The Building Blocks of Language in Early Childhood, Part 1: Communication Between Infants and Parents

by Joy Simpson

Baby's first word is a day as jubilant as the first time she walks. It is a momentous occasion in the life of a family.

What parents may not realize is the "important day" sticker should also mark an event that goes like this: Baby finishes her bottle, says "aah" and hands it to mommy. "Ahh" doesn't sound like a word, but baby has added a helpful gesture. She's communicating! Another feat between the ages of 8 and 12 months is: Baby looks at daddy and points at the passing kitty cat. Another: Baby looks at her favorite doll on the shelf, looks at mommy's face and back to the doll. These acts communicate baby's desires and interests, and for this reason, they represent a critical stage in prelinguistic development.

Communication is a complex dance of thinking, moving, hearing, imitating, and eventually interacting. Infants use each of these functions. And they learn, in time, that it takes two to dance. The growing rapport between parent and child is critical in the early years, says Steven F. Warren, professor of [Applied Behavior Science] and director of the Schiefelbusch Institute for Life Span Studies at the University of Kansas. According to his research with Paul Yoder at Vanderbilt University, Warren says, "Once the baby is able to interact, mommy and baby will engage in give and take, sound and...

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The Fourth Grade Slump: Late Emerging Poor Readers

by Kelsey Needham

Educators often report a "slump" around 4th grade in which some children who have had no difficulties learning to read in the early grades begin to experience problems. It is assumed that these problems arise from changes in the demands of reading in later elementary school grades. Whereas emphasis in the early grades is on learning to accurately recognize words, reading achievement by 4th grade turns more to comprehension. Reading difficulties can arise at this age from children's difficulties in comprehending language. BNCD researcher Hugh Catts and graduate student researcher Tiffany Hogan sought to determine the prevalence of later developing reading problems and the factors that are related to these problems.

The researchers gave 570 children a battery of reading and language tests in 2nd and 4th grades. Children were placed in 4 groups based on their reading comprehensibility. Groups included children who showed poor reading comprehension in 4th grade only ("late poor readers"), 2nd grade only ("early poor readers"), both grades ("persistent poor readers"), and neither grade ("good readers").

Five important determinants of reading...

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skill were tested by the researchers. Word Recognition refers to a child’s ability to correctly read printed words. Fluency refers to speed and accuracy of word recognition. The number or range of words a child recognizes in spoken language is his Vocabulary. Grammar refers to a child’s ability to understand sentences using the rules of language. Text Comprehension refers to a child’s ability to understand a passage read to him or her.

The figures on the right show some of the differences in reading and language skills between the four categories of students in 2nd grade and in 4th grade. The zero line represents the mean or average performance of children. The figures show in which particular reading or language skills different groups of children performed better or worse than average.

Figure 1 displays the results of tests completed when students were in 2nd grade. It shows that late poor readers had good skills in word recognition and fluency and did not differ significantly from good readers. Early poor readers, on the other hand, had significant problems in word recognition and fluency. Both late and early poor readers demonstrated mild deficits in vocabulary, grammar, and text comprehension abilities.

In 4th grade (Figure 2), late poor readers continued to show good word recognition and fluency skills. However, they had more problems with understanding text read to them (text comprehension). Compare on the two figures the difference between late poor readers and early poor readers in text comprehension. By 4th grade, late poor readers are much more similar to persistent poor readers in this aspect of language.

The results of this BNCD study indicate that early poor readers appear to have particular problems with word recognition and fluency, especially in 2nd grade. Late poor readers do not show similar deficits in word recognition or fluency. Rather, their deficit is in text comprehension, which may be mild in 2nd grade, but becomes more apparent by 4th grade. Finally, other results showed that approximately 5% of children may show a 4th grade slump.

Learning which areas of reading or language are particularly difficult for different types of readers assists researchers, educators, and parents in developing more efficient and targeted ways to help children improve their reading skills. Children can benefit from earlier and more efficient interventions that are designed with such research results in mind.

Hugh Catts is a professor and chair of the Speech-Language-Hearing Department at KU. Tiffany Hogan is a graduate student in the Speech-Language-Hearing Department. This research was presented at the annual conference of the Society for the Scientific Study of Reading in Chicago IL in 2002.
To acquire the native language, a child must do two things: learn the words of the language and extract the relevant sounds of the language from those words. Holly Storkel, principal investigator of The Word and Sound Learning Lab at KU, has been investigating these two components of language learning since 2001.

Some lines of investigation concentrate exclusively on how the words of the language are acquired (lexical learning) whereas other lines of research examine how the sounds of the language emerge (phonological learning). The purpose of Holly’s research is to examine the mutual influence of these two types of learning in typically developing preschool children, compared to their peers with language impairment. The ultimate intent of her research is to understand how typically developing children learn language and then apply this knowledge to clinical populations to examine the interaction between lexical and phonological delays and to develop treatment and educational programs.

In addition to these important research efforts, the Word and Sound Learning Lab has provided free speech-language-hearing screenings to approximately 300 preschoolers from Douglas County and Kansas City. This free screening offered as part of the research program has helped to identify a number of children who had undiagnosed language delays. For children diagnosed with language delays, the research staff assists parents in locating diagnostic and treatment services in the community, providing a valuable service to families.

gesture in a way that actually stimulates the child’s development."

For families whose children have developmental disabilities, the steps of the dance aren’t always clear, says Warren. [Children with autism] typically don’t look their parents in the face -- a key signal for communication -- and so parents may not initiate conversation or know when their child wants something. Because a child with a developmental delay may not have full motor control, she may not make sounds that adults enjoy, recognize and reward.

Early childhood research tells us that a baby making frequent and increasingly complex sounds -- even if they’re nonsense -- is developing a strong language base that supports later success. Researchers can tell us a great deal about the building blocks of language in the first years of life. Parents should know this information because a significant delay in communication skills may be a signpost of disability.

This is the first 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.html. Look for Part II in the BNCD Winter newsletter!
The American Library Association’s 2005 Notable Children’s Videos for children up to age 9

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* Ages 5-9. With the thankless job of helping the earth breathe, a young worm gives us a view of his daily life from the underground up.

**Duck for President** by Weston Woods  
* Ages 5-8. While campaigning for life, liberty, and the pursuit of happiness, Duck discovers it is very hard to run a farm, the state, and the country.

**Fireboat: The Heroic Adventures of the John J. Harvey** by Spoken Arts  
* Ages 5-8. The reactivation of an old fireboat on 9/11 is related in this iconographic adaptation of Maira Kalman’s rendition of a true story.

**I Stink!** by Weston Woods  
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**This Is The House That Jack Built** by Weston Woods  
* Ages 3-7. Lively music and narration by Mandy Patinkin enhance this classic rhyme in a colorful animated film based on the book illustrated by Simms Taback.

**The Wheels on the Bus** by Weston Woods  
* Ages 2-6. The classic children’s song takes a new turn on the way to the library in this version of Paul O. Zelinsky’s adaptation.

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