



**Aboriginal young children's language
and literacy development:
Research evaluating progress, promising
practices, and needs**

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“We’re taught that our language comes from the Creator, and that speaking it acknowledges our connection. We’re taught that our voice is a sacred gift and that there is a lot of power in our words. When we speak, our words go around the world forever.”

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EXECUTIVE SUMMARY

Aboriginal young children's language and literacy development: Progress, Promising Practices, and Needs*

Jessica Ball, M.P.H. Ph.D.

Aboriginal children's language and literacy environments and developing language and literacy skills are unique in many ways compared to non-Aboriginal children. While there are commonalities in the biological unfolding of language and literacy capacities across all children, the cultural nature of development, as well as variations in access to supports and services, call for a focused consideration of the needs of Aboriginal children and of approaches to supporting their children's language and literacy.

Giving children the best start in life is one of the most important investments we can make. Research shows that early childhood is the developmental stage with the greatest long-term impact on quality of life. Language develops rapidly from infancy throughout the preschool years. Language delays and difficulties are best prevented and addressed during these early years.

This report summarizes what is known about language and literacy development of Aboriginal children under six years old living in Canada. As well, the report characterizes some of the views on this topic expressed by Aboriginal leaders, parents, Elders, and early childhood educators, as well as by speech-language pathologists who have worked with Aboriginal children in Canada. Research selected for review to inform this report did not include the availability, nature, or impacts of programs for school-aged children or adults, such as basic education, reading recovery, bilingual education, adult literacy, or Indigenous language instruction or immersion. Also, given the rapid development of speech and language in the early years as the foundation for emerging literacy, this report focuses more on speech-language development than on literacy.

The review for this report set out to identify published, peer reviewed, systematic research documenting speech-language trajectories, difficulties, and secondary problems among Aboriginal young children, and controlled research studies of speech-language promotion and early interventions delivered to Aboriginal children or families. Perhaps surprisingly, this search yielded no published studies fitting these descriptions. In the absence of published research evidence, the review draws upon selected demographic data and a variety of informal sources. These include "gray literature" (e.g., unpublished agency, government, or community reports),

*This report was prepared for the Canadian Language and Literacy Research Network (CLLRNet) to inform the development of a national language and literacy strategy. Views expressed are those of the author and do not necessarily represent the policies, priorities or perspectives of CLLRNet. The author thanks Carrie Gillon, Ph.D., for assistance in ferreting out and assessing Canadian sources reviewed here.

consultations with scholars and community-based leaders working on Aboriginal children's speech-language and/or literacy, anecdotal reports gleaned from Aboriginal child care conferences, and research that is pertinent to but not specifically on Aboriginal early language or literacy.

Throughout anecdotal and informal reports is an over-riding concern that the nature and provision of language learning environments in Aboriginal children's home and community settings should be culturally and linguistically congruent with the goals of Aboriginal parents for their children's development. Given the important roles of language in securing Aboriginal children's cultural identity and their connections with family, community, and spiritual life, new approaches to culturally-appropriate supports are needed.

A funded program of research is urgently needed to learn more about the language and literacy development needs of Aboriginal children and how best to support Aboriginal children's primary caregivers (e.g., parents, grandparents, foster parents) to promote optimal outcomes. As well, research is needed to create relevant content and effective pedagogy for pre-service and in-service education for secondary caregivers (e.g., early childhood educators) and specialists (e.g., speech-language pathologists, librarians, physicians, pediatric epidemiologists, and psychometricians) who do not necessarily subscribe to the same developmental goals or service approaches as do Aboriginal primary caregivers. Screening and diagnostic tools need to be adapted and validated with Aboriginal children, ensuring in particular that differences in home dialects of English or French are not mistakenly interpreted as speech-language deficits or disorders. Programs intended for Aboriginal children need to reflect, reproduce and enhance the diverse cultures and languages of Aboriginal families and communities in Canada.

This review provides a rationale for research and development that will inform implementation and evaluation of community-based, collaborative, culturally-fitting approaches aimed at enhancing environments for Aboriginal children's language and literacy development within the context of their families. Given the importance of early language development for social inclusion, cultural identity, cognitive development, school readiness and educational achievement, new investments of federal funds are needed for a national strategy to support Aboriginal early language and literacy. This strategy would include:

- regional and national networking and leadership development specifically for those working in the area of Aboriginal early language and literacy through virtual and face-to-face conferencing;
- development, delivery and evaluation of post-secondary training curricula to extend the capacity of Aboriginal early childhood practitioners to promote children's language and literacy development in child care and early learning programs, home visits, and other programs;
- development, delivery and evaluation of post-graduate (pre-service) training curricula and professional development (in-service) training curriculum to better prepare teachers and speech-language pathologists to work effectively with

- Aboriginal children, families, programs and communities;
- community-based development, piloting, and ongoing delivery of community-fitting events and programs involving multi-generational family interactions that promote and enrich children's speech-language and literacy development (e.g., story-telling circles, family play and drama, singing groups);
 - community- and consortium-based production of culturally-specific language and literacy resources for teaching Indigenous languages (e.g., digital video and audio recordings of local stories and songs, books, posters);
 - community-university research partnerships to:
 - develop culturally appropriate speech-language and literacy assessment tools;
 - establish community, regional and national data bases for monitoring progress;
 - evaluate pilot training programs, workshops, and early childhood program strategies; and
 - to disseminate knowledge about new and promising practices.

Investments in these initiatives would yield new knowledge and a potentially effective system of supports driven by Aboriginal community agenda and organizations. Partnerships across Aboriginal organizations, Centres of Excellence, post-secondary institutions, and sectors including health, education, and child care would support the development of new resources, capacity, and program strategies. Support for Aboriginal early language and literacy facilitation can be expected to:

- reduce high rates of referral for speech-language diagnosis and therapy with their attendant high costs, long wait times, and dependencies on external supports;
- reduce high rates of diversion of Aboriginal children at school-entry to special programs for learning support, with their attendant sequelae of social stigma and exclusions;
- counteract prevalent misconstructions of cultural and language differences as communication and parenting deficits;
- promote cultural continuity and self-esteem;
- help to retain endangered Indigenous languages;
- ameliorate the social exclusion of Aboriginal children from the fabric of Canadian society.

INTRODUCTION

Aboriginal community representatives, practitioners, and investigators have vocalized the need for a planned and supported national strategy to support Aboriginal young children's language and literacy. Their call includes services to address speech-language difficulties before children start school and resources for Indigenous language acquisition, delivered within the contexts of children's families and cultural communities (Assembly of First Nations, 1988; Royal Commission on Aboriginal Peoples, 1996). This report focuses on language and literacy development of Aboriginal children from birth to five years of age, before they enter formal schooling. The report does not examine the availability, nature, or impacts of school-based programs.

The review for this report set out to synthesize what is known through research in Canada about: (a) why it is important to ensure Aboriginal children's potential for speech-language and literacy; (b) Aboriginal children's needs for strategic interventions to address challenges for their language and literacy development; and (c) impacts of early childhood programs, parent-skills training, and speech-language interventions delivered to Aboriginal children and caregivers to promote optimal language and literacy outcomes.

While it is widely acknowledged that there are gaps in knowledge about Aboriginal children's development and the prevalence of speech-language difficulties, it was unexpected that the search for sources to review for this report would yield virtually no peer-reviewed, research-based publications on this topic.¹ No published, peer-reviewed, community-level needs assessments were found. No published controlled studies were found that measured the impacts or identified the effective components of early language or literacy promotion or intervention programs delivered to Aboriginal children or their primary caregivers. The informal, localized, and fragmented nature of knowledge in this area may be explained by the unique living circumstances, jurisdictional divisions, and general marginalization of Aboriginal peoples. These factors are complicated by perennial challenges of cross-cultural research and rapidly changing frameworks for Indigenous research ethics and methods.

This report identifies some of the most glaring gaps in knowledge. Guidelines for innovating new approaches to practice are offered, based largely on anecdotal reports from practitioners in the field and from descriptive reports of community-level efforts scattered in the gray literature. Priorities for research and capacity development are suggested. The report is intended to inform decisions about investments in research, training, resource development, and service delivery. It provides a rationale for federal investments in primarily family-centred, community-based approaches to support primary caregivers, early learning and child care programs, and speech-language pathologists to respond to Aboriginal parents' goals and to meet Aboriginal children's needs for optimal language and literacy development as a foundation for success in school and later life.

¹ A more extensive literature informed by research involving Indigenous children is available in the United States, Australia, and Aotearoa/New Zealand. However, there are unique features of the landscape of policies, programs, and circumstances affecting environments for development of Aboriginal children in Canada. Therefore, the search for information for the current review focused on domestic sources.

WHY ARE ABORIGINAL CHILDREN'S LANGUAGE AND LITERACY PRIORITIES?

1. Aboriginal goals for children's development

Aboriginal leaders and communities in Canada are prioritizing programs of support in the early years as a way of ensuring:

- optimal child development;
- pride and competence in traditional culture and language; and
- a strong foundation for psychosocial well-being and economic prosperity.

“Our recommendations emphasize the importance of protecting children through culturally-appropriate services, by attending to maternal and child health, by providing appropriate early childhood education, and by making high quality child care available, all with the objective of complementing the family's role in nurturing young children” (Royal Commission on Aboriginal Peoples, 1996, Vol. 5, Ch. 1, s4.1).

The importance of early language development is well understood among Aboriginal parents, Elders, and leaders in Canada (Battiste, 2000; Hebert, 2000). Aboriginal community leaders are looking for resources to support parents, early learning and child care providers and teachers. They are seeking strategies that avoid dependencies on professional services that are driven by goals and norms for evaluating outcomes derived only from European-heritage expectations for children's development. As part of this agenda, Aboriginal leaders have argued strongly that ways must be found to ensure that Aboriginal families' goals for their children's development drive government and agency agendas and determines the allocation of resources for the development of community capacity and for Aboriginal children (Assembly of First Nations, 1988; Hughes, 1990).

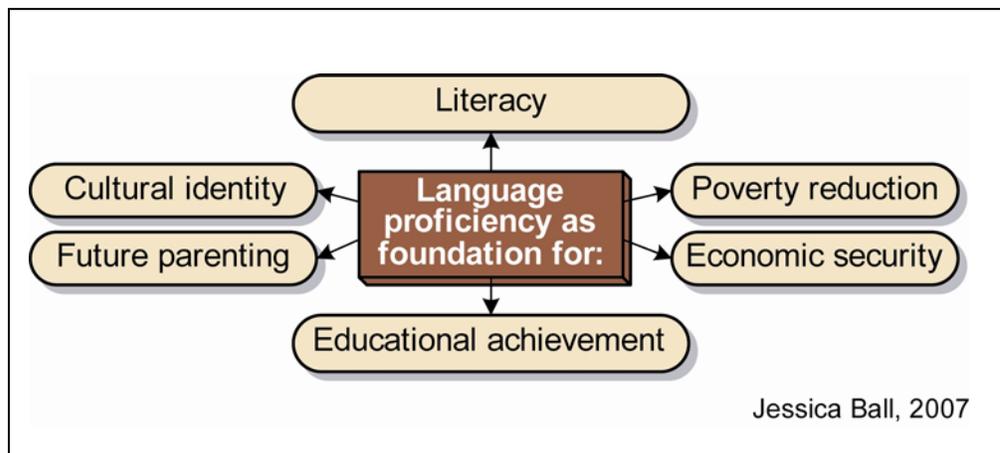
2. The sensitive early years

The period from birth to 60 months of age is the most sensitive time for language development and the most opportune time to promote language learning and to intervene to remediate difficulties (Owens, 2001; Wells, 1985). While research shows that communication capacities continue to develop during middle childhood and beyond, and older children can benefit from language promotion and intervention programs, the most advantageous time to stimulate language development starts at birth (Pinker, 1984). Decades of research in neuroscience, developmental psychology, and economics have produced voluminous evidence showing that early interventions supporting the development of disadvantaged children have much higher returns than later interventions after children have started formal schooling (Heckman, 2006; Tremblay, Barr, & Peters, 2006).

3. The pivotal role of language in development

Research has shown that speech-language skills play a role in nearly all developmental outcomes (Figure 1). Language is central to how children gain access to cultural knowledge and learn to participate and grow within their cultures (Blank, Rose, & Berlin, 1978; Heath, 1983). Linguistic, cognitive, social, and emotional competencies are interdependent. Early language learning contributes in primary ways to learning in all other domains, and makes learning at later ages more efficient and therefore easier, self-reinforcing, and more likely to continue (Shonkoff & Phillips, 2000). For example, studies show how children use language to improve memory (Myers & Permuter, 1978), guide perception (Stiles-Davis, Tada, & Whipple, 1990), build number concepts (Saxe, 1979), solve problems (Kohlberg, Yaeger, & Hjertholm, 1968) and discover social categories (Rice & Kemper, 1984). Preschoolers who speak clearly and communicate their ideas more effectively are better able to sustain bouts of play with other children (Guralnick, Connor, Hammond, Gottman, & Kinnish, 1996). Even before children enter school, weak language skills are associated with, and over time appear to exacerbate, behaviour and attention problems (Arnold, 1997; Hinshaw, 1992; Morrison, Mantzicopoulos & Carte, 1989). Language proficiency in childhood has been shown to be the best predictor of future cognitive performance in children (Capute, 1987).

Figure 1
The foundational role of speech-language proficiency.



