize possible academic risks.

**1) Specific Language Impairment has many names and it is surprisingly common.**

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### What is this newsletter?

This newsletter is sent to families who are interested in participating in a future study by researchers affiliated with the Center for Biobehavioral Neurosciences in Communication Disorders (BNCD) at the University of Kansas. This newsletter is to help inform families about some of the current research activities at the BNCD.

Researchers at the BNCD are dedicated to trying to understand the causes and treatment of communication disorders across the life span, including how to treat children with language delays, the origins of normal communication and development during infancy and preschool, and communication disorders in the elderly. Research at the BNCD is supported in part by grant number 5 P30 DC05803 from the National Institutes of Health (NIH). The contents of research are the responsibility of the authors and do not necessarily represent the views of the NIH.

Please share this newsletter with friends and family who might also be interested in language acquisition and communication studies. For more information, please contact us using the information at the top of this page.

SLI is just one of the many communication disorders that affect more than 1 million students in the public schools. If your child has been evaluated by a speech pathologist, you may have heard its other names: developmental language disorder, language delay or developmental dysphasia. Specific language impairment is the precise name that opens the door to research about how to help a child grow and learn.

SLI is more common than you might think. Research over the past ten years has generated accurate estimates of the numbers of young children that are affected by SLI. We now know it could be as high as 7 to 8 percent of the children in kindergarten. In comparison, Down syndrome or autism affects less than one percent of the five-year olds.

## **2) Late talking may be a sign of disability.**

As they enter their two's and grow into three and four, children have a remarkable number of ways to tell adults what they need. Even if the words don't all sound right, a normally developing child will make many efforts to communicate and will make his point effectively. Young children ask so many questions -- often exhausting their parents and care providers. Children who don't ask questions or tell adults what they want may have a communication disorder.

Children with SLI may not produce any words until they are nearly two years old. At age three, they may talk, but can't be understood. As they grow, they will struggle to learn new words, make conversation and sound coherent.

Today, research is underway to determine which children do not outgrow this pattern of delayed speech. By age 4 to 5 years, SLI could be a signpost of a lasting disability that persists throughout the school years.

## **3) A child with SLI does not have a low IQ or poor hearing.**

Several other disabilities involve difficulties communicating, but for these children the primary diagnosis will be mental retardation, or autism, or hearing loss, or cerebral palsy. A child with SLI scores within the normal range for nonverbal intelligence. Hearing loss is not present. Emerging motor skills, social-emotional development and the child's neurological profile are all normal. The only setback is with language. SLI is the primary diagnosis.

## **4) Speech impediments are different from language disorders.**

A child with a speech disorder makes errors in pronouncing words, or may stutter. Recent studies find that most children with SLI do not have a speech disorder. SLI is a language disorder. This means that the child has difficulty understanding and using words in sentences. Both receptive and expressive skills are typically affected.

## **5) An incomplete understanding of verbs is an indicator of SLI.**

Five-year old children with SLI sound about two years younger than they are. Listen to the way a child uses verbs. Typical errors include dropping the -s off present tense verbs and asking questions without the usual "be" or "do" verbs. For example, instead of saying "She rides the

horse" the child will say "She ride the horse." Instead of saying "Does he like me?" the child will ask "He like me?" Children with SLI also have trouble communicating that an action is complete because they drop the past tense ending from verbs. They say, "She walk to my house yesterday" instead of "she walked to my house."

**6) Reading and learning will be affected by SLI.** SLI does affect a child's academic success, especially if left untreated. Forty to seventy-five percent of the children have problems learning to read.

**7) SLI can be diagnosed precisely and accurately.** In the last ten years, researchers have documented the ways that SLI occurs. Clinical practice is catching up to these advances in research. In the past, SLI has not been included on educational classification systems used by speech pathologists or psychologists, and when identified, it was called a language delay.

