

## WISE WORDS FROM ROTTERDAM

by Donald G. Jamieson, CEO and Scientific Director, Canadian Language and Literacy Research Network and Richard E. Tremblay, CEECD Director

Children born in Rotterdam, in the Netherlands, have always been inclined to travel. You could sail the Atlantic or follow in the footsteps of Erasmus and trace the river Rhine back to its source near Basle to fight a crucial battle. Many intellectuals of the time were arguing that children should not start to learn anything serious before they were at least seven years old. After reading the Greek classics and after much reflection, Erasmus concluded that *“one cannot emphasize too strongly the importance of those first years for the course that a child will follow throughout his entire life.”*<sup>1</sup> In his treatise on education, published in 1509, he wrote, *“Some people may object that exertion is not natural for a youngster; and they may also ask how we can expect a genuine capacity for*

*learning in a child who is scarcely aware as yet of his own humanity. I can give a summary reply to these objections. How can anyone think children cannot learn their letters at an age when they can already be taught good behaviour?”*<sup>1</sup>

That Canada can do a better job with early learning seems to be the subject of general agreement. What we do not seem able to agree upon is exactly what we should be doing and how. As in other areas of public policy, we hear many competing voices, each arguing that theirs is the better way. How then can we be sure we are doing the right thing? Each choice we make eliminates some alternatives, some of which may be very good alternatives. A particularly important domain in which we must be sure to make the right choices — for society and for individuals — is in programs and activities designed to promote the development of good language and literacy skills.

This Bulletin summarizes the highlights of a collaboration between the **Centre of Excellence for Early Childhood Development** and the **Canadian Language and Literacy Research Network**, two organizations created to help Canadians and policy-makers make better choices for the benefit of children. For this project, the two organizations joined forces to summarize the current state of knowledge on children’s language and literacy development



and to describe the implications this knowledge has for early learning policies and practices.

Good language and literacy skills lay the foundation for social, academic, economic, personal and national success. Moreover, such skills are cumulative — success builds on success, while falling behind at an early age creates increasingly difficult challenges. For these reasons, it is important to get it right from the start, and to continue to get it right throughout the early years. Getting it right will require from us to put into practice the best knowledge we presently have. However, this is only the first step. First, because we currently know only part of what there is to know about fostering good language and literacy development. Second, because we need to ensure that programs and practices are monitored systematically to identify opportunities for improvement.

Since the time of Erasmus, policies and practices have all too frequently been rooted in personal philosophy, bolstered by anecdote, not solid evidence. We can do better in the future. ¶¶



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<sup>1</sup>Erasmus. A declamation on the subject of early liberal education for children. In: *Collected works of Erasmus, literary and educational writings 4*. Toronto, Ontario: University of Toronto Press; 1529/1985:297-346.

# WORDS TO GROW ON

by Liz Warwick



**A child's first spoken word represents a major milestone in development. Although babies communicate in a myriad of ways from birth (crying, physical gestures, facial expressions), the ability to utter one word, then several words, then whole sentences literally opens new worlds.**

**A**s professor Judith R. Johnston of the University of British Columbia notes, "New language tools mean new opportunities for social understanding, for learning about the world and for sharing experiences." While experts hotly debate the mechanics of how children learn language (how much is genetic and how much comes from the environment), there is agreement about the sequence in which language develops. As Johnston points out, most children will speak sometime in their second year and by age two, are likely to know about 50 words and be able to combine them in short phrases. By the start of school, most children will use increasingly complex structures and vocabulary, be able to express ideas of size, location, quantity and time and be able to participate in conversations and tell stories. They will be able both to express themselves and to understand others in social and learning environments.

## LANGUAGE PROBLEMS HINDER DEVELOPMENT

However, an estimated 8 to 12% of preschool children show some form of language impairment, according to the National Institute on Deafness and Other Communication Disorders. Studies show that these impairments will have significant, long-term negative consequences for children's healthy development. As Dr. Nancy J. Cohen,\* a professor of psychiatry at the University of Toronto, points out, "Because language competence is critical for both school readiness and psychosocial and emotional adjustment, problems with language and communication can set a child on a maladaptive trajectory throughout life."