With regards to literacy, most researchers view reading and writing, including spelling, as reliant on oral language skills (Brady & Shankweiler, 1991; Catts & Kamhi, 1999; Dickinson & Beals, 1994; Dickinson & Tabors, 2001; Gerber, 1993; Kavanaugh & Mattingly, 1972). Delayed language development often leads to low literacy (Catts, Fey, Zhang, & Tomblin, 1999; Curran, 2005; Gillon, 2005). But perhaps the most useful way to think about literacy in relation to Aboriginal young children and their families is with reference to the concept of ‘multiliteracies’, elaborated by the New London Group (Cazden, Cope, Fairclough, Gee, Cress, Luke, Luke, Michaels, & Nakata, 1996). Expanding beyond the view of literacy portrayed by traditional language-based

approaches, this group draws attention to multiple channels of communication and many domains of literacy, including: acquiring culturally-based meanings of symbols in the physical environment; reading social cues; and constructing meaning from written symbols. Conceptualizing and investigating the development of multiliteracies may be particularly important with reference to supporting Aboriginal parents' and Elders' goals for children's development, which often encompass learning to 'read' the signs and symbols on the land in order to subsist on the land, to regulate community life according to changes of seasons, and to participate in collective cultural activities (Ball & Lewis, 2006).

4. The language-thought-culture nexus

Language, thought, and culture are inextricably bound. Language and the way we use it are passed down through previous generations within our respective cultural communities. Linguists agree that language shapes the way people perceive the world as well as how people describe it (Heath, 1983; Nevins, 2004). Much of our thinking is done in words and communication using language enables us to develop intersubjective understandings (Toma & Wertsch, 2003). Conversely, culture is embodied, in part, in the words we use and how we use them (Bruner, 1975).

Learning the language(s) of one's family and cultural community has been associated with developing a cohesive cultural identity. For Aboriginal children in Canada, this identity incorporates a sense of oneself in relation to the land, to traditional knowledge, and to Elders (Battiste, 2000; Norris, 2006). A task force on Aboriginal languages and cultures in Canada summarized their consultations across Canada: "*Many stated that the ability to speak one's own language helps people to understand who they are in relation to themselves, their families, and their communities, and to Creation itself*" (Canadian Heritage, 2005, iv). Aboriginal patterns and values relating to language development and use (e.g., Indigenous home language, Aboriginal dialect, variations of English or French) are at the heart of how Aboriginal peoples embody cultural values (Fishman, 1996; Kirkness, 2002). Fluent speakers of Aboriginal languages believe that without their languages, their cultures will be lost, because it is impossible to translate the deeper meanings of words and concepts into the languages of other cultures (Ermine, 1998). This concern has frequently been expressed by First Nations Elders, observing that younger generations know little of the language of their ancestors, other than perhaps a few ceremonial prayers and songs (Royal Commission on Aboriginal People, 1996). Aboriginal children are increasingly likely to learn their Aboriginal language as a second rather than as a first language, if at all. Supporting opportunities for Aboriginal children to learn their Indigenous language is one powerful way to engender their cultural identity, cultural knowledge, and connectedness with their cultural community (Crystal, 1997; Hebert, 2000; Ignace, 1998).

5. Success in school

It is well known that success in school requires vast exposure to, practice with, and proficiency in oral language (Hart & Risley, 1995). Weak language skills in the preschool years are a strong predictor of lower academic achievement, particularly for children in families of low socioeconomic status (Schuele, 2001). Research has shown that lower scores on early literacy tasks at kindergarten entry consistently predict lower academic performance throughout the first three years of formal schooling (Morrison, Griffith, Williamson, & Hardway, 1995; Stevenson, Parker, Wilkinson, Hegion, & Fish, 1976) and later in life (Canada Council on Learning, 2007). Early interventions to increase language proficiency can significantly increase later success in school (Campbell & Ramey, 1994).

6. Social exclusion

Social exclusion is a result of many interacting forces and it is manifested in multiple, inter-linked problems. Integrative theories of children's development (e.g., Coll, Lamberty, Jenkins, McAdoo, Crnic, Waskik, & Garcia, 1996) contribute to increasingly differentiated understandings of the ecology of disadvantage. In addition to causal factors including racism, discrimination, and poverty, social exclusion is a result of low levels of attainment in specific areas of development including speech, language, and literacy. Higher levels of language proficiency can increase the probability of school success, opportunities for employment, and economic security (Bird & Akerman, 2005).

As Battiste (2000) and other Aboriginal scholars have long argued, the sustained social exclusion of Aboriginal children in Canada has been achieved through colonial policies that have stripped away Aboriginal title to traditional territories and excluded Aboriginal histories, cultures, and languages from public school curricula. Reducing social exclusion through language and literacy initiatives will require new approaches (Hebert, 2000). Rather than being based on an assumption that European-heritage languages and literacies are normative and ideal, new approaches must be based on an assumption that Aboriginal languages and Aboriginal varieties of English or French, literacies, parenting styles, and pedagogies are equally valid and useful for promoting optimal developmental outcomes.

7. Equitable opportunities for health and development

A basic value in Canada is that, regardless of where children live in this country, and regardless of their ethnicity, programs for promoting their optimal development should be accessible, available, and linguistically and culturally appropriate to them (Canadian Centre for Justice, 2001). It is generally believed, though not well documented, that Aboriginal children are especially at risk for language delays that can harm their prospects for good jobs and a healthy life (Canada Council on Learning, 2007). The Standing Committee on Human Resources Development and the Status of Persons with Disabilities (2003) has summarized reports indicating that a significant proportion of Aboriginal infants and young children have special needs. Many programs

for children who are considered to be at risk and for children known to need extra supports are available in Canada. Some of these are aimed at decreasing the risk for speech-language disorders, associated learning disabilities, mental health problems, school failure, and other developmental difficulties. However, it is widely acknowledged that programs for children with special needs are least accessible to children and families living in rural, remote and northern communities, where many Aboriginal children live (deLeeuw, Fiske, & Greenwood, 2002).

Conclusion

Improving developmental outcomes for Aboriginal children should be a priority of the federal government. This goal will require a large-scale and sustained effort on many fronts. Providing equitable resources and supports for Aboriginal children to maximize their full potential for language and literacy is one important component of a multi-pronged effort.

SPEECH-LANGUAGE AND LITERACY NEEDS OF ABORIGINAL YOUNG CHILDREN

Canada lacks a national system for monitoring children's health and development.² Thus, there are no population-based data to characterize trends in Aboriginal children's speech-language development or emerging literacy skills, or for estimating the prevalence, nature, or geographic distribution of speech-language or literacy delays, difficulties, or other needs.³ Nor are there provincial or territorial population-based data on speech-language or literacy development or diagnoses among Aboriginal children. In addition to factors related to political will and the lack of a national monitoring system, there are several other reasons for the lack of substantial evidence of Aboriginal children's language and literacy development in Canada.

- Many Aboriginal young children are not seen by developmental specialists (e.g., infant development consultants, child care practitioners, speech-language pathologists, pediatricians).
- Speech-language services are extremely limited for children living on-reserve: Speech and language assessment and treatment is not covered by Health Canada, Department of Indian and Inuit Health Services Branch as these services are not a 'non-insured health benefit.' Recent changes to Department of Indian Affairs Special Education guidelines has provided First Nations with some funds to cover services to children attending public school, and some few First Nations purchase contract speech and language diagnostic and therapy services using these funds. As a rule, these services are not provided provincially for children living on reserve.⁴ Over half of Aboriginal children do not have access to child care programs where their speech-language development could be monitored and difficulties noticed.
- Aboriginal children were not systematically sampled in the two national longitudinal cohort studies of the growth and development of Canadian children and youth (*National Longitudinal Study of Children and Youth* and *Understanding the Early Years*).
- There are no monitoring, screening or diagnostic tools that have been validated for use with Aboriginal children. Screening and assessment tools in current use in Canada have been developed and normed in research involving predominantly

² The term 'surveillance' has very negative connotative meanings for many people, evoking images of being watched and policed. This term is particularly sensitive for many Aboriginal people who are determined to avoid the kind of surveillance and state-run intervention programs visited upon their children with devastating effects in the past (Ball, 2006). The term developmental monitoring may find wider acceptance.

³ In discourse about Aboriginal children, the term 'special needs' is often contested. Many Aboriginal Elders have emphasized that all children are special and all children have gifts, and they have encouraged inclusion of all children in community-based programs that meet each child's individual needs in order to ensure optimal development of each child's unique strengths.

⁴ It is generally understood that some families move off of reserves specifically in order to obtain provincially funded diagnostic and treatment services as well as early childhood education programs.

children of European-heritage in urban settings with English or French as their first language.⁵

- *A recommendation of this report is for a national child health monitoring system that includes speech-language and auditory functioning.*

In October 2008, policy makers, investigators, and service agencies will have access to data obtained through the Aboriginal Children's Survey conducted by the Aboriginal Statistics Program in Statistics Canada. The parent-report survey tool created for this inaugural, national data collection includes 15 items specifically intended to: establish language development trends; estimate the prevalence of ear infections, speech-language delays and difficulties, and other developmental challenges; and profile the perceived accessibility and frequency of utilization of programs and services for Aboriginal children. Data collection included 13,500 First Nations, Inuit and Métis children aged 6 months to 5 years residing off-reserve (plus a limited sample on-reserve) in every province and territory.

The absence of national or regional epidemiological data necessitates reliance on proxies to gather a picture of the nature and prevalence of challenges and opportunities for Aboriginal families to support their children's language and literacy development. Sources of information considered for this review include:

- Demographic findings
- Views from the field
- Reports on program initiatives involving Aboriginal young children and/or their caregivers.

1. Demographic and health indicators

Demographic data are one source for inferring the need for a focused program of supports to promote language and literacy development among Aboriginal children.

Aboriginal population growth

- Over 1.3 million people in Canada reported having Aboriginal ancestry in the 2001 census conducted by Statistics Canada, including North American Indian, Métis or Inuit heritage (Statistics Canada, 2003). This represents 4.4% of the total population.
- The population of Aboriginal people is growing rapidly.
- The Aboriginal birth rate is currently 1.5 times the birth rate of non-Aboriginal peoples.
- Overall, the population of Aboriginal peoples is younger than non-Aboriginal peoples by about 10 years, with about one-third of people under 14 years of age, and half under 25 years of age.

⁵ This means that until new assessment tools have been developed, or the validity of existing tools have been established and norms have been gathered, any epidemiological data obtained through 'universal' screening and assessment of Aboriginal children must be interpreted and acted upon with extreme caution.

- The proportion of Aboriginal peoples under 5 years of age is approximately 70% greater compared to the proportion of non-Aboriginal youngsters.
- Inuit have the youngest age distribution among population groups in Canada.

Family life

While some Aboriginal families are thriving, a large number of Aboriginal families are struggling. Challenges evidenced in the 2001 census include sub-standard housing, low levels of education, low employment, poverty, and geographic isolation, resulting in lack of access to services. In general, children in low-income households are up to twice as likely to have delayed cognitive development and delayed language skills (Canada Council on Learning, 2007). Aboriginal children are also more likely than non-Aboriginal children to live in single-parent households, increasing their likelihood of growing up in poverty (Statistics Canada, 2001).

- Overall, 52.1% of Aboriginal children live below the poverty line, and have the highest rate of poverty compared to other equity groups: visible minority children, and children with disabilities. Aboriginal children are four times more likely to be hungry compared to non-Aboriginal children in Canada.
- There are more adolescent mothers in the Aboriginal than non-Aboriginal population.
- More Aboriginal than non-Aboriginal mothers are single.
- Over 1000 Aboriginal children live in families headed by a single father.
- Among urban-dwelling Aboriginal children, over 50% live in single-parent homes, compared to 17% of non-Aboriginal children living in single-parent homes.
- Aboriginal children are greatly over-represented among children in government care. There are approximately 27,000 Aboriginal children less than 17 years of age currently placed in government care – three times the number enrolled in residential schools at the height of their operations. In some provinces, Aboriginal children out-number non-Aboriginal children in care by a ratio of 8 to 1. The primary cause of child apprehension is neglect, often attributable to extreme poverty, abject housing conditions, and parental substance abuse (First Nations Child and Family Caring Society, 2005).

Geographic dispersion

- Half of Canada's Aboriginal peoples live in urban areas, while half live in rural areas, including about 38% on reserves.
- Aboriginal people in rural areas live in over 800 communities: 77% of rural communities have fewer than 1000 people.

Childhood languages

The 2001 census showed the following distribution of first language spoken by Aboriginal children 0-4 years of age:

- 89.6% English
- 4.7% French
- .6% English and French
- 5.1% Neither English nor French

The home language of Aboriginal children 0-4 years of age was:

- 82.9% English
- 4.4% French
- 0.3% English and French
- 12.4% Aboriginal language
- 50% of Inuit participating in the 2001 census reported an Aboriginal home language.

In addition to Aboriginal children whose first language is an Indigenous language, another 5% know some Aboriginal language as an additional language (Statistics Canada, 2001; Norris, 2006), for a total of 16% of Aboriginal children under the age of 14 years who speak an Aboriginal language as a first or additional language. Approximately two-thirds of these are Inuit children, and one third is First Nations children living on reserves. The largest populations of children speaking an Aboriginal language are 16,810 Cree, 10,765 Inuktitut, 3,450 Montagnais-Naskapi, 3,165 Oji-Cree, 2,850 Dene and 2,595 Ojibway.

Health and services

Despite some improvements in recent years, there remain long-standing inequities between Aboriginal and non-Aboriginal children in overall health and access to health services, particularly for First Nations children living on-reserve and for children in remote, isolated, and northern communities (Health Canada, 2005; deLeeuw, Fiske, & Greenwood, 2002). Although declining, the infant mortality rate for First Nations communities (6.4 deaths per 1000 live births) continues to be higher than the rate for Canada as a whole (5.2 deaths per 1000 live births) (Health Canada, 2005).