In 2001, the Psychological Corporation released the first comprehensive test for SLI. The *Rice/Wexler Test of Early Grammatical Impairment* is based on research funded by the National Institutes of Health, and carried out at the University of Kansas and the Massachusetts Institute of Technology. Speech pathologists and preschool educators can use this test with children ages 3 to 8. It will point to the specific gaps in a child's language abilities so that treatment can be more effective. It is especially useful for identifying children with SLI at the time of school entry.

## **8) The condition may be genetic.**

The genetic origin of SLI has not yet been proven, but studies show that fifty to seventy percent of children with SLI have at least one other family member with the disorder. Several researchers are studying twins, looking for the genetic link. In 2001, British researchers successfully found the chromosome that affected 15 of 37 members of a London family with a profound speech and language impairment.

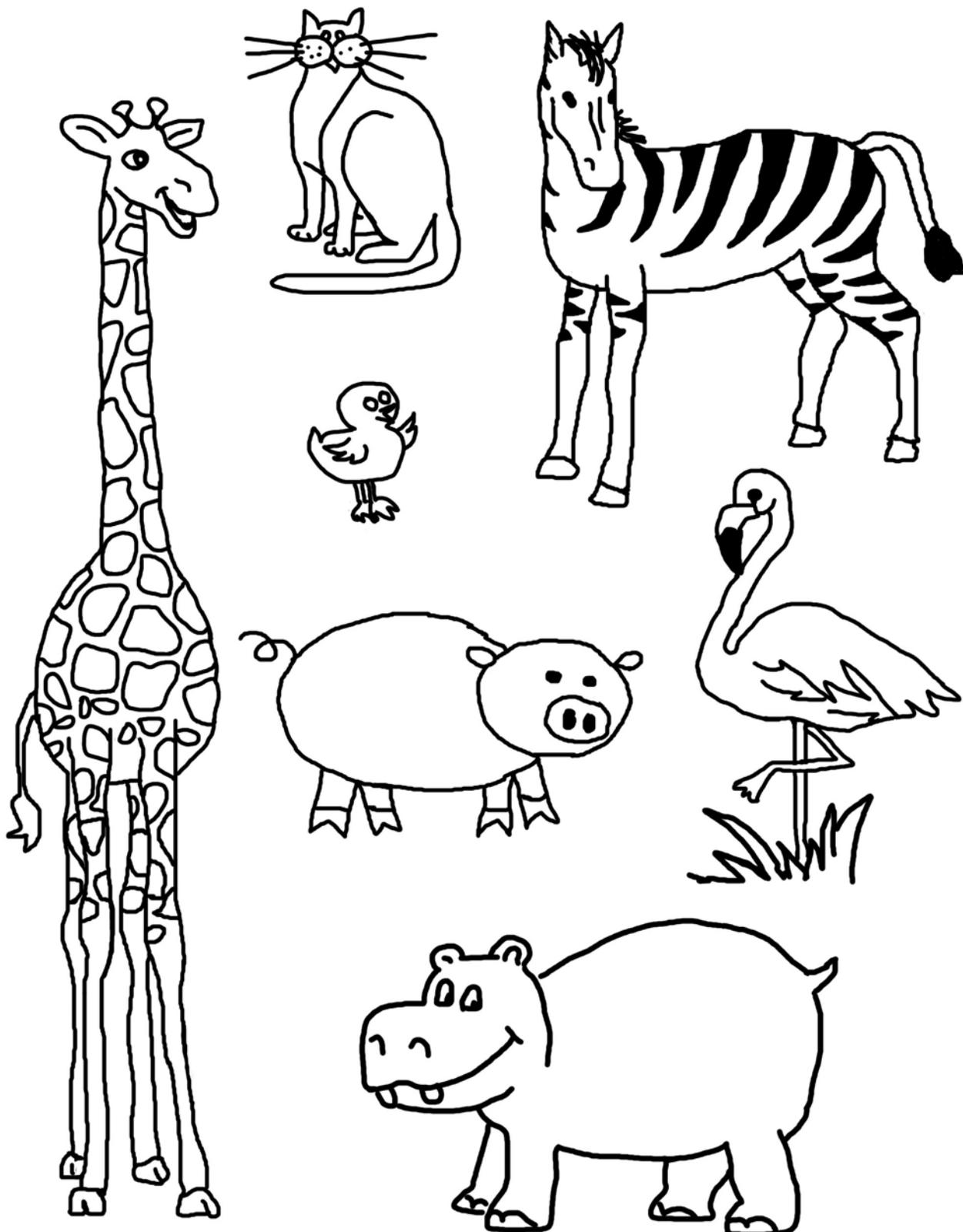
## **9) The nature of the disability limits a child's exposure to language.**