Research shows that children with language impairments have increased risk for a wide range of problems, including psychiatric disorders and poor educational achievement. Dr. Joseph Beitchman of the University of Toronto's Department of Psychiatry notes that language-impaired children in the Ottawa Language Study (a longitudinal study of English-speaking children in the Ottawa region of Ontario), had elevated rates of anxiety disorder. In language-impaired boys, the rate of anti-social personality disorder was three times higher than in the control subjects. Children with language impairments were more likely to have learning disabilities, to show hyperactive and externalizing behaviour and to have lower social competence (i.e. less successful interactions with non-family members). "Language-impaired children showed prominent concurrent and long-term deficits in language, cognitive, and academic domains relative to peers without early language difficulties," Beitchman concludes.

## LANGUAGE LINKED TO SUCCESSFUL READING

The successful development of strong language skills in the early childhood years is key to mastering one of the essential tasks of the early school years: learning how to read. In the past decade, researchers and educators have increasingly called attention to the need to foster strong "preliteracy" abilities during the preschool years. Current research shows that school-age competency in reading can be predicted from the degree of development of three key skills: phonological processing (the ability to identify, compare and use phonemes, the smallest units of spoken words); print knowledge (familiarity with a wide variety of written materials); and oral language. The first two skills help be-

*"An estimated 8 to 12% of preschool children show some form of language impairment"*

gining readers to “decode” words, while the third skill helps them understand what they have read. Both decoding and comprehension must be present for reading to be successful. As Bruce Tomblin of the University of Iowa’s Department of Speech Pathology and Audiology notes, “Decoding printed words, however, is insufficient for reading competence. The reader also needs to be able to interpret the meanings of the printed text in a manner very similar to how utterances are interpreted when heard.”

Unfortunately, an estimated 12% of children begin school with poor listening and speaking skills that make learning to read a significant hurdle. By fourth grade, some 40% of children are struggling with basic reading; a disproportionate number of these children come from ethnic or racial minorities or poor families.

#### PREVENTING LANGUAGE PROBLEMS PAYS DIVIDENDS

As Laura M. Justice of the University of Virginia points out, research shows that these numbers could be reduced by improving preliteracy skills in children during the years from birth to age five. “The prevalence of reading difficulties is more likely to be influenced through prevention rather than remediation,” Justice notes, “since once a particular child shows a reading delay in elementary school, the odds suggest that a return to healthy progress is quite unlikely.”

As children’s healthy psychosocial and emotional development is linked so closely to proper language development, many researchers suggest the need for increased investment in studying this field, as well as long-term efforts to raise awareness among parents, caregivers and early childhood educators about the many steps they can take to ensure improved language development in young children. Dr. Rosemary Tannock\* of The Hospital for Sick Children, in Toronto, notes that one important and necessary step is the development of more

sensitive screening measures that would correctly identify the various kinds of impairments that may occur. Until such screening measures are in place, some researchers caution against wide-scale testing of all preschool children, as the tests are expensive and may not pick up all the problems, or may falsely identify children who don’t have true language impairments. Tannock suggests that instead, screening be done for high-risk populations or for children whose parents express great concern over their child’s language development.

#### BUILDING A STRONG LANGUAGE FOUNDATION

Kathy Thiemann and Steven F. Warren of the University of Kansas suggest that more research is needed into which practices actually improve language skills and how these practices might vary depending on the age and developmental stage of the child. They also encourage researchers and practitioners to move their findings from the labs and into the day-to-day lives of families with children. Parents and other caregivers are likely to play a key role in helping children acquire a strong foundation in language. Luigi Girolametto\* of the University of Toronto notes that current research shows that parent-administered interventions (when training is provided to parents to help them work with their language-impaired child) are successful in the short term. More research is needed to determine if the improvements hold long-term.