Many health problems of Aboriginal children are understood to reflect the cumulative effects of pervasive poverty and social exclusion (Canadian Institute of Child Health, 2000). On the United Nations Human Development Index, if status Indians in Canada were a nation, they would rank 48th in the world in terms of quality of life, 53rd in terms of life expectancy, and 57th in educational attainment compared to a ranking at or near the top for Canadians as a whole (Salee, 2006). Examining the situation of Aboriginal residents on and off reserves in British Columbia, Blackstock (2005) has demonstrated that they would rank 78th on the UN Human Development Index.⁶

According to the First Nations and Inuit Regional Health Survey (1999), the rate of severe disabilities among Aboriginal children is more than twice as high as the rate for non-Aboriginal children, and much higher for children living on versus off reserves. Some health conditions that are more prevalent among Aboriginal compared to non-Aboriginal children and that must be considered in strategies to support language and literacy development include:

⁶ It is of interest to note that in Blackstock's search for sources to review what has been found in the voluntary sector about effective intervention strategies to improve Aboriginal child and family well-being, she was stunned to find not a single study that met her review criteria. She concluded her review with the question of how it is possible for Canada to have overlooked completely the unique and outstanding needs of an entire population at risk (Blackstock, 2005).

- acute illnesses resulting in permanent disabilities, such as hearing impairment;
- chronic illnesses such as early onset diabetes;
- dental surgeries;
- respiratory illnesses;
- iron deficiency;
- otitis media;
- fetal alcohol spectrum disorder;
- attention disorders and learning disabilities.

Overall, the conditions for Aboriginal children's development and indicators of negative health and development outcomes are so alarming that in 2004, the Council of Ministers of Education stated: "*There is recognition in all educational jurisdictions that the achievement rates of Aboriginal children, including the completion of secondary school, must be improved. Studies have shown that some of the factors contributing to this low level of academic achievement are that Aboriginals in Canada have the lowest income and thus the highest rates of poverty, the highest rate of drop-outs from formal education, and the lowest health indicators of any group.*" (Council of Ministers of Education, 2004, p. 22). There is growing awareness in Canada and internationally of health, social and educational inequities characterizing Aboriginal children's chances for optimal development and quality of life, making Aboriginal children a priority for national language and literacy initiatives.

2. Views from Aboriginal leaders

Aboriginal leaders and agencies across Canada have argued that culturally inappropriate education, specialist services, and assessment procedures, as well as lack of services, frequently result in serious negative consequences for Aboriginal children (British Columbia Aboriginal Network on Disability Society, 1996; Canadian Centre for Justice 2001; 1996; First Nations Child and Family Caring Society, 2005; Royal Commission on Aboriginal Peoples 1996). Negative outcomes that have been identified include:

- over- and under-recognition of children with developmental challenges;
- services directed at a misinterpretation of the primary problem;
- services introduced too late;
- undermining Indigenous language and cultural goals for development through an over-valuing of standard urban English and of monolingualism;
- cultural alienation;
- low levels of school readiness; and
- high rates of placement in non-Aboriginal foster care.

3. Views from the field

A plethora of anecdotal reports suggest a high prevalence of language delays and disorders and low school readiness among Aboriginal children. At national and provincial conferences and training workshops involving practitioners in Aboriginal Infant

Development and Early Childhood Care and Development, one of the most frequently cited areas of need is children's language development. Over the past decade, practitioners have repeatedly called for increased commitments of funding both for community-based language promotion, training programs, and resources, as well as for early detection and special services. For example, the Executive Director of the B.C. Aboriginal Child Care Society reports that this organization continuously receives requests from community-based early learning and child care program managers for training, support, and resources related to speech and language issues (Karen Isaac, personal communication, 2006). This has prompted development of a new resource – 'Moe the Mouse' - to promote parent involvement in facilitating their children's language and literacy development (described subsequently).

A report on Aboriginal Head Start programs in 2002 stated that the most prevalent form of developmental delay among Aboriginal children in urban and northern communities was speech-language delay (Minister of Public Works and Government Services Canada, 2002). A survey conducted by a Task Force of the Centre of Excellence for Children and Adolescents with Special Needs found that among 59 Aboriginal early learning and child care centres surveyed, the largest proportion of diagnoses of special needs involved speech-language deficits and delays (de Leeuw, Fiske, & Greenwood, 2002).

There are few known examples of Aboriginal communities where population-based assessments of early language development have been done using a combination of standardized tools and observation by people who know the children well. In these communities, a high prevalence of delays and difficulties in speech and English language acquisition has been noted, as well as precipitous attenuation of Indigenous language capacity (Peltier, 2003). For example, Dr. Marcia Dean, a long-time early childhood consultant to Aboriginal communities, offered the following report: *"The two communities I have been most involved with are the Dogrib communities of the Northwest Territories, and Old Massett, on Haida Gwaii, in British Columbia. In both areas, language development was the primary issue, and similar challenges arise. Both communities are remote. In both communities, there are far fewer speakers of the native language than there were 20 years ago. In both communities, children exhibit extremely low levels of both receptive and expressive language, in both the native language and in English. This was determined both by language assessments and by observation of parents, community members, and preschool/day care staff. In both communities, the reliance of parents on television to help their children learn English is striking. In both communities, parents want the best for their children, and when they are asked to be involved in solutions, and they are comfortable with the facilitator or helper, they are more than willing to learn new ideas. In both communities, parents are thirsting for knowledge to help their children. Both communities could benefit from training at all levels, from training for everyone to post-secondary training, as long as these are provided in the community and not by distance"* (Marcia Dean, personal communication, 2005).

4. Early identification using standardized assessment tools

Aboriginal parents and practitioners have expressed frustration about culturally inappropriate assessments that labelled their children deviant or deficient, when it seemed to them that the assessment process, tool, or norms were culturally biased and inappropriate (Ball & Lewis, 2006). The very concept of “testing” and ranking the developmental levels of children, as practised in many methods of child development assessment, is offensive to many Aboriginal parents (Stairs & Bernhard, 2002). Assessment may be viewed as discordant with cultural values that affirm the ‘gifts’ of each child, acceptance of children’s differences, and the wisdom of waiting until children are older before making attributions about them.

In a recently completed study involving two First Nations and two Aboriginal community programs in British Columbia (Ball, 2006), Aboriginal parents and practitioners confirmed the value of early intervention services for their children when it is needed. However they expressed doubts that the content or processes of formal monitoring, screening or assessment are congruent with their priorities for family and community development. Further, all four community partners in the research reported that early identification and referrals for services have almost invariably set Aboriginal parents up with a false expectation that services will be delivered to their child. In their experience, there are often no follow-up services delivered to children who have been identified as needing them, due to a number of barriers, including: ineligibility for services to Status Indian children living on reserves; long wait lists for services in urban centres; and inaccessible services for children living in rural and remote areas where distances are too great, transportation costs are not covered, there is no one to accompany a child, and so on. Developmental screening and assessment must be tied to timely provision of early intervention services as needed.

There are no validated tools for assessing speech-language development of Aboriginal children. In a national survey of 70 speech language pathologists (SLPs) conducted by Ball and Lewis (2004), over half of the SLPs perceived a critical need to develop new assessment tools specifically for Aboriginal children, using experientially relevant content and tasks. Huge gaps in basic knowledge is a serious hindrance to development of diagnostic tools and interventions that do not also have the potential to interfere with Aboriginal children learning to speak either or both an Indigenous and a colonial language according to norms in their own speech communities (Battiste, 2004; Bernhardt, Ball, & Deby, 2006; Peter et al., 2003).

5. School-based indicators of delayed and weak literacy development

This review found no published reports of systematic assessments of baseline pre-reading skills or language development in a population of Aboriginal children. Retrospectively, it could be inferred from high rates of early school leaving among Aboriginal children and youth that there are high rates of language and literacy difficulties or delays among Aboriginal children (Canada Council on Learning, 2007). In 2003, the BC Ministry of Education found that Aboriginal students in grade 4 were ‘not meeting expectations’ at a rate 16% higher than non-Aboriginal students; in grade 7, this rose to 21% (Bell, Anderson, Fortin, Ottoman, Rose, Simard, & Spencer, 2004). Between

40% and 50% of Aboriginal students failed to meet the requirements of grades 4, 7, and 10 literacy tests.

6. Residential school effects

The devastating effect of colonial policies on Aboriginal parents and grandparents are frequently said to have contributed to low language and literacy development of generations of Aboriginal children. In particular, policies and practices carried out through the Indian Residential Schools in the mid-1900s instilled a belief among Aboriginal adults today that their language was inferior and their culture and way of life was primitive (Fournier & Crey, 1997; Wesley-Esquimaux & Smoleski, 2004). Most children in residential schools were required to stop speaking their language, to repudiate their cultures, to stop communicating with their siblings, and to relinquish their Indian names (Miller, 1996). As a result, many of today's First Nations parents and grandparents lost not only their capacity to speak the language of their ancestors, but also their confidence in being able to use *any* language effectively (LaFrance & Collins, 2003). Even more fundamentally, many lost confidence in their capacity to engage in the kinds of care giving social interactions that promote attachment and intimate social interaction, which are the primary vehicles for the transmission and stimulation of language in infancy and early childhood. Dr. Lorna Williams, Interior Salish professor of education at the University of Victoria, explains that the *carrier factor* has been lost (Lorna Williams, personal communication, 2005). Policy makers and service providers need to appreciate language development as an aspect of inter-generational family development that is relevant to a range of policy areas, including residential school healing programs, community development, adult education, employment, literacy, and social justice.

First Nations speech language clinicians Sharla Peltier and Colleen Wawrykow (documented in Ball, Bernhardt, & Deby, 2005) similarly describe how residential school experiences have resulted in some parents not knowing how to engage in playful social interactions with their infants and toddlers. As Hart and Risley (1995) have shown, these everyday family interactions are the primary contexts for developing and enjoying vocalization and speech communication. Young parents who were not raised by their own parents, and older parents who experienced poor modelling or abuse from teachers and attendants in residential school, may require specialized support to develop attachment and to learn how to engage in language-mediated interchanges with their youngsters. Peltier and Wawrykow also note that residential schooling has resulted in some Aboriginal parents not seeing value in providing print-based materials in the home, as well as having feelings of personal inadequacy that causes them to be fearful of or intimidated by schools, teachers, and social programs run by professionals. Many Aboriginal scholars emphasize investments in programs to revitalize affectionate, care-giving interactions between primary caregivers and their infants and toddlers as foundational to support Aboriginal children's development (Mussell, 2005; Wesley-Esquimaux & Smoleski, 2004).

7. Attenuation of Indigenous language acquisition in the early years

Decrements in transmission of Indigenous languages to the youngest generation are a grave concern expressed by the Assembly of First Nations (1999), First Nations scholars (e.g., Kirkness, 1998), educators (e.g., Burnaby, 1996, 2002), linguists (e.g., Phillipson, 1992) and many others. Children whose home language or preschool supports them in learning an Indigenous language almost invariably have to learn English or French as the medium of instruction when (or if) they attend school. Some researchers warn that this mainstreaming of Indigenous language speakers into education where the medium of instruction is the dominant cultural language is a form of ‘linguistic genocide’ (Day, 1985), predicting that English will continue to replace Indigenous languages until there are no native speakers left.

8. Lack of resources to promote home language literacy

As noted, some children’s first language is an Indigenous language, particularly in Nunavut, Nunavik, the Northwest Territories, and Labrador. There are few resources to support literacy development in any Indigenous language. Books, songs, stories, posters, and materials for activities in the Indigenous language are in very short supply. These are costly and time-consuming to develop, and generally beyond the capacity of individual community-based programs to develop.

9. Varieties of standard English or French

Many speech-language pathologists have commented on what appear to them to be features of English dialects spoken by Aboriginal children and caregivers (Ball & Lewis, 2004). These linguistic features may be vestiges of their Indigenous language carried over to English or French, resulting in English or French dialects that are unique to particular Indigenous language groups. Language socialization in Aboriginal families embodies aspects of their culture, and results in varying pragmatics that may also be vestiges of the Indigenous language and traditional culture. These possibilities were the focus of a recent exploratory study of ‘Aboriginal English’ dialects in Canada (Bernhardt, Ball, & Deby, 2006). In Australia, Aboriginal English has been described as the main language of 80% of Aboriginal Australians (Speech Pathology Australia, Fact Sheet 2.4).

While Aboriginal English dialects in Canada have been described by a few linguists (see review by Ball, Bernhardt & Deby, 2006), there is little understanding of the extent to which speech-language problems perceived in Aboriginal children are due to divergent expectations about dialect learning. However, a reasonable hypothesis is that children’s use of a non-standard variety of English or French may be misinterpreted as language delay or language deficit, contributing to perceptions of alarmingly high estimates of the prevalence of speech-language pathology among Aboriginal children. A greater understanding of Aboriginal English and French dialects is needed in order to inform the use of screening and assessment measures that are sensitive to dialect differences and do not yield false positive interpretations of language pathology.