Children with SLI need extra opportunities to talk and to listen, but because of the disability, they may actually have fewer chances. At a young age, curious children ask questions over and over as they see, touch, and experience the world. The adults in their life respond, giving them vocabulary and grammar in a spontaneous teaching format. A child with SLI has trouble asking "Do you?" and says instead "You like ice cream?" This kind of question is easily misunderstood. A child who cannot get the message across may simply stop trying. Interactions are especially difficult with other children because they are less supportive and patient than adults.

**10) Early intervention can begin during preschool.** By age five, parents can secure a conclusive diagnosis, but being proactive in the preschool years is often time well spent. Equipping a child for success at ages three and four will lead to positive experiences in kindergarten - and the signs of SLI are present by age three.

# Activity Page for Preschoolers

Coloring Page:  
Color the animals with FOUR legs



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Some preschool programs are designed to enrich the language development of students with disabilities. This classroom may include normally-developing children who will act unknowingly as models. The focus of class activities may be role-playing, sharing time, or hands-on lessons with new, interesting vocabulary. This kind of preschool will encourage interaction between children, and will build rich layers of language experience. It may even include techniques from speech pathology that solicit from children the kinds of practice they need to build their language skills.

Parents can also send their preschool child to a speech or language pathologist in private practice. This professional can assess the child's needs, engage in structured activities, and can send home materials for enrichment.

Reprinted from *In the Know*—a public outreach project of the Merrill Advanced Studies Center at the University of Kansas. For more information about children's growth and development, visit: <http://www.merrill.ku.edu>.

### Recommended Books from the American Library Association

The American Library Association compiles recommended reading lists for all ages. The following is a list of recommended books for ages 3 to 5 from the ALA's Reading is Fundamental (RIF) program:

<http://www.ala.org/ala/alsc/alscresources/booklists/suggestedbooks.htm>

<i>Where's My Teddy?</i> Albournough, Jez	<i>The Mixed-Up Chameleon</i> Carle, Eric	<i>Blueberries for Sal</i> McCloskey, Robert
<i>Miss Nelson Is Missing!</i> Allard, Harry	<i>The Grouchy Ladybug</i> Carle, Eric	<i>Where the Wild Things Are</i> Sendak, Maurice
<i>Cloudy with a Chance of Meatballs</i> Barrett, Judith	<i>The Very Hungry Caterpillar</i> Carle, Eric	<i>Sheep in a Jeep</i> Shaw, Nancy
<i>Goldilocks and the Three Bears</i> Brett, Jan	<i>In the Tall, Tall Grass</i> Fleming, Denise	<i>Mouse Count</i> Walsh, Ellen Stoll
<i>Clifford the Big Red Dog</i> Bridwell, Norman	<i>Is Your Mama a Llama?</i> Guarnio, Deborah	<i>More, More, More Said the Baby: Three Love Stories</i> Williams, Vera
<i>Katy and the Big Snow</i> Burton, Virginia Lee	<i>Whistle for Willie</i> Keats, Ezra Jack	<i>Bob and Shirley: A Tale of Two Lobsters</i> Ziefert, Harriet
<i>Mike Mulligan and his Steam Shovel</i> Burton, Virginia Lee	<i>Frederick</i> Lionni, Leo	
	<i>Froggy Gets Dressed</i> London, Jonathan	

For more information visit your local library or the American Library Association's webpage:  
<http://www.ala.org>