

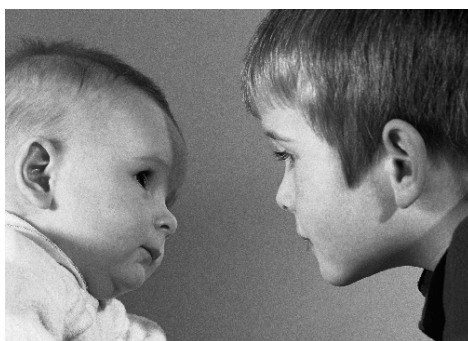
THE BUILDING BLOCKS OF LANGUAGE IN EARLY CHILDHOOD, PART 2 SIGNPOSTS OF DISABILITY: WHAT PARENTS CAN OBSERVE

by Joy Simpson

Children typically produce words at some point between the ages of 12 and 24 months. There are many stages of communication, though. "Parents can be reassured that development is on track if their child hands them a toy, understands her name -- and many other kinds of interaction," says Steven F. Warren, director of the Schiefelbusch Institute for Life Span Studies and professor of human development at the University of Kansas.

Signposts of language delay or disability in infancy are:

- ◆ The baby does not babble much by the age of 10 to 12 months. The sounds she makes do not move beyond pure vowels to more complex "da-da" and "ba-ba" statements.



- ◆ At 12 months, the child does not intentionally communicate. He doesn't indicate the things he wants with sounds or gestures. He doesn't point out things he finds interesting, directing your attention. He doesn't protest with squawks or a push when he dislikes something.
- ◆ The child doesn't engage in social interactions like playing Peek-a-Boo, showing off, or waving "bye-bye."
- ◆ And finally, if the child doesn't appear to understand at least some words (bottle or ball, for example), it may be time to seek an assessment.

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LANGUAGE SYMPTOMS OF DEVELOPMENTAL CLINICAL CONDITIONS: AN OVERVIEW

Many children with developmental clinical conditions have speech and language disorders. There is a need to more fully understand how their language is affected. Three BNCD investigators; Mabel Rice, Steven Warren, and Stacy Betz; recently published an overview in the journal *Applied Psycholinguistics* of how five different syndromes influence language (Rice, Warren, & Betz, 2005). Their summary helps other investigators, as well as parents, friends, and relatives of children affected by these syndromes, understand the strengths and weaknesses of children's communication skills. Some key points are summarized below.

SPECIFIC LANGUAGE IMPAIRMENT

Children with Specific Language Impairment, or SLI, do not have cognitive delays, but still perform below age expectations on

language. Unlike the other disorders described in this article, language impairment is the defining feature of SLI. This disorder is usually not identified until the preschool years or later. Children with SLI develop language skills more slowly than children without SLI, and typically, grammar abilities are delayed much more than vocabulary abilities. For example, children with SLI may err by saying "She walk to school yesterday" instead of "She walked to school yesterday." While all children tend to start out making such grammatical errors, children with SLI will continue to make these mistakes longer than children without SLI. For more information, see the article *Top 10 things you should know about children with SLI* at <http://merrill.ku.edu/InTheKnow/sciencearticles/SLIfacts.html>.

AUTISM SPECTRUM DISORDERS

More is known about the early language of

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Upcoming Events!



Kids Day Out - Nature Sprouts

Children ages 4-5 can experience the diversity of nature at the Ernie Miller Nature Center in Olathe. Play in the forest, see the live animals and make new friends. Tuesdays at 9 AM. Each 3 hr. class is \$15 for residents and \$17 for non-residents. Schedule: 2/7/06, *Birds*; 2/14/06, *Fur*; 2/21/06, *Reptiles*; 2/28/06, *Aquatic*. For more information, call (913) 831-3355 or visit <http://jcprd.com>.



2006 Topeka WalkAmerica

Plan ahead for the March of Dimes 2006 walk at the Topeka Zoological Park! Walkers can earn donations to benefit local hospitals. There will be a picnic, live entertainment, children's activities, and more! For information, call (785) 228-0084 or visit www.marchofdimes.com/kansas

Nicodemus Annie & her History Trunk

February is Black History Month, and Angela Bates helps us celebrate with storytelling, live history, artifacts, crafts, and snacks at the Lawrence Public Library. *Nicodemus Annie and Her History Trunk* is a free all-ages program. No registration required. For more information, call (785) 843-3833 or visit www.lawrencepubliclibrary.org.