However, even simple steps taken by parents and caregivers can go a long way toward ensuring healthy language de-

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To learn more about Language Development and Literacy, see our experts’ papers in the online CEECD Encyclopedia:

[www.excellence-earlychildhood.ca/encyclopedia](http://www.excellence-earlychildhood.ca/encyclopedia)

velopment — and hence overall development — in young children. Monique Sénéchal\* of Carleton University suggests that at least two activities be incorporated into everyday routines: playing word games that emphasize the structure of language and thus give children greater phonological awareness, as well as reading books, which helps build vocabulary and awareness of print.

In short, if the goal is the healthy development of a child, no one can afford to overlook the importance of language. Equipped with strong language skills developed and nurtured in the early childhood years, children can forge ahead with their learning and their lives. 🦋

\* Researchers with the Canadian Language and Literacy Research Network.

The articles of the quoted authors are available in: Tremblay RE, Barr RG, Peters RDeV, eds. *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development. Available at: <http://www.excellence-earlychildhood.ca/encyclopedia>

Ref.: **Beitchman J.** Language development and its impact on children’s psychosocial and emotional development. 2005:1-7; **Cohen NJ.** The impact of language development on the psychosocial and emotional development of young children. 2005:1-7; **Girolametto L.** Services and programs supporting young children’s language development. 2004:1-6; **Johnston JR.** Factors that influence language development. 2005:1-6; **Justice LM.** Literacy and its impact on child’s development: Comments on Tomblin and Sénéchal. 2005:1-5; **Sénéchal M.** Literacy, language, and emotional development. 2005:1-6; **Tannock R.** Language development and literacy: Comments on Beitchman and Cohen. 2005:1-6; **Thiemann K, Warren SF.** Programs supporting young children’s language development. 2004:1-11; **Tomblin B.** Literacy as an outcome of language development and its impact on children’s psychosocial and emotional development. 2005:1-6.

# OPENING THE WORLD OF READING

by Liz Warwick

**Starting primary school usually signals the start of teaching children how to read. However, to succeed at this complex and essential task, children must have and use many skills, including an awareness that words are made up of small units called phonemes and a strong knowledge of letters, as well as being familiar with various printed materials. Two recent studies show that these skills can be fostered in the early childhood years by parents and caregivers.**



Researcher Monique Sénéchal, a Canadian Language and Literacy Research Network researcher has followed 168 middle- and upper-class children in the Ottawa area, Ontario, for five years, looking at how early exposure to print, be it through reading books or more formal teaching about letters and words, has an impact on reading ability in grade three. In her study, Sénéchal found that early exposure to books contributed to more fluent reading in the third grade. The link between parental teaching and better reading was far less clear; however, a key component in children's success in learning to read was phonological awareness, which may be fostered through reading rhymes and poetry.

## HELP FROM MOTHER GOOSE

For Judith Poirier, Coordinator of Early Literacy Activities for the *Fédération québécoise des organismes communautaires Famille* (FQOCF), Sénéchal's study highlights the importance of early exposure to language, particularly through poems, songs and rhymes. "We encourage Mother-Goose type programs," she said, in which parents and children listen to rhymes and sing simple songs. Poirier notes that one

key challenge is helping families, particularly those who are poor or from other cultures, to integrate reading into daily interactions with their preschool children. "For many families, buying books is out of the question. There isn't the money," says Poirier. Many aren't comfortable visiting a library. She would like to see more research and ultimately more programs to help families from all socio-economic levels make literacy activities a key part of the early childhood years.

## TRAINING CAREGIVERS PAYS OFF

With so many children spending significant time in daycare each day, researchers have also begun to look at the impact of caregivers' interactions on children's language development. Not surprisingly, children whose caregivers responded to their efforts to talk, encouraged conversation among peers and helped children expand their ideas and vocabulary by providing new words and concepts, showed better language skills. A study by a Canadian research team led by Luigi Girolametto showed that children benefit when their caregivers are trained to provide high-quality language interaction. Children

*"Early exposure to books contributes to more fluent reading in the third grade"*

whose caregivers received the training used more word combinations and spoke more often with their peers.

"This research verifies what I've seen in my work," says Brenda Braunmiller, a speech language pathologist at the Early Language and Learning Nova Scotia (Central Region Dartmouth) Family Centre. "It shows what a difference can be made when training is provided." Braunmiller notes that the training did not create new or onerous demands on the caregivers. "It wasn't extra work, it was an increase in awareness. By making certain changes in their interactions, they had an impact on the children's language. This is all about enriching the quality of the interaction." 🦋

Ref.: Sénéchal M, LeFevre JA. Parental involvement in the development of children's reading skill: A five-year longitudinal study. *Child Development* 2002;73(2):445-460.

Girolametto L, Weitzman E, Greenberg J. Training day care staff to facilitate children's language. *American Journal of Speech - Language Pathology* 2003;12(3):299-311.

The Canadian Language & Literacy Research Network (CLLRNet) funded the dissemination of the above research. Dissemination venues included a symposium, publication of the symposium proceedings and the Canadian Language and Literacy Calendar.



# FINDING THE ROOTS OF LANGUAGE DIFFICULTIES

by Liz Warwick

**There is strong evidence that our ability to use language is, in part, coded into our genes. Children acquire and use language at different rates and with varying abilities, so determining how much of this variation is due to genes and how much to environment are key questions for researchers.**

One way of exploring these questions is through studies of twins who share genetic information and (usually) a very similar environment. Recently, a team of researchers looked at language problems in children. They administered a series of language tests to a group of four-year-old twins (both same-sex and opposite-sex pairs). They then analyzed the results for the children who scored below the 15th percentile and found a strong ge-



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netic influence on language impairments. In fact, the more severe the language problems, the greater the role played by genetics.

The study's findings were in line with previous research showing that language impairments may be inherited. However, this study also helped shed light on a troubling fact: significantly more boys than girls are diagnosed with language impairments. Scientists have questioned whether boys are more likely to be referred for help with language difficulties but this study did not find such a bias. Nor did it find sex-specific genetic or environmental influences on the development of language problems.

## DIFFERENT GENES FOR LANGUAGE PROBLEMS

"One of the key findings of the study is that the genes involved in the development of language impairments are different than in normal language development," says Ginette Dionne, a professor in the *École de psychologie* at Université Laval and a Canadian Language and Literacy Research Network funded researcher. In short, some children are born with a tendency to develop impairment, regardless of the environment in which they grow up. "However just because

genetics has been identified as a cause, that does not rule out a cure involving possible changes to the environment," adds Dionne. "What these findings mean for practice is not entirely clear and they don't mean that treatments will not be environmental. Just as some genetically-based diseases may be controlled by changes to the environment (think of diabetes being controlled by careful diet), so may language impairments require early interventions and changes to the child's environment," says Dionne.

## IDENTIFY IMPAIRMENTS EARLY

"The study also shows that language impairments appear — and can be identified — in the early years," Dionne adds. Current research suggests that even as early as three months, babies differ in their ability to hear phonemes, the smallest units of words, and that these differing abilities may affect later language development. "What is needed now is more research into these issues in order to understand more fully just how language does or does not develop normally," says Dionne. Armed with this knowledge, parents, caregivers and others working with young children will be in a position to intervene early, quickly and effectively. ¶¶

Ref.: Viding E, Spinath FM, Price TS, Bishop DVM, Dale PS, Plomin R. Genetic and environmental influence on language impairment in 4-year-old same-sex and opposite-sex twins. *Journal of Child Psychology and Psychiatry and Allied Disciplines* 2004;45(2):315-325.

## Start here to help this generation develop strong language and literacy skills.

One in four of these children will grow up without the language and literacy skills they need to simply participate in this world. Research blended with a healthy dose of collaboration can change that reality. We're the Canadian Language and Literacy Research Network. Together with partners like the Centre of Excellence for Early Childhood Development, we're working to share our research, and to offer evidence-based improvements to current practice and policy.



Join us – help us give all Canadian children the right start in life. Visit [www.cllrnet.ca](http://www.cllrnet.ca) or email us at [info@cllrnet.ca](mailto:info@cllrnet.ca)

### CANADIAN LANGUAGE & LITERACY RESEARCH NETWORK

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