Wright, Taylor, and Macarthur (2000) have reported findings of many unique challenges confronting children who speak a different language or different dialect when they start kindergarten compared to challenges for children who already speak the language of instruction. Communication and academic difficulties can arise for children whose home language is a variant of the dominant dialect of the language of instruction in school, and whose socialization at home conveys values about the pragmatics of linguistic communication that do not match mainstream language values embedded in the culture and pedagogy of public schools (Walton, 1993; Wilgosh & Mulcahy 1993). One illustration of this mismatch was found in research involving Athabaskan families. Researchers found that “*children who do not begin to speak until five years or older are interpreted as growing up respectfully, not as being language delayed*” (Scollon & Scollon, 1981, p. 134). In a study involving Inuit children, Crago told an Inuit teacher about a young Inuit boy who was very verbal and who she thought was very bright. The teacher replied, “*Do you think he might have a learning problem? Some of these children who do not have such high intelligence have trouble stopping themselves. They don’t know when to stop talking*” (Crago 1990, p. 80). Children whose cultures value listening, observing and doing as a primary learning mode are likely to be marginalized in a school or program setting that places a high value on verbal explanations and oral participation (Heath, 1983). In Labrador, 35% of Innu children never attend school, partly due to having to face being plunged into an alien cultural and language (Philpott, 2004). It is reasonable to assume that cultural bias and lack of appreciation of cultural differences by mainstream educators have contributed to the sense of risk that some Aboriginal parents may anticipate if they enroll their children in mainstream preschools, schools, and speech-language therapy programs.

Aboriginal children whose home language is either a non-standard variant of English or French, or an Indigenous language, need some kind of bridging or transition support to prepare them to succeed in school (Philpott, 2004; Walton, 1993). Schools also need help to become prepared to receive Aboriginal children whose home language is not the language of instruction. Pioneering work has been done in Australia on ‘English as a Second Dialect’ (ESD). These school-based programs are directed at helping Aboriginal children learn to ‘code switch’ from their Aboriginal English dialect to the variety of English used in school (Malcolm, Haig, Konigsberg, Rochecouste, Collard, Hill, & Cahill, 1999). Several provinces in Canada now have policies and funding to support school-based ESD programs. However, no reports have come to light on the extent or nature of ESD initiatives involving Aboriginal children. Anecdotal reports by school-based speech-language pathologists at the 2006 conference of the B.C. Association of Speech-Language Pathologists and Audiologists suggest that ESD program funding may not be fully utilized or may be re-deployed to support English as a Second Language or mainstream remedial language and literacy programs. The potential of the ESD concept and ESD funding to evolve a strengths-based, culturally appropriate pedagogy to support Aboriginal children’s language and literacy is emerging as a topic of considerable interest among educators and SLPs in British Columbia and Manitoba.

- ***Research is needed to track the pace and sequence of Aboriginal children’s language development when they are growing up with an Indigenous language and/or an English or French dialect.***

- *Research is needed to describe the content, form, and pragmatics of Aboriginal English and French dialects.*
- *Research is needed to determine criteria and assessment strategies that can differentiate between speech-language disorders and socio-linguistically normative characteristics of communication in Aboriginal families and communities*
- *Investigators needs to collaborate with schools to design, test, and document programs for children who need to acquire school-English as a second dialect.*

10. Auditory problems

The prevalence of ear infections (*otitis media*) is much higher among Aboriginal children (from 2.1% to 78% across communities) compared to non-Aboriginal children (about 1%) (Scaldwell & Frame, 1985). This is especially problematic in the north (Bowd, 2002; WHO/CIBA). An average of 67% of children in High Arctic communities has suffered some hearing loss from a variety of conditions by the time they reach school-age (Bowd, 2005). Ear infections are a good example of the complex determinants of language development. Ear infections can directly affect speech sound production and other aspects of language development. Among Aboriginal children, causes of ear infections are thought to include hereditary and constitutional factors, infant feeding practices, sleeping position, and mold in poorly ventilated homes. Incidence of hearing loss may be reduced by addressing care-giving practices (e.g., promoting breastfeeding and nutritious solid foods, positioning babies on their back to sleep), ventilation in homes, and other environmental risk factors (e.g., exposure to smoke and organochlorines), and increasing community-based capacity to detect and refer affected children for treatment (Bowd, 2005). These steps in turn could prevent speech-language delays and deficits, and also limit secondary effects such as learning challenges, social and behavioral difficulties.

>> *Knowledge from available research linking hearing loss to speech-language outcomes needs to be brought to the attention of government agencies that could affect changes to the ecologies of Aboriginal children's development in order to support optimal outcomes.*

APPROACHES TO ABORIGINAL LANGUAGE AND LITERACY DEVELOPMENT

A search of dozens of research data bases and websites on child health and development yielded no research evidence about the effects of promotion, prevention and early intervention strategies to improve Aboriginal children's language and literacy development. As a starting point for formulating a national strategy for research, policy and practice, this section draws attention to several alternative sources:

- principles and protocols for practices that support the self-determination of Aboriginal communities and agencies;
- principles for good practice in cross-cultural community collaboration;
- popular understandings about Aboriginal early childhood care and development based mainly on experiences of caregivers and trainers in front-line practice, especially in Aboriginal Head Start programs and Aboriginal Infant Development Programs;
- literature on strategies to protect and promote Indigenous language acquisition in the early years.

1. Holism

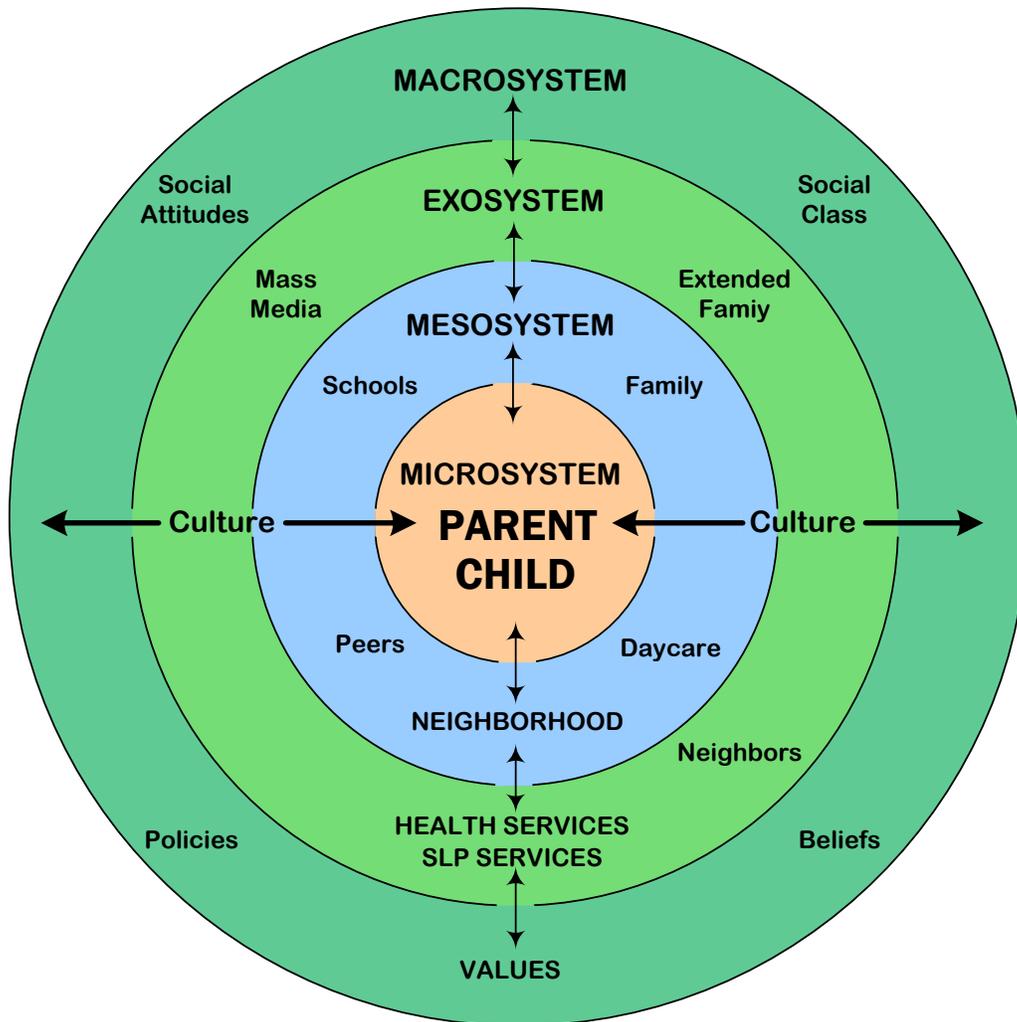
“Our children need to be understood as part of a whole that includes their family, their community, culture, and the natural world we all live in.” (Lil'wat Nation Elder)

This holistic perspective, ubiquitous among Aboriginal peoples in Canada, is reflected in Figure 2, which shows systems of a child's ecology that conceivably interact to affect early language and literacy development. An ecological model helps to conceptualize influences of social systems and culture on children's development. Bronfenbrenner's (1979) model conceptualizes child development outcomes as a result of many direct and indirect levels and types of interactions between the child, his/her primary caregivers, and the social, political, and physical dimensions of the environments in which they are embedded.

All of these interacting systems occur in a particular time-space continuum or chronosystem. The living conditions and experiences of children and their caregivers have a connection to the past as well as to the future. Thus, ecologies for Aboriginal children's speech-language and literacy development are socio-historically conditioned by the histories of contact and colonialism in Canada, including the residential schools era, as well as by changes over time within their own Indigenous cultures and languages. A socio-historical perspective underscores the need for a sustained, multi-level strategy to effect the kinds of multi-systems change that will secure equitable conditions for Aboriginal children's language and literacy development. As many Aboriginal people say, it took seven generations to create the challenges now facing Aboriginal children and families, and it is likely to take another seven generations to turn these around. The good

news is that Aboriginal children today are seen by many as the ‘turn around generation’ (Bergstrom, Clearly, & Peacock, 2003).

Figure 2
An ecological view of development



2. Key influences on Aboriginal early language development

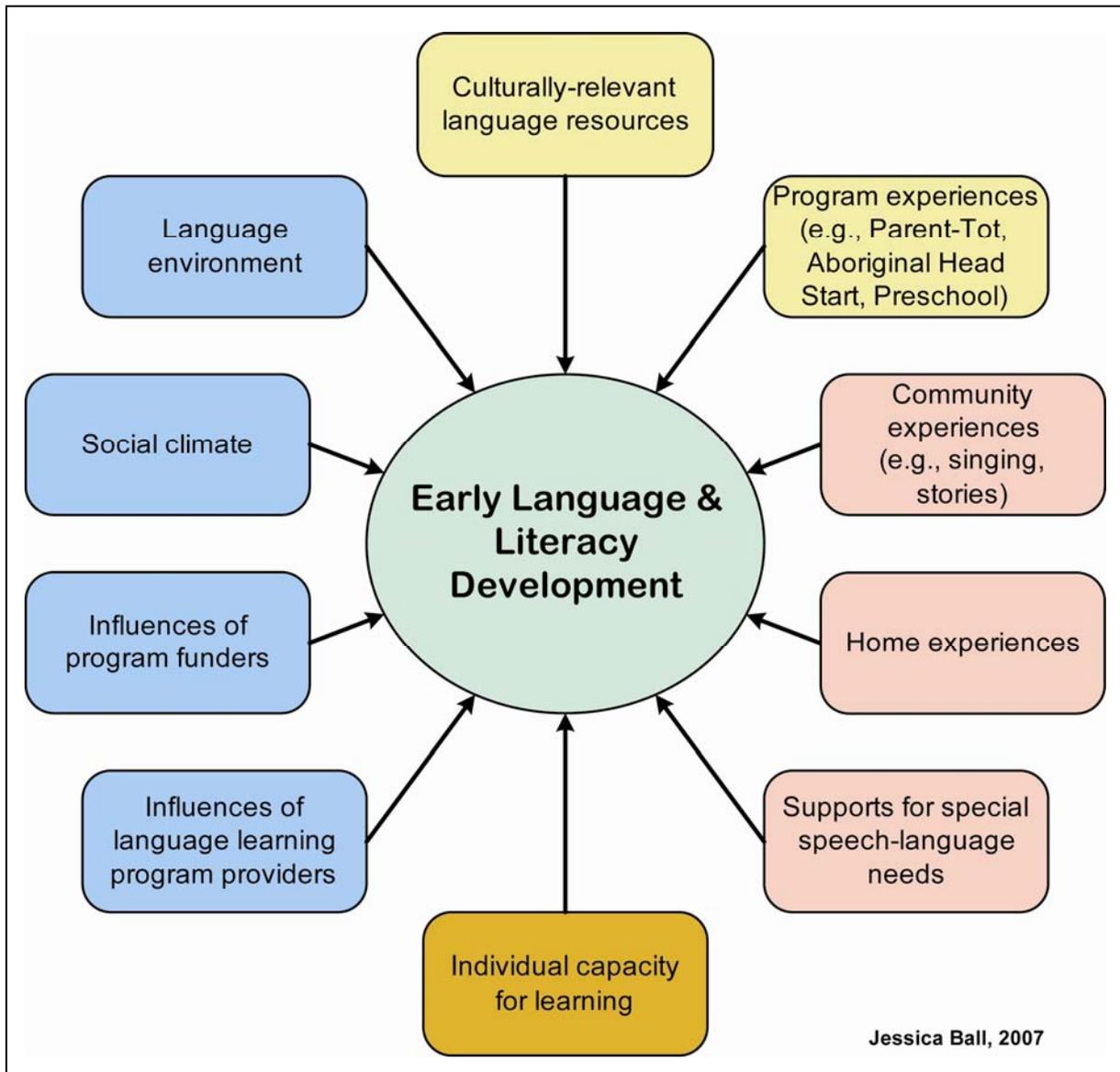
Research and theory point to many factors that can influence a child’s language development: biological, social, cultural, emotional, environmental, and perhaps other factors about which we have little knowledge. As illustrated in Figure 3, all of these could be optimized in a national strategy to improve language development outcomes.