St. Patrick's Day Parade

The Lawrence St. Patrick's Day Parade began in 1988, and since its inception, has raised more than \$335,000 for children's



charities. The 2006 annual parade begins at 1 PM on Friday, March 17, at South Park (11th and Mass.). For more information, call (785) 749-6677 or visit <http://lawrencestpatricksdaysparade.com>

Kansas City Union Station IMAX

Featuring *Wild Safari 3D*, through April 30, 2006. *Wild Safari 3D* puts you in the passenger seat for an amazing South African safari. Your guide conducts the game drive from an open vehicle, describing the different animals and their habitats. For show times and tickets, call (816) 460-2020 or visit www.unionstation.org.

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children with autism than with other conditions, mostly because of the time of diagnosis. Delayed language skills are the main reason that parents refer children with autism to a doctor.

Some studies have found that up to 50% of children with autism were nonverbal, but more recent studies indicate the percentage may be much lower. Some children with autism learn and use sets of words early in life, but stop using them as they grow older. Such research demonstrates that children with autism can vary widely in their communication skills. For more information, see the *National Alliance for Autism Research* at www.naar.org or the *Autism Society of America* at www.autism-society.org.

FRAGILE X SYNDROME

Fragile X syndrome is the most common form of inherited mental retardation, but is the least understood developmental language disorder discussed here. It results from a gene mutation on the X chromosome, and occurs together with autism up to 35% of the time. Children with Fragile X syndrome acquire expressive language skills (the ability to respond verbally) more slowly than receptive skills (the ability to understand what others are saying).

Children with Fragile X syndrome have some speech problems. They have a harsh

vocal quality, and articulating words is difficult. These speech difficulties combine to make speech hard to understand, particularly with increased anxiety. For more information, see the *Fragile X Research Foundation* at www.fraxa.org or the *National Fragile X Foundation* at www.fragilex.org.

DOWN SYNDROME

Down syndrome is the most common genetic cause of mental retardation. One of the effects of Down syndrome is a disordered language system. Children with Down syndrome acquire overall language skills slower than one would expect, based on their level of cognitive development. However, some language skills develop more quickly relative to their other language skills. For example, vocabulary skills of children with Down syndrome are often as good as, or better than, their nonverbal skills. Grammar skills, however, are more impaired.

Unlike the other developmental language disorders discussed, children with Down syndrome have significant speech problems. These difficulties are due to anatomical differences in the vocal tract and sometimes to hearing loss due to ear infections. For more information, visit the *National Association for Down Syndrome* at www.nads.org or the *National Down Syndrome Society* at www.ndss.org.

WILLIAMS SYNDROME

Williams syndrome is a genetic disorder that results in distinct facial features, a hoarse voice quality, an excessively friendly personality, and mild to moderate mental retardation. Similar to children with SLI and autism, children with Williams syndrome develop language more slowly than typically developing children. However, children with Williams syndrome differ because their language skills exceed their cognitive levels. They eventually develop full language skills, and the presence of an extremely friendly personality suggests that social communication is not a weakness for these children. For more information, visit the *William's Syndrome Association* at www.williams-syndrome.org or the *William's Syndrome Foundation* at www.wsf.org.

CONCLUSIONS

Children with developmental clinical conditions have different communication strengths and weaknesses. There is great variability among individuals, and researchers, parents, and children benefit from studies to understand these differences.

Reference

Rice, M. L., Warren, S. F., Betz, S. K. (2005). Language symptoms of developmental language disorders: An overview of autism, Down syndrome, fragile X, specific language impairment, and Williams syndrome. *Applied Psycholinguistics*, 26, 7-27.

BNCD INVESTIGATOR PROFILE: MABEL RICE

To a 5-year-old child, struggling with early language skills can be as frustrating as being trapped in a foreign country, unable to communicate with the locals. The words don't come. You can't describe what you want. You feel alienated from peers chattering away.

"It's like being out of phase," said Mabel Rice, a Fred and Virginia Merrill distinguished professor of advanced studies at the University of Kansas. "Children with what is known as specific language impairment will say things like, 'Mommy happy,' or 'Her go now.' For most kids, they outgrow that by the time they are 3 years old, but for these kids, it stays with them."

Discovering ways to identify language problems early and how best to correct them long has fascinated Rice, director of the child language doctoral

program and the Merrill Advanced Studies Center at KU.

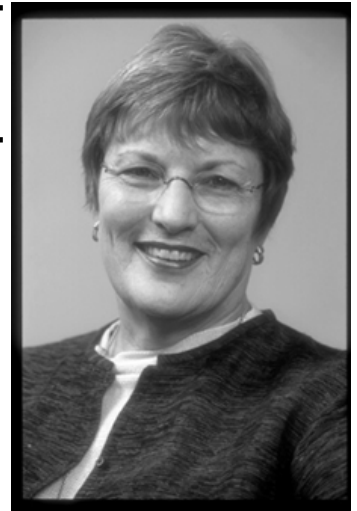
Among the many research programs she has pursued during the past three decades, Rice has tracked the development of about 400 children -- many of whom are Kansans -- for 10 years, since their language problems were diagnosed around the age of 3 or 4. It is the largest longitudinal record of children with specific language impairment in the United States. The study, which involves top researchers from Iowa, England and Australia, has helped determine how language problems affect children as they age.

