EARLY CHILDHOOD

Key to Vocabulary Gap Is Quality of Conversation, Not Dearth of Words

By Sarah D. Sparks — April 21, 2015 7 min read

Thirty million words.

For 20 years, a chasm of words has yawned between the children of college-educated professionals and those of high school dropouts, quantifying the academic disadvantage faced by the latter group long before they even start school. That statistic has led to a generation of vocabulary-centered interventions to close achievement gaps, including the federal Race to the Top Early Learning Challenge, the Clinton Foundation's "Too Small to Fail" initiative, and many others.

The "30 million-word" gap is arguably the most famous but least significant part of a landmark study, *Meaningful Differences in the Everyday Experiences of Young Children*, by the late University of Kansas child psychologists Betty Hart and Todd R. Risley. As the work turns 20 this year, new research and more advanced measuring techniques have cast new light on long-overshadowed, and more nuanced, findings about exactly how adult interactions with infants and young children shape their early language development.

"We don't want to just distill it down to a numbers game, because ... the important message to take away is not the poor versus wealthy families, but the opportunities children have to interact with rich language," said Dale Walker, an associate research professor in early language and communication and the director of the Juniper Gardens Children's Project in Kansas City, Kan. She worked with Ms. Hart and Mr. Risley and continues the line of research.

"It's not just throwing words at children, but making sure they hear new concepts, things of interest to them, so their brains make those connections earlier," she said.

By the Numbers

In *Meaningful Differences*, Ms. Hart and Mr. Risley tracked 42 infants just learning to talk, and their families, including 13 middle-class households, 10 each of professional and working-class

backgrounds, and six living on public assistance. From the time the children were roughly 7 or 8 months to 3 years old, the researchers observed them for an hour a month, tracking how parents and children interacted and the children's total word exposure.

The researchers found that, on average, children from professional families heard more than 2,150 words an hour. Those in working-class families heard about 1,250 words. Children in families on welfare heard little more than 600 words an hour.

"It's not just the word gap; it's what you use language for," said Barbara T. Bowman, a child-development professor and co-founder of the Chicago-based Erikson Institute.

Children of professionals also heard twice as many unique words, and twice as many "encouraging" versus "discouraging" conversations ("What did you think of that?" versus "Don't touch that," for example.) By the end of the study, more than 85 percent of the vocabulary, conversational patterns, and language complexity of the 3-year-olds had come from their families, and children of professionals had vocabularies more than twice as large as peers in families receiving welfare.

Video: A Positive Parent-Child Interaction

Encouraging Language Development: A Positive Parent-Child Interaction

Positive conversations between parents and children are about more than just how many words children hear, finds Dale Walker, an associate research professor at the Juniper Gardens Children's Project in Kansas City, Kan. This video comes from a project stemming from the landmark 1995 *Meaningful Differences* study, and is meant to show the kinds of positive parent-child interactions that benefit children's language development.

A follow-up led by Ms. Walker, using 29 of the children, showed vocabulary gaps in preschool predicted 3rd grade gaps in language-test performance. "What I found in visiting those children from kindergarten to 3rd grade was, those who had heard the least were still at a disadvantage years later," she said. "I always knew where to find them; frequently, they were in the hallways, for behavior problems."

That doesn't surprise W. Steve Barnett, the director of the National Institute for Early Education Research at Rutgers, the State University of New Jersey, in New Brunswick. Policymakers, he said, often acknowledge differences in exposure to words but not to "encouraging" language.

"I think one of the least-appreciated implications of this [study] is the problem with how we segregate low-income children in preschool programs just for them," Mr. Barnett said. "Children were already replicating these [family] patterns in their own interactions. What did we think the consequences would be of kids who get together and interact with each other largely negatively?"

The hourly estimates from those original 42 families were extrapolated to predict that by age 3, children of professionals would hear about 45 million words, compared with only 13 million for a child in poverty—the source of the 30 million-word gap. By age 3, a child's IQ was more closely related to the number of words he had heard than to any other factor, including parents' overall education or income level. A 2003 article in the American Federation of Teachers' magazine *American Educator* solidified the best-known takeaway of the study in its title: "The Early Catastrophe: The 30 million Word Gap by Age 3."

Meaningful Differences has spawned a generation of studies, including a network of more than 100 researchers in the United States and Canada. Subsequent research has borne out Ms. Hart and Mr. Risley's conclusions, if not the extent of their extrapolation.

The Boulder, Colo.-based LENA Research Foundation, which uses wearable digital technology to record parent-child interactions for 16 hours at a time, calculates that children with an "enriched language environment" hear about 20,000 words a day—22 million words by age 3—while disadvantaged children hear half as many or fewer.

"There's a lot of differentiation within the groups," said Jill Gilkerson, LENA's director of child-language research.

"Among the low-[socioeconomic-status] families, it's not the case that none of the adults in the house were engaging with their kids. There are some who are engaging a lot," she said. "And it's also not the case that all high-SES parents are engaging a lot with their kids."

One LENA-based study found, for example, that the upper half of parents who had less than a high school diploma—in terms of parent-child verbal interactions—spoke more to their children each day than the lower half of college-educated parents, 14,245 words versus 11,802 words.

Parent-Child Conversations

"This is the challenge of translating science to policy, and when one study captures the imagination of the public, and policy is made based on one study," Mr. Barnett said. A study "has to be viewed in the context of the much larger body of knowledge about language and family and experience."

But if recent studies shrunk the word gap from the Hart and Risley study, they also magnified the importance of parent-child conversations.

"Conversational turns are vastly more important than the number of words a child is exposed to," Ms. Gilkerson said.

In one recent study, Ms. Gilkerson and her colleagues found parents of children who scored in the top 10 percent on preschool language tests had conversations with their children that involved 18 more turns taken per hour than parents of children scoring in the bottom 80 percent.

"When you're getting more directive, business talk, the short directive sentences don't elicit this back and forth," Ms. Gilkerson said. That finding could explain, in part, why more total words are associated with better language skills for children. "We do know as the number of words increases," Ms. Gilkerson said, "so does the richness, the syntactic complexity, the content."

Helping Families Communicate

"I think [Ms. Hart and Mr. Risley] came up with a very substantial finding and something we have to pay attention to," said Susan B. Neuman, the chairman of teaching and learning at the Steinhardt School of Culture, Education, and Human Development in New York City. "What I worry about is how it's being interpreted. Just exhorting parents to talk more is a very simplistic response."

While many early-literacy interventions focus on getting parents to read to their children, Ms. Neuman found in a forthcoming study that low-income parents engaged in more and better conversations with their children while playing an animal bingo game than while reading a storybook.

"Lots of times researchers want to bring to low-income families middle-class practices, rather than learning what really engages and interests those families," Ms. Neuman said.

In Providence, R.I., researchers are trying to listen. The city is scaling up a pilot of its $5 million Providence Talks initiative. The program uses home visits and audio recordings of families to help parents understand and improve conversations with their children.

Caitlin Molina, the program manager for Providence Talks, said families who entered with children performing in the bottom half on an early-literacy test boosted the number of average daily words by 65 percent, or 5,600, and the number of turns they took in conversations with their children by half, or 116 new interactions, as compared with a control group of children who were given reading materials but not recordings and feedback.

"I see [the improvement] as incredibly important," Ms. Molina said. "I've worked with this age group for many years, and you can identify very early what their learning patterns will be. To be able to tap into that at an early age is a gift."

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