A journey on 'many pathways'

"Finding our way to wellness among diverse communities of children and families requires many paths up the mountain. No one approach, no one program model, will reach or work for everyone."

Louis Opikokew, Meadow Lake Tribal Council Elder

Figure 3
10 key contributors to promote Aboriginal language and literacy development



3. Culturally appropriate practices

Supporting language and literacy development of Aboriginal children requires approaches that reflect cultural values, beliefs, and experiences of Aboriginal families. Van Kleeck (1994) has offered a synthesis of studies of language socialization that exemplify various cultural practices and underscore the cultural relativity of values and beliefs about children's language and the socialization of language. For example, there are wide cultural variations in such social practices as who talks to young children, about what topics and in what contexts (Schieffelin & Eisenberg, 1984). Research has documented cross-cultural variations in the value of talk, interaction rules around turn-taking, how status is handled in interactions, beliefs about interpretations of intentions, and beliefs about teaching language (van Kleeck, 1994). Pesco and Crago (2008) have offered an overview of the few studies that have been done suggesting distinctive features of language socialization in Aboriginal communities in Canada.

To date, nearly all 'best practice' or 'evidence-based' models for early identification of language or literacy delays, language facilitation and intervention have been developed and tested English or French speaking children and families of European-heritage. This review uncovered no reports of program models that have been empirically tested specifically with Aboriginal children and families to establish their effectiveness in influencing the course of young children's language and literacy development. Yet, facilitation and intervention approaches that are incongruent with Aboriginal caregivers' goals for their youngsters could be ineffective and could even work in undesirable ways (e.g., undermining Aboriginal parents' confidence in knowing how to support their children's development). Crago (1992a) pointedly warns that "*practitioners who are ignorant of, or refuse to alter their practices in ways that recognize the strength of cultural patterns of communicative interaction can, in fact, be asserting the hegemony of the mainstream culture and can thereby contribute, often unknowingly, to a form of cultural genocide of non-mainstream communicative practices*" (p. 37). Van Kleeck (1994) has recommended a thorough exploration, in each new cultural context, of several key areas that may vary significantly across family, social or cultural groups, including: (1) aspects of social organization related to interaction; (2) the value of talk; (3) how status is handled in interaction; (4) beliefs about intentionality; and (5) beliefs about teaching language to children. Ecological, holistic, and cultural perspectives help to draw attention to the complex and often delicate balance of elements in the child's ecology that must be understood in planning language and literacy interventions and through further research.

Maintaining culturally-based language socialization practices in early learning and child care settings may be an important criterion for evaluating the effectiveness of initiatives to support Aboriginal children's language and literacy. For example, in some communities, indicators of quality of care for young children may include the extent to which children are learning their Indigenous language, learning socially appropriate conversational turn-taking behaviours, learning to listen and watch adults without speaking, and learning to report on events in ways that conform to social expectations about how information is shared (e.g., amount of context, detail, self-reference, chronological sequencing, etc.). In some settings, the community may be the most useful unit of analysis and focus of supports and intervention, especially in communities where

individual case-focused services by specialists are seen as secondary. This means that practitioners must have skills for working collaboratively with the community and not only with the child and his/her primary caregivers.

4. Collaborative research and practice

Recognizing the limited transportability of social knowledge and practice, many researchers, educators and practitioners are encouraging a less expert-driven, more dialogical, open-ended approach to supporting children's development (Ball & Pence, 2006; Bernhard, 1995; Cole, 1989). Future research may show that dominant cultural theories, research, and practice models are generalizable across cultural groups, but these are probably not promising *starting points* for creating capacity for services that will resonate with and reach out effectively to Aboriginal children, families and communities.

Aboriginal communities are seeking support for research and services that can be seen as Aboriginal specific and/or '*community owned and operated*' (Royal Commission on Aboriginal Peoples, 1996). '*Nothing about us without us*' is a principle asserted by many Aboriginal people (Ball, 2005a). Implementing a strategy to promote optimal language and literacy development among Aboriginal children requires mutually beneficial, collaborative relationships with parents, early childhood educators, other caregivers, and professional service providers. As relationships develop, everyone can be encouraged to make suggestions about the goodness of fit and potential benefits of research, processes and tools for screening and assessment, early intervention, and program evaluation. Community members are uniquely positioned to identify core features of language socialization, to understand the contexts of child development and care in the community, and to offer insights to specialists about the conditions, needs and goals of a family or community. Program staff, specialists, and trainers need to be helped to acquire skills for quickly recognizing and interpreting cultural forms of interaction. They need to be accompanied by community members to form working relationships with staff in various community programs, including health, education, early childhood, and infant development programs, to ensure that their work is culturally appropriate and is coordinated with the work being done through other programs involved with particular children and families.

The ethics and prospective utility of collaborative, strengths-based approaches have been demonstrated by cross-cultural investigators (Ball 2002; Crago, 1992a; Johnston & Wong, 2002; Schieffelin, 1990; Schieffelin & Ochs, 1986; van Kleeck, 1994). For example, reflecting on research involving teacher-led lessons and student-generated narratives of Inuit and Algonquin children, Crago, Eriks-Brophy and Pesco (1997) speculated that many instances of miscommunication may arise because of cultural differences in the use of language, what were considered appropriate participation and interaction structures, and narrative forms. These investigators have encouraged the use of negotiated communication, with potential benefits for language development as well as for overall communication and relationship building across cultures.

With reference to effective early interventions, there are many reasons for pursuing an agenda for Aboriginal children's language and literacy development

elaborated collaboratively with Aboriginal leaders, community-based practitioners, and the children's primary caregivers.

- Aboriginal families and practitioners are more likely to participate in initiatives that they have helped to plan and design and in which they see reflections of their own culture and preferred first language.
 - Aboriginal community leaders and program managers who have their pulse on what children, families and program staff need and who are in positions to take actions that respond to established needs, goals and readiness of community members.
 - Programs designed, adapted or adopted by communities are more likely to fit within the community's visions for community development, increasing the likelihood of coherence and coordination of language initiatives with concurrent or consecutive initiatives for children and families.
 - Sustainability is increased when a community or community-based organization initiates programs in which they have a sense of ownership, control and pride.
- *A national strategy that includes a stream for supporting Aboriginal early language and literacy should support implementation and evaluation of culturally grounded approaches developed in consultation with families and communities as demonstration projects.*

5. Optimizing the potential of community development approaches

“The identity and well-being of Aboriginal children and their families is inextricably bound with the identity and well-being of their Aboriginal community.”
(Schouls, Olthuis, & Engelstad, 1992, p. 12)

The Royal Commission on Aboriginal Peoples (1996), as well as contributors to the development of a concept paper on Aboriginal early language facilitation (Ball, 2005b), identified **family development** and **community-based programs** for children and families as the two most promising sites or entry-points for language facilitation, support, and early detection of needs for extra supports. Approaches that strengthen community capacity through consultative, family-centred programs that are broadly participatory have several advantages.

- The vision statements of many First Nations and the mission statements of many Aboriginal agencies emphasize family- and community-centred practice models.
- In cultures that have been disrupted and for individuals who have been displaced, as has happened to most Aboriginal peoples, individuals often experience problems that are in part contextual or communal, rather than strictly personal. For such individuals and groups, contextual and communal responses can have significant positive effects.
- Current theory and research on social services for minority communities also emphasize the importance of cultural context and community-driven agendas as the most useful level of analysis and action for recovering healthy ways of life in

- families, cultural pride, and care-giving practices that promote children's development.
- Research indicates that early childhood care and education programs that effectively facilitate language development have the potential to significantly reduce later school failure.

On this last point, there is broad agreement that infant and early learning and child care and development practitioners need to be skilled in working with parents and children to facilitate language and literacy skills and to detect difficulties as early as possible (Ball, 2005a). Investments in strengthening the capacity of these front-line workers could be the most effective approach to promoting Aboriginal children's language and emerging literacy.

- *A national strategy should create training modules and provide access to pre-service and in-service training for early childhood educators and infant development home visitors in the area of speech-language facilitation.*

ABORIGINAL LANGUAGE AND LITERACY PROMOTION AND EARLY INTERVENTIONS

Over the past decade, there have been substantial, primarily federal, initiatives to create quality Aboriginal early learning and child care programs. There are a number of community-based and community-involving programs aimed at supporting the language and literacy development of Aboriginal children. These include: Aboriginal Head Start in Urban and Northern Communities and First Nations Head Start; Aboriginal Home Instruction for Parents of Preschool Youngsters, Hanen's You Make the Difference – Aboriginal Version, Parent-Child Mother Goose Program, and Moe the Mouse created by the B.C. Aboriginal Child Care Society. In addition, individual communities have 'bootstrapped' their own approaches for use in home visiting programs, nurseries and preschools, using curriculum common to most early childhood programs, such as music and movement, story-telling, pre-literacy and pre-numeracy games, as well as parenting skills programs. Many of these programs are culturally rich and aim in part to reinforce positive cultural identity of Aboriginal youngsters and their families. Despite efforts to evaluate some of these initiatives, no empirical evidence is currently available identifying their impacts on children's language or literacy or effective program components. Clearly, there is an outstanding need for methodologically sound research to evaluate the effects of community-based programs to support Aboriginal children's development (Canada Council on Learning, 2007). Nevertheless, these community-based programs for young Aboriginal children and their families constitute an existing infrastructure in some communities within which to strengthen capacity to facilitate language development of all children and to provide extra supports for children who need them.

1. Aboriginal Head Start

Canada lacks a national strategy to ensure access to quality programs to stimulate and ensure optimal development during the early years for all children or for children in an identified risk category. The inception of Aboriginal Head Start programs commencing in the mid-1990s was intended to address disparities in educational attainment among Aboriginal children compared to non-Aboriginal children.⁷ Programs for children living off reserve began in 1995 and are directed by the Public Health Agency of Canada in a program called Aboriginal Head Start in Urban and Northern Communities (AHS-UNC). Programs for children living on reserves began in 1998 and are directed by Health Canada in a program called Aboriginal Head Start On-Reserve (AHS-OR, previously known as First Nations Head Start). At the time of this writing, there were 130 AHS-UNC programs reaching approximately 4500 Aboriginal children across Canada. There were about 170 AHS-OR programs reaching approximately 7000 First Nations children living on-reserves across Canada. In total, it is currently estimated that 10% of Aboriginal preschool children between 3 and 5 years of age attend Aboriginal Head Start. While it is estimated that 90% of Aboriginal children do not have access to regulated infant development and early childhood programs that have any

⁷ The history of this and other federal initiatives to support Aboriginal early childhood care and development is reviewed by Greenwood, n.d.

Aboriginal component (Battiste, 2005; Canada Council on Learning, 2007), the inception of AHS has stimulated a movement in Canada to develop Aboriginal capacity to deliver early childhood programs in culturally fitting ways to children who need it most.

AHS in Canada differs substantially from the original Head Start approach pioneered in the United States. However, it shares one similar goal; namely, to prepare children for a successful transition from home to school learning environments. Each half-day program is intended to address six components: culture and language; education and school readiness; health promotion; nutrition; social support; and parent/family involvement. Ideally, Aboriginal staff with some training in early childhood education work with Elders, language specialists, traditional teachers and parents to enhance child development, cultural pride, and school readiness of young children. Most sites operate primarily in English with some exposure of children in some programs to one or more Indigenous language. AHS programs are locally controlled, allowing for innovation to find the best curricula and staff for each community and each child. This also presents challenges for evaluation.

To date there has been no known program of research to evaluate the impacts of AHS-OR. The AHS-UNC program has been the focus of more evaluation effort, including a descriptive evaluation released in 2002, and a three-year “National Impact Evaluation” completed in 2006. The descriptive evaluation reported in 2002 focused mostly on demographic characteristics of children served by AHS, parents’ involvement, and information about program facilities and components (Minister of Public Works and Government Services, 2002). Although the overall impression from this evaluation was that AHS was extremely well received and seemed to benefit children and families in many ways, there was no systematic assessment of impacts on specific areas of child development. Of interest to the current review, the report noted that although parents with children in AHS are often encouraged to use teaching materials at home, 20% of the sites perceived low literacy skills among parents as serious challenge to parental involvement (Minister of Public Works and Government Services, 2002).

As noted earlier, approaches to measuring impacts of programs on Aboriginal children’s development have been fraught with difficulties, partly due to the lack of appropriate instruments to measure Aboriginal children’s development in ways that are amenable to standardized scoring and composite analysis. It appears that problems were encountered with sites having widely varying interpretations of dimensions to be evaluated, scoring criteria, and reporting procedures. Qualitative data collected in the program sites were difficult to interpret and analysis across sites. The evaluation did not include valid or reliable procedures for measuring baseline, exit or longitudinal levels of language proficiency or pre-literacy skills. The evaluation did not ask exactly what sites were doing to promote language and literacy development. No control or comparison groups were included in the design.

At the time of this writing, a report of the findings of the AHS-UNC impact evaluation had not been released. Given the limitations of the study design, it is not likely that any conclusions could be drawn from the research about how participation in AHS affects children’s language or literacy development. However, a preliminary overview of evaluation results reported that children had low baselines scores for language and

literacy and that they showed “moderate proficiency” in these areas after participating in the program (Public Health Agency of Canada, 2006). Children appeared to show the highest proficiency in physical development and health. Parents reported gains in the practice of Aboriginal culture and traditions and in Aboriginal language acquisition.