"Eventually, the children with language acquisition problems do move beyond that particular problem, but then there are others," said Rice, who earned her doctorate in speech pathology at KU

in 1978. "The language problem creates the impression that the children are socially immature, although their social awareness is much like their peers."

Among her accomplishments, Rice developed a diagnostic test that helps educators and speech therapists determine which children have language impairments. She has examined the effects of television on children's language skills, and she serves as a children's language consultant for the hit Nickelodeon television program "Dora the Explorer." She also is studying the possible causes of language disability, which may lead to a discovery about genetic influences.

Rice's research is conducted under the rubric of the Schiefelbusch Institute for Life Span Studies at KU.



Mabel Rice, BNCD Director
and Investigator

This article was originally published by the *Office of University Relations*. You can read the full text at www.news.ku.edu/2003/03N/MayNews/May7/merrill.html.

The Life Span Institute consists of 13 research centers and clinics, including the BNCD. Rice directs three of these centers: the BNCD, the Merrill Advanced Studies Center, and the Child Language Doctoral Program.

(Disability, Continued from page 1)

Several tests can be given in the early years, says Warren. The first thing to do is rule out hearing loss. An audiologist can administer a hearing test and describe choices for intervention. For children who are not yet talking but have normal hearing, an early childhood educator or clinician can do an initial screening by asking the parents questions from the MacArthur Communicative Development Inventory/Infants. If a language disability is suspected, Warren recommends in-depth testing by a speech language pathologist. One of the more complete tests is the Communication and Symbolic Behavior Scales.

After an evaluation, parents can secure



resources to stimulate their child's growth. They can work regularly with a speech language pathologist, and receive other services as required by the Individuals with Disabilities Education Act (IDEA). Part C of this federal program is about helping infants and toddlers with disabilities. If symptoms appear at birth, IDEA assures that each state will provide services in the first year of life. "Certainly by age 2," says Warren, "parents can seek a diagnosis and treatment." Research shows that early intervention relieves parents and gives children a good start.

This is the second in a four-part series with Steven Warren and Nancy Brady, scientists at the BNCD. You can read the original article at <http://merrill.ku.edu/IntheKnow/sciencearticles/PMTintervention.part2.html>. Look for Part III in the BNCD Spring newsletter!

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Sound Games to Play With Your Child!

From *Peep and the Big Wide World*, a children's website recommended by the American Library Association (ALA). Written by a preschool teacher who specializes in early childhood science, these easy-to-do ideas are fun ways for you and your kids to learn simple science concepts.

For more games, visit www.peepandthebigwideworld.com

♦ **Hunting for Sounds** Go on a sound hunt with your child. When you hear a sound but can't see the source, try to guess what's making the sound, then track it down to find out if you are right. Start inside the house, listening for common household noises.



Once you've played inside, move outside. Listen for a sound you can hear in your neighborhood, predict what is making the sound and try to follow it to find out if you are right.



♦ **Playing a Tube Tune** Collect as many different types of tubes as you can. Toilet paper tubes, paper towel tubes, paper straws, plastic straws, and PVC tubing are some examples. Along with your child, try making different sounds and noises with them using your mouths.



Can you make some sounds with one tube but not with the others? Do small tubes and large tubes make different sounds? Have a tube concert and play crazy music!

♦ **"Marco Polo"** "Marco Polo" is a great sound game to play with a group of children. It's similar to "hide-and-go-seek" except that you use sound rather than sight to find everyone. The "seeker" looks for the "hiders" by calling out "Marco!" Whenever the seeker calls "Marco!" the hiders have to respond by calling out "Polo!"

Can the seeker find the hiders by listening? This is a challenging game for young children. Little seekers may need to open their eyes frequently to get their bearings.



About this Newsletter

The BNCD newsletter is designed to keep you informed about the ongoing research projects that are being conducted by BNCD researchers at the University of Kansas. Participants who have been part of recent research projects done by BNCD researchers, parents who have expressed interest in participating in future research, and individuals from organizations such as schools and daycare centers that have an interest in BNCD studies will receive this newsletter from time to time to keep them up-to-date about the research activities at the BNCD. If you do not wish to receive future newsletters, please call or e-mail the BNCD to have your name removed from our list. Research at the BNCD is supported in part by grant number 5 P30 DC05803 from the National Institutes of Health (NIH) at the University of Kansas.