An evaluation of AHS undertaken in the Northwest Territories (NWT) from 1996 to 2006 (Chalmers, 2006) is somewhat more informative. An initial, descriptive evaluation was reported in 1998, focusing on infrastructure issues such as staff retention, facilities, and equipment. From 2000 to 2001, and again in 2004, data were collected on various child outcomes identified as important by local participants, using standardized measures that were seen by local advisors as having potential (though not proven) validity for Aboriginal children in NWT. These included a Social Skills Rating Scale, the Brigance Four-Year-Old Screen, and the Peabody Picture Vocabulary Test. As well, class ‘quality’ was measured using the Early Childhood Environment Rating Scale, and culture and language program impacts were assessed via parent and community surveys. An effort was made to compare scores on child development measures for children attending and not attending AHS, although the investigator recommended a more systematic approach for future impact evaluations to allow accurate comparisons. The total sample of AHS enrollees included 84 Aboriginal children in 2001 and 139 Aboriginal children in 2004.

One conclusion of the study was that AHS in NWT served children who showed wide variability in skill levels when they began AHS as 4 year olds, and they showed a similarly widely varying skill levels after one winter in AHS. The data showed improvements in school readiness skills from the Fall to the Spring for both the 2001 and 2004 cohorts. Nevertheless, it was estimated that 31% (2001 cohort) to 51% (2004 cohort) of AHS children were delayed in terms of school readiness skills at the end of one winter of AHS, while 29% (2001 cohort) to 47% (2004 cohort) of AHS children had above average school readiness skills after one winter of AHS. The investigator concluded that many AHS children come to the program with deficits in language and social skills, and that most showed some improvement after one winter in AHS. Children’s prosocial skills were below average and showed no significant gains after one winter in AHS. The investigator urged further development of the AHS program to strengthen its potential to impact children’s social-emotional development and to lower risks for poor school outcomes among Aboriginal children. The most positive findings came from parent and community ratings of the culture and language components of the program. The investigator concluded that one of the strongest features of the AHS movement in NWT is the site-specific identity, focus, and dedication to the promotion of local culture, language and traditions. From the point of view of the current review, it is inspiring that the communities of NWT were motivated to collaborate on a multi-site evaluation of a program that they perceive as a potentially effective strategy both to preserve their cultures and languages, and to better prepare children for their transition to school.

Another perspective on the impact of the AHS program comes from the Regional Longitudinal Health Survey. According to the First Nations Centre (2005) of the National Aboriginal Health Organization, participation in at least one year of AHS lowers the chance a child will repeat a grade in elementary school. The First Nations Centre asked

parents, grandparents and guardians of children who had and had not attended AHS about the children's academic performance in school and whether they had repeated grades in elementary school. AHS appears to help children in their readiness for school, as measured by repeating grades: 11.6% of children who attended AHS repeated a grade, compared to 18.7% of children who did not attend AHS repeated a grade. In both the AHS and non-AHS groups, income had an impact: 21.7% of children from households earning less than \$30,000 had repeated a grade whereas 8.7% of children from households earning more than \$30,000 had repeated a grade. More focused survey questions or, ideally, direct assessment of language development and pre-literacy skills of preschoolers before and after entering AHS and after school entry, as well as research designs with control/comparison groups, would enable identification of the magnitude, nature and maintenance of program impacts on early language and literacy as well as identification of effective program components.

2. The Hanen Centre Programs

The Hanen Centre is a charitable organization based in Canada with a 25 year history of providing language facilitation and intervention programs to harness the potential for primary caregivers to reinforce and promote children's social language and literacy skills. Three widely used intervention programs offered to parents and other caregivers are: *Learning Language and Loving It* (Weitzman & Greenberg, 2002); *It Takes Two to Talk* (Pepper & Weitzman, 2004); and *You Make the Difference* (Manolson, Ward, & Doddington, 1995). These programs are delivered by trainers certified by the Hanen Centre. In each program, groups of parents or educators learn how to create opportunities to promote language development as part of children's everyday social interactions (e.g., during meals, baths, playtime). These programs are based on research findings about how children learn to communicate and roles of the parent or alternative caregiver in this process.

Although it is known that these programs have been offered in Aboriginal communities, no empirical research appears to have investigated the effectiveness of these programs in building the skills of Aboriginal parents, improving Aboriginal children's early language development, or reducing language delays or disorders among Aboriginal children. The programs are designed according to principles derived from research on children's acquisition of English as a first language and they have proven effectiveness with certain kinds of families in certain circumstances. They are included in this review because: (a) they have demonstrated effectiveness in research involving non-Aboriginal children and caregivers on certain outcome measures; and (b) they have some of the characteristics that might make them attractive and useful in Aboriginal family- and centre-based programs. The *You Make the Difference* program has been adapted for Aboriginal communities. Pilot testing of these programs carried out in conjunction with Aboriginal advisors seems to hold potential as important resources for supporting early language facilitation in Aboriginal families and in early learning and child care programs.

Learning Language and Loving It Program

This program is a centre-based program which teaches early childhood educators how to increase the social, language and literacy development of children. Evaluation

research showed that this program affects both the way teachers interact with children (e.g., wait times, face-to-face) and the language used by the children in their care (greater number of utterances directed at either teacher or peers; more diverse vocabulary; more multi-word utterances) (Girolametto, Weitzman & Greenberg, 2000).

It Takes Two to Talk

This is a family-oriented language intervention program for parents of young children who are delayed in their language development. The program has three objectives: (1) to teach parents basic concepts of communication and language, including the development of communication; (2) to intervene early in a child's life to develop their language skills; and (3) to provide social support to parents. Groups of parents (up to 8 families) participate in 11 weekly sessions led by a speech language pathologist certified by Hanen. The program has three major components: (1) pre-assessment and baseline videotaping of parent-child interaction; (2) minimum of 16 hours (six to eight sessions) of group training for parents; and (3) three video feedback sessions for each parent attending the program (parent-child interaction is videotaped by and reviewed with a speech-language pathologist). Four randomized control intervention studies involving children and their mothers who attended the program showed certain positive impacts of the program (Girolametto, 1988; Girolametto, Wietzman & Clements-Baartman, 1998; Tannock, Girolametto & Siegel, 1992).

You Make the Difference Program

This is an intervention program for use by practitioners who work with children and families perceived as being 'at-risk.' The program is designed to engage parents who have limited literacy skills, financial challenges, social or geographic isolation, or limited family support. Over nine weekly sessions, small groups of parents learn how to support the language and literacy development and the academic and social success of their young children through everyday routines and activities. A ninety-minute parent group is followed by an individual one-to-one, parent-child practice session that is videotaped and later discussed. Although the program has been adapted for use with First Nations and Native Americans, there is no published evidence of program impacts with Aboriginal families.

3. The TLC3 Project

TLC³ was an innovative, multi-site, community-driven, five year project to deliver and investigate a wide range of strategies to promote language and cognitive development of children aged 0-5 years (Cohen, 2001; TLC³ National Project Management Team, 2004).⁸ There were eight project sites in different locations, each with different demographics, including two involving predominantly Aboriginal children and families. The sites used varying combinations of developmental programs and interventions including: Hanen's You Make the Difference, Learning Language and Loving It, and It Takes Two to Talk. Parent-Child Mother Goose Program (P-CMGP). Parents as Teachers Program. Come Read With Me, Parents' Roles Interacting with Teachers (PRINTS), Baby Talk, Bright Start Cognitive Curriculum, and Let's Be Social.

⁸ The acronym TLC³ refers to: Thinking, Listening, Communicating; Tender Loving Care; and The Learning Centres.

Meadow Lake Tribal Council

This TLC³ site in rural Saskatchewan involved six child care centres serving 165 Aboriginal children mostly living in low-income families. Program targets included early language development, literacy skills, cognition, and social skills. Programs implemented included the Bright Start Cognitive Curriculum, It Takes Two to Talk, You Make the Difference (First Nations Adaptation), Come Read With Me, and Let's Be Social. Parents reported that after their children were in TLC³, they had improved skills on behavioural, social, learning and language dimensions, and showed a new interest in reading books. Although standardized tests were used, it was reported that there were problems with data collection related to the high turnover rates of children attending the program as well as difficulties getting the researcher to all of the geographically dispersed sites (Heinz & Cohen, 2004). Standardized test results were therefore not forthcoming from this pilot project site.

Regina Early Learning Centre

This TLC³ project site involved mostly Aboriginal children aged 3 to 5 years living in low-income families. This site combined High Scope early childhood education strategies, the Reggio Emilia approach, Come Read With Me, PRINTS, and the assistance of a speech-language pathologist. As well, children under 3 years of age were reached through a Parents as Teachers Program. A Preschool Evaluation Scale showed that children in the preschool program had improved cognitive, language and social emotional development. Children who participated in the Parents as Teachers Program were perceived by educators in the programs as having improved speech. There were no matched controls and there was no investigation of effective program components accounting for reported improvements in language development.

Although no empirical evidence linking program inputs to speech-language and literacy outcomes of Aboriginal children was derived from TLC³, much was learned from this ambitious project about the creation and evaluation of community-based programs that can inform a program of future research (see Cohen & Heinz, 2004; Heinz & Cohen, 2004).

4. Home Instruction for Parents of Preschool Youngsters (HIPPY)

HIPPY is a program that originated in Israel shortly after the Jewish holocaust when many young parents had not had the benefit of learning from their own childhood experiences about parents' involvement in supporting children's literacy development. It is a home-visiting program focused on a child's primary caregiver, typically the mother. The program premise that parents and other family members are important as teachers for their children is congruent with the premises of Aboriginal socialization. HIPPY uses role play to show parents how to teach pre-literacy and literacy skills to their 3-5 year-old children at home. It is intended for parents who may not feel able to provide the kinds of educational enrichments that will prepare their child to succeed in the transition to school. It is highly structured and prescriptive. Parents who enroll are instructed to spend 10-45 minutes a day with their child, jointly interacting about a storybook, puzzle, or learning game according to a provided curriculum.

Vancouver was the site of the inaugural implementation of HIPPY in Canada, and involved a collaboration among Britannia Community Centre, Simon Fraser University, and the National Council of Jewish Women. Subsequently, when the program was offered to Aboriginal families in 2003, the term ‘Aboriginal’ was added as a prefix to the name: no modifications were made to the program to accommodate Aboriginal home visitors, families, or contexts. Currently, the B.C. Aboriginal Infant Development Program is supporting the creation of culturally-based books, toys, and other media for future expansion of HIPPY programs to Aboriginal parents. Over a dozen First Nations in British Columbia are registered with Aboriginal HIPPY.

An impact study of HIPPY was undertaken in the Vancouver area (LeMare & Audet, 2003), but it did not involve Aboriginal parents and the sample size was too small to yield statistically significant results. LeMare and Beatch are currently studying the impacts of HIPPY in five First Nations in the Vancouver area. Although they set out to focus on child literacy outcomes, the challenges faced by Aboriginal home visitors, combined with the challenges of conducting research involving assessment of Aboriginal young children, led them to shift their focus. In progress reports include a discussion of the impacts of HIPPY on the home visitors themselves (Beatch, 2006), as well as parents’ experiences of the program (LeMare, Harkey & Beach, 2007).

5. The Native Infant Program

The Native Infant Program was a home-based early intervention pilot program for First Nations children aged 0-4 years living in five communities on reserves on Vancouver Island (Davies & Mayfield, 1981). The goals of the program were to improve health, provide education, and detect developmental delays. It combined traditional and current child-rearing practices. Like many of the programs that are used today, it was intended to help parents develop skills to enhance the early development of their children (Mayfield & Davies, 1984).

In 1984, there were approximately 180 First Nations children in the program. The program included home visits by Aboriginal infant workers, Mom and Tots groups, and hospital visits. A longitudinal evaluation began in 1981, including: the Denver Developmental Screening Test given to children every six months to identify any developmental delays; questionnaires given to staff; interviews with parents; and anecdotal reports. On the Denver, 85% of the children scored within the normal range, 10% were in an ambiguous range of scoring, and 5% scored below the normal range. More of the children who were in the program longer than 18 months scored within the normal range compared to children who were in the program less than 18 months. However, the number of children who participated in the program over an 18 month time period was too small to determine the significance of the results, and the evaluation did not focus specifically on language or literacy development.

6. Parent-Child Mother Goose Program

The Parent-Child Mother Goose Program (P-CMGP) began in 1986 in Toronto in low-income neighbourhoods. It tends to target parents who have low incomes, are isolated, educationally disadvantaged, new to the country or city, and/or lack positive role models for parenting. The program aims to support language development through the relationship between parents and their children as well as to give parents experiences and skills in engaging in language-mediated play. Program activities use shared words, actions, and images and feelings of rhymes and stories. Like the HIPPIE program, teaching is directed to adults. In a ten-week series of sessions, two teachers teach the parents rhymes, songs, and stories to use with their children. Printed versions of the rhymes and songs are supplied at the end of a series of meetings. Instruction in the program is delivered at a slow pace, with material repeated. Issues and questions are discussed as they arise. P-CMGP uses small groups to ensure that the needs of the individual parents or the group as a whole are met. The climate of the program is meant to be accepting, supportive, and confidence-building. The program is often delivered at public libraries. Reports garnered from librarians for this review indicated that they are struggling in many locations to sustain funding for the program and, despite efforts, they have made limited headway in eliciting participation of Aboriginal families. The mother-centric bias implicit in the name of the program has stimulated the development of a similar language-oriented program intended to attract father's involvement: 'Man in the Moon.' Unfortunately, Aboriginal spiritual frameworks generally refer to the moon as a feminine creative force.

Joshi (2007) reviewed studies of P-CMGP. None assessed Aboriginal children or parents. Most focused on changes in parents' confidence or skills. Three studies found positive parent-reported changes in children's communicative competence. These results are only suggestive due to small sample sizes and confounding by concurrent language and literacy interventions. The simplicity, pace and focus of P-CMGP recommends it as a potentially useful approach for Aboriginal families.

7. Moe the Mouse

The B.C. Aboriginal Child Care Society (2006) offers a speech and language theme box, called 'Moe the Mouse,' for parents and early childhood educators. This curriculum uses Aboriginal toys and stories to enhance language development in children ages 3-5 years. The activities and materials in the theme box guide parents and educators in providing planned opportunities for children to practice language skills in a child care, preschool and home setting. A workshop is also offered entitled "Making the Most of Moe" that demonstrates how to use the theme box in early childhood programs and explains how the activities in the theme box relate to children's speech and language, social skills, and early literacy development. This program is extremely popular in Aboriginal early childhood programs in B.C., and funds are currently being sought in B.C. to evaluate its impacts.

8. Community-wide activities

Community-wide special events and ongoing programs can enhance the language environment for children. Dr. Don Taylor, a professor at McGill University involved in Aboriginal teacher training, noted:

“A challenge for Aboriginal children’s language development is that in many small communities, people understand each other without using a fully elaborated form of language. They use a restricted code that often relies on many non-verbal gestures that everyone understands. So children may not be exposed to the elaborated code of their home language. Programs to promote children’s language development must work at the level of the whole community in order to provide opportunities for children to hear and engage with the full range of their language.” (Don Taylor, personal communication, 2007).

Play-based programs

Many practitioners emphasize play-based programs as foundational in promoting the kinds of empathic social interactions that promote language. For example, Sharla Peltier, a First Nations SLP practicing in Nipissing First Nation, emphasizes a focus on play as a foundation to developing communication skills (e.g., turn-taking, role-taking, socialization). She cautions that many parents who are survivors or secondary survivors of residential school may not be ready or comfortable to engage in play with their children, and she urges sensitivity about pacing the introduction of different types of program activities. She suggests *“beginning with child-child play, especially involving multi-aged groupings, as a way to lay the foundation for social communication, empathy, and later cognitive skills that support reading and writing. Programs can also involve extended family members, such as aunts and uncles, if parents are unavailable or not ready”* (Sharla Peltier, personal communication, 2007). Multi-aged activities and programs have been advocated by several Aboriginal agencies, such as the B.C. Aboriginal Child Care Society.

Story-Telling

Sharla Peltier notes that story-telling is: *“a natural area that we as Aboriginal people can draw upon as a form for oral history, language retention, extending memory capacity, and learning and practicing formal English language. It is also a great way to bring adults and Elders in to connect with children and to make program content and activities culturally relevant.”* Community-wide activities involving story-telling and dramatic enactments of stories can also be an enjoyable way to promote the full use of language while offering children, youth and adults the social safety of a provided role or mask. The use of dramatic play in ways that are grounded in the cultures of children and families participating in early childhood education programs has been discussed in the literature (Roopnarine, Suppal, Shin, & Donovan, 1999).

Music and Movement

Communication skills can be nurtured and developed through activities involving music and movement. Sharla Peltier suggests that this is: *“a fantastic way to reach and draw out those children who are challenged with attention deficits, hearing impairments due to otitis media, autism spectrum, and severe speech or language delays... The drum, shakers, and games involving rhythm and sequences of movement like social and*

ceremonial dancing would be excellent program components, all with a view to nurturing communication skills.” The involvement of community members in singing, such as community song evenings and singing groups, is another example.

Home visiting

Home visiting can sometimes be a useful approach to building relationships with parents and other family members (very often grandparents) who are caring for infants and young children. Once a relationship is formed, caregivers can be encouraged to participate in family and community activities that promote language. Programs to promote attachment, bonding, positive social interaction, and language enhancement at home require a high degree of flexibility and ingenuity and can be expensive because of the travel and visiting time required for individual home visits. Home visitors require special training, ready access to supervisory consultation, and back-up support. Smith-Moran (2005) produced a curriculum to prepare home visitors to work with parents using HIPPY, after a number of Aboriginal home visitors were daunted by the complexities of the process of ‘entry’ into Aboriginal communities and homes. The effectiveness of the home visitor curriculum has not been evaluated.

9. Development of Culturally Appropriate Resources

New resources in Indigenous languages are a critical enabling condition for effective family-focused and child-focused programs to promote Aboriginal early language development. Resources to promote literacy in Indigenous languages, in particular, are sorely lacking. Nowhere is this need felt as strongly as in the north. Recommended resources to empower parents to provide effective at-home support for their children, especially those with difficulties, include:

- audio-tapes, video-tapes, CDs, books and toys, or ideas for parents to make a culturally relevant ‘kit’ for language stimulation through parent-child play;
 - plain language descriptions about how children learn language;
 - plain language ‘tips’ for stimulating and extending language;
 - descriptions of ‘red flags’ to signal a possible speech-language difficulty;
 - strategies for working on specific speech-language difficulties.
- *Investments are needed to create and provide home language stimulation guides, workshops and simple resources for parents so they can follow up with recommendations by speech-language pathologists and reduce their dependency, including the number of specialist appointments.*

10. Supporting Indigenous language learning

Indigenous language acquisition is a priority in many, though by no means all, Indigenous families and communities, and must be a critical consideration in any comprehensive national strategy for Aboriginal early language and literacy (Kirkness, 2003; Task Force on Aboriginal Languages and Cultures (2005). In Canada, 54 Indigenous languages are currently in use (Norton & Fettes, 1995; RCAP, 1996). Most

provinces now have language policies governing provisions for preserving Indigenous languages (Battiste, 2004). Language transmission and acquisition goals of parents seem to vary significantly depending upon their location, the number of Indigenous language speakers in a community, and the vocational prospects for children when they become adults. Some research suggests that isolated and/or well-organized Aboriginal communities with large numbers of resident speakers tend to have more viable Indigenous languages and place more value on Indigenous language transmission (Norris, 2006). Aboriginal families in cities are less likely to use an Indigenous language at home (Statistics Canada, 2003), though it is not known whether they actually give a lower priority to their children learning an Indigenous language.

The actual process and dynamics of sustaining language transmission and cultural identity through Indigenous language learning has been a focus of research and program innovation for over a decade (Burnaby, 1996). Processes and approaches to Indigenous language acquisition are beyond the scope of this review (see Norris & Jantzen, 2004). The search for research-based evidence of the outcomes of Indigenous language acquisition programs in the early years yielded no published reports. Norris' (2006) has recently reviewed available evidence gleaned largely from demographic data and programs described in the gray literature. Her review suggests that the best conditions for a child to learn an Aboriginal language as a first language occur within Aboriginal communities, among families where the language has a strong presence in the home, when at least one parent has an Aboriginal mother tongue and in communities where Indigenous languages are flourishing. Most Aboriginal children in Canada do not live in these conditions.

Language immersion programs in early childhood.

Facing the ongoing loss of Indigenous languages, there has been a recent surge of interest among Aboriginal communities in full immersion approaches to ensuring that children learn their Indigenous language. Immersion approaches to acquiring a non-dominant language in a dominant language milieu appears to have begun in Quebec as a strategy to preserve French. Immersion programs starting soon after birth were pioneered by the Maori peoples of Aotearoa/New Zealand as a way to stabilize Maori language (De Jong, 1998; McIvor, 2005).

Maori language immersion.

In the 1970s, a survey in Aotearoa/ New Zealand found that there were approximately 100 remaining speakers of Maori. In the early 1980s, the Maori implemented a large number of 'language nests' where Maori infants and children are cared for together in a nurturing, crèche like environment, and the only language used is Maori. According to Murray (2005), Maori students who are enrolled in bilingual or Maori immersion preschools are more likely to graduate from secondary school, have strong literacy skills in both Maori and English and, in Grade 11, are more likely than other Maori or non-Maori students in English schools to meet literacy requirements for continuation in secondary school (Murray, 2005). However, young children lose fluency in Maori if they leave the Maori immersion program to enter English-mediated classrooms. This finding has prompted the creation of full Maori immersion programs that continue through to the final secondary school year (Harrison, 1998).

Hawai'ian immersion.

Public school in Hawaii was taught entirely in Hawaiian until 1896, when it was banned as a language of instruction. By 1986, when the language was reinstated as a language of instruction, the majority of two generations of Hawaiians had never learned their heritage language. In 1984, the Hawaiians began an immersion preschool program (Kamehameha Preschools), based on the model of Maori language nests and the French immersion experience in Canada. Soon after, an immersion school continuing through to high school graduation evolved. Research has shown that student achievement on standardized tests is equal to or greater than that of Native Hawaiian children enrolled in English language schools, even in English language arts (Kamana & Wilson 1996; Wilson & Kamana 2001).

Indigenous immersion programs in Canada.

There is no national registry showing the distribution of immersion programs in Canada. Information about immersion programs is scattered and no research has been found evaluating their impacts on children's language and literacy outcomes. Based on the French immersion program in Canada, the Mohawk on the Kahnawake reserve opened the first Aboriginal language immersion program in Canada in 1979, serving children from preschool to grade 6 (Michel, 2005). There are several immersion preschools and primary schools in Saskatchewan, the Northwest Territories, and British Columbia, including one full immersion K-12 school in B.C. (Ignace, 1998). The Northwest Territories provides strong supports for immersion preschool programs. In addition, over half of the band-operated schools in B.C. have distinct classes for Aboriginal languages and cultures. Fifteen per cent have the language and culture integrated throughout most of the subject areas, and 14% have Aboriginal content in separate classes (First Nations Education Steering Committee, 2006). A longitudinal study of children learning to speak Chisasibi (a dialect of East Cree) as a first language is in progress (Brittain, Dyck, Rose, & MacKenzie, 2006). This study is partially intended to create a baseline of children's language development in Chisasibi, which will be used to determine whether children have language delays.

Impacts of Indigenous language acquisition on schooling.

Some research suggests that teaching children in the language of their ancestors is generally beneficial for their education (McCarty, 2003). However, as noted earlier, the challenges for children speaking a different language upon entering a kindergarten class differ from the challenges for children who already speak English (Wright, Taylor & MacArthur, 2000). Although most Aboriginal children do not speak an Indigenous language as their primary language from birth, when they do, research suggests that they do better when preschool, kindergarten, and primary school are provided in the same language as they have been learning at home. Wright and Taylor (1995) assessed Inuit, white and mixed-heritage (white-Inuit) children before and after a year of kindergarten provided in their first or second language. The children in all three groups showed a substantial increase in their self-esteem when educated in their first language. This increase was not found in those who were educated in a second language. The increase was especially pronounced for children who spoke a minority language, rather than English or French, as a first language.

Differences in the styles and expectations for communication among Aboriginal parents compared to non-Aboriginal educators/caregivers may have negative impacts on children's self-esteem as well as on their language ability. This possibility was raised by Crago (1992b), who noted that when children transition from an environment mediated by an Indigenous language to an environment mediated by English or French, it is not only the language but also the forms of communicative interactions that change. For example, Crago (1992b) and Graham (2005) reported that Aboriginal children in communities they observed tended to learn by watching and not talking. Crago noted that Inuk parents did not expect their children to talk, and in many cases actively discourage them from talking. When these children move from an Inuktitut-mediated home and community environment to an English-mediated classroom environment, expectations for verbal interaction change significantly as well.

Bilingualism

A large body of research supports the conclusion that bilingualism has more benefits than risks for children's language and literacy development (Wurm, 1997). In a review of global trends, Crystal (1997) reports that over two-thirds of children are born into a bilingual environment and become completely competent in both languages. Literacy skills learned in a mother tongue are readily transferable to a second language (Cummins, 1980; Danesi, 1988). Studies have shown, however, that bilingualism can be detrimental to a child's first language, but only if the child's first language is a minority language (Allen, Crago & Pesco, 2006; Pacini-Ketchabaw, Bernhard & Freire, 2001; Wright, Taylor & MacArthur, 2000).

Subtractive bilingualism. In the longitudinal research conducted by Wright, Taylor & MacArthur (2000), the investigators concluded that early instruction in a majority language can lead to what they call 'subtractive bilingualism.' In their study on the impact of first and second language education on first and second language development among Inuit, White and mixed-heritage children, each child was tested at the beginning and end of each year from kindergarten to grade 2. The Inuit children in the second language classes showed weaker first and second language skills compared to Inuit children in first language classes and mixed-heritage children in second language classes. Inuit children in first language classes also showed first language skills equal to or better than mixed-heritage and white children in their first language. The concept of subtractive bilingualism is supported in a well-designed study by Francis (1999), who found that borrowing of lexical items appears to be in one direction – from the dominant language to the minority language.

11. School-based approaches

Although the scope of this paper is on language and literacy development in the preschool years, reports of a series of case studies of schools that have successfully supported Aboriginal students' achievement have been included in the review to provide some clues to language and especially literacy promotion among Aboriginal children. These case studies were commissioned by the Society for the Advancement of Excellence in Education with funding from the Canadian Language and Literacy Research Network.

They were motivated by the disturbing education success rates for Aboriginal children and youth compared to non-Aboriginal age-mates. From 2003/2004, Bell (2004) and a research team examined ten schools in Western Canada that appeared to be producing tangible gains for their Aboriginal students. Subsequently, Fulford (2007) examined ten schools in Quebec, Ontario and Nunavut. Through interviews, focus groups, and document reviews, the studies identified practices that seemed to be contributing to their success. Many of these schools had preschool or kindergarten programs, although the case reports do not clarify which programs were available to the youngest children.

All of the schools had a holistic approach to the students' development and to the 'whole school' environment in ways that, in varying combinations, appeared to work well to secure students' and parents' participation and students' overall success. Language and cultural programs were seen by interviewees and observers as being the greatest contributors to the success of all of the schools. Non-Aboriginal public schools in Canada often lack the capacity or willingness to teach Aboriginal culture and languages. These mainstream schools often alienate Aboriginal children and their parents, particularly in cases where the parents had negative school experiences themselves.

Several of the schools targeted language development programming (e.g., Chalo School, Alert Bay, Ahkwesahsne Mohawk Board of Education) that ranged from Indigenous language immersion programs from kindergarten to grade 4 (e.g., Ahkwesahsne Mohawk Board of Education), to vocabulary building exercises using Total Physical Response (e.g., Chalo School), to parent involvement in daily vocabulary review with their children at home (e.g., Alert Bay).

Most of these successful schools targeted literacy development using a variety of approaches. Raham (2004) has provided a concise overview of the literacy initiatives in the first 10 exemplary schools. Eight of these ten schools had preschool or kindergarten programs. A key finding was that all sites invested in literacy resources. Six schools explicitly set out to improve literacy skills, using the literacy criterion and growth targets set out by BC, Alberta and Yukon school districts, or by the provincial or territorial governments. Progress was measured by external assessments in terms of students' meeting/not meeting/exceeding expectations.

Commercial reading programs were used by many of these successful schools, including: SRA, Nelson Benchmarks, Mastery Reading, Corrective Reading, Star Reading, Accelerated Reading; Reading Recovery, Reading 2000, and Scholastic. Half of the schools used very structured reading programs. Several schools emphasized vocabulary learning to overcome English language deficits, such as poor comprehension. One school used instructional strategies tailored to a visual learning style, which was believed by the school to be the learning style of Aboriginal students. Some schools placed such a high importance on literacy that other parts of the curriculum were compressed or integrated into the reading and writing programs. Four schools involved students in focused reading groups. A common factor among the schools was the small size of instructional groups compared to most public schools. The teacher/pupil ratios ranged from 1/11 to 1/18, with most having a ratio between 1/14 and 1/16. Some schools used teaching assistants, student teachers and other personnel to achieve a low pupil/"teacher" ratio.

Teachers in these successful schools appeared to have many features in common. They created a supportive and comfortable learning environment and were committed to student success. They were willing to adapt and experiment to find optimal methods for each student and appropriate assessment tools. All of the teachers were described as “problem-solvers,” and were willing to tutor, coach, and encourage students. They incorporated the local culture into the curriculum and tried to maintain open communication with parents.

All of these successful schools had established programs for students at risk. For those schools with preschool or kindergarten classes, there was a common emphasis on providing access to early childhood programs (nursery, Aboriginal Head Start, preschool, full-day kindergarten). For pupils in primary grades, most of the schools had introduced interventions to ensure the development of phonemic awareness, including at least three schools that used one-to-one coaching strategies. All of the schools across the total of twenty studied by Bell (2004) and Fulford (2007) made extraordinary efforts to involve parents in supporting home reading, and they used community workers to assist families.

At all of the schools, there were increasing numbers of students who were judged as entering their first grade “ready to read.” The schools used a variety of methods to assess students. All schools used informal classroom assessment by the teacher and diagnostic tools for students at risk. Formal large-scale assessments required by some provinces were used to compare progress against norms in the majority of public schools. A smaller number of schools used standardized tests (Canadian Test of Basic Skills) for every grade to track cohort and individual progress and to identify areas of weakness. Some schools did not use external standardized assessments because of the perceived cultural bias of available tests. More in-depth, quantitative research is still needed, as these schools were not compared with each other or with control/comparison groups and the components of the school curricula that accounted for language and literacy gains could not be identified using the descriptive case study approach of this initial survey of effective schools (Raham, 2004). The long-term gains shown in these case studies may be replicable in other preschools, kindergartens and schools, but these need to be demonstrated and should be a priority for future research.

ROLES FOR SPEECH-LANGUAGE PATHOLOGISTS IN ABORIGINAL CHILDREN'S LANGUAGE AND LITERACY DEVELOPMENT

1. Challenges for speech-language pathology services

Currently, there are many frustrations with the inaccessibility – financial, geographic, social and cultural – of specialists' services to support Aboriginal children's language and literacy development. Even if funding for specialists' services were to increase, there is a general expectation that there will never be enough early intervention specialists to meet needs, especially for rural, remote and northern communities where it is hard to recruit and retain professionals but where needs appear to be greatest. At the same time, many children and families are dependent upon specialists because there are no other provisions for language facilitation, early detection, or remediation and few supports for primary caregivers implementing remediation programs on a daily basis at home.

Limitations of expert-driven early intervention service models

Speech-language pathologists (SLPs) are currently the most relevant category of early intervention specialist with reference to early language. However, exclusive reliance upon speech-language pathologists maintains Aboriginal dependencies upon experts who are nearly all non-Aboriginal and invariably trained in non-Aboriginal programs. An expert-driven approach may be viewed in many Aboriginal communities as antithetical to the emphasis on community-driven program capacity development, self-determination, and holism advocated by Aboriginal leaders and agencies. Further, SLP service provision to communities is expensive compared to other community-based services that could reach a larger population.

Marjorie Matheson-Maund, an educational psychologist working in Dogrib Community Services in Yellowknife, offered this scenario to illustrate the need for more community-based supports for language development:

“Speech-language pathologists used to visit two of our four communities twice a year to assess children suspected of having a speech-language delay. Reports were then sent to the early childhood programs and parents, with ideas of how to support children in their development. These reports were very difficult to interpret and the recommendations were difficult to follow through with. If parents living in Rae/Edzo wanted to access speech language services for treatment, they had to travel to Yellowknife, which is a round trip of 216 kilometers on a partial gravel road, taking three hours driving time. This would mean that parents whose child needed to attend speech language appointments one or two days a week would be unable to work in a full time job, since approximately one or two days a week would be spent accessing speech-language appointments. Parents in the communities of Whati, Wekweti, and Gameti do not even have the option of attending regular speech-language appointments as these communities are fly-in communities with no road access.” (Marjorie Matheson-Maund, personal communication, 2005).

The stability of expert-driven services is always threatened by cuts to funding, changes to service eligibility criteria, accessibility due to weather, turn-over among service providers (especially in the north), and other contingencies. Effective work with parents depends upon building trustable relationships, which take months and sometimes years to develop. There is a high turn-over of specialists of all kinds in rural and northern regions. Specialists are typically not remunerated for hours spent at community gatherings, such as feasts and ceremonies, where they could become known to community members and develop a trustable presence. Without familiarity with the culture and rapport with families, doubts have been voiced about the likelihood of effective outreach and involvement of parents to strengthen language facilitation at home (Ball, 2005b).

Outstanding training needs of speech-language pathologists

The field of Speech-Language Pathology is recognizing its limited foundations in research and intervention based on European-heritage children in nuclear families predominantly living in middle-class metropolitan centres. Several key recommendations were derived from a national survey of members of CASLPA with at least two years of experience working with Aboriginal children to support their speech-language development (Ball & Lewis, 2004). Among 70 SLPs who responded to the survey, virtually all respondents identified key limitations of mainstream SLP practice. These included: cultural bias; deficit orientation; individual focus of service priorities, lack of assessment tools normed with reference to Aboriginal children; and culturally inappropriate curriculum for parents and early childhood educators. These SLPs identified several ways in which they felt unprepared, even after years of experience, to reach out effectively to Aboriginal parents and to support Aboriginal children's language development. They described needing opportunities to:

- hone cross-cultural communication skills;
 - become culturally literate with reference to the diverse groups they serve;
 - learn about and accommodate language socialization and sociolinguistic styles of communication in the community of children they serve;
 - adapt their professional practices in response to the expressed needs and goals of children and families they serve.
- *Investments are needed for research, development of tools and interventions, and improved pre-service and in-service training of SLPs to prepare them to work in collaboration with Aboriginal communities and agencies.*

Barriers to effective engagement of SLPs

Several barriers to effective engagement of SLPs with Aboriginal children and families were identified by respondents to the survey by Ball and Lewis (2004).

- Most residents in on-reserve communities do not have access to SLP services.
- Specialist visits may be so intermittent that there is little possibility for specialists to get to know the communication styles or the people of the community or provide continuity of care.

- Most parents and community service contractors are not well informed about what SLPs can do.
- Many communities do not know how to collaborate with specialists to ensure that services offered are culturally appropriate and useful within the circumstances.

Increasing the number of Aboriginal speech-language specialists

The need to institute funding and training supports to increase the numbers of Aboriginal teachers in Canada is now widely recognized in post-secondary institutions and by provinces and territories. As yet, there is less recognition of the need for special efforts to recruit, retain and support Aboriginal SLPs. There are six known Aboriginal SLPs in Canada. Only three self-identified Aboriginal SLPs are currently members of the national professional association, CASLPA, representing some 4200 certified SLPs in Canada. Difficulties recruiting and retaining Aboriginal candidates to SLP training programs can be expected to continue for at least the next decade for several reasons.

First, all SLP training programs in Canada have as a pre-requisite the successful completion of an undergraduate degree, including specific coursework in linguistics, physiology, research methods, and child development. Although rates of post-secondary degree completion among Aboriginal peoples are steadily increasing, they are still far below the non-Aboriginal population. An informal poll conducted by the author of some SLP training programs in Canada yielded reports of only a handful of Aboriginal students who had ever entered these programs.

Second, there is a lack of specific Aboriginal content in graduate course work for SLPs. An Aboriginal person who had dropped out of an SLP graduate program explained to the author that she opted for a different career because the SLP courses did not seem relevant to working in Aboriginal communities: none of the content focused on Aboriginal language speakers, the realities of practice in Aboriginal communities, or the need to adapt tools and therapies for a non-European-heritage clientele.

Third, funding is not readily available for Aboriginal candidates to pursue graduate education.

Fourth, access to graduate education is a practical barrier. No graduate program in SLP delivers the program at a distance either in communities or through online coursework.

- Recruit, retain, and deploy more Aboriginal speech-language pathologists.
- Make education in speech-language pathology more culturally sensitive
- Fund more speech-language pathology services for a targeted population of children identified with special needs in the speech-language area.
- Extend mandates for speech-language pathologists to include time for relationship building, collaborative practice, and mentoring in communities.
- Conduct research on Aboriginal children's language learning, culturally appropriate assessment tools, & collaborative intervention strategies.

Broadening the scope of SLP practice in communities

Despite limitations, services provided by SLPs remain a critical source of support for Aboriginal children's language and literacy development. SLPs have specialized training in a number of relevant roles. A report by Patricia Carey, an SLP serving the Mamawetin Churchill River Health Authority region in northern Saskatchewan, offers a glimpse into the scope of practice of SLPs in supporting Aboriginal children's language development (Ball & Lewis, 2004). Shaw describes serving children ranging in age from 0-60 months who live on the reserves in the LaRonge area for the following kinds of difficulties:

- swallowing;
- cleft lip or palate giving rise to feeding and communication problems;
- expressive and receptive language delays and disorders;
- stuttering;
- speech-language delays related to Autism Spectrum Disorder, Down Syndrome, Cerebral Palsy, and Fetal Alcohol Spectrum Disorder;
- oral-motor problems interfering with the ability to produce intelligible speech sounds;
- behaviour problems resulting from frustration due to communication difficulties.

Beyond assessment and treatment of speech-language disorders in individual children, SLPs can support community-wide capacities to facilitate optimal language development. A report by Deanne Zeidler, an SLP contracted by Lil'wat Nation in B.C., illustrates this (Ball & Lewis, 2004). Zeidler works in collaboration with community-based Aboriginal staff in early learning and child care programs and with specialists to provide:

- direct screening and assessment of children in the community and in programs;
- a range of individual and groups programs for children with language delays and disorders;
- group programs for parents and other caregivers;
- community awareness programs regarding language and literacy stimulation at home;
- mentoring and supervision of Aboriginal early learning and child care staff to enhance their skills in language facilitation and early detection.

Zeidler has innovated a program for Aboriginal parents to promote early language stimulation in the home. This program is one example of many throughout Canada which is bootstrapped at the local level and customized to respond to local needs, goals, and readiness. These programs are promising practices that could be a richly informative focus of evaluation to measure impacts and identify promising practices. Zeidler has also co-produced a 'Guide for culturally-focused early intervention therapy programs for Aboriginal children and families in British Columbia' (BC Aboriginal Child Care Society, 2004).

- *Examples should be sought through a national survey and through the national conference of SLPs in Canada who have worked effectively with Aboriginal communities and agencies to innovate early language and literacy programs.*

Promising practices innovated at the local level should be documented and evaluated to examine their impacts on children’s development, parents’ skills in facilitating early language and to uncover both the effective components of these customized programs and the conditions that enable them. A series of such community case studies of innovative practices can illuminate pathways to strengthening culturally appropriate community capacities to support Aboriginal early language and literacy through existing community program infrastructure.

Recommendations from speech-language pathologists

SLPs who participated in the survey by Ball and Lewis (2004) generated a number of recommendations for how they could work more effectively alongside parents and communities.

Recommendation 1 – An ‘altogether different approach.’ Eighty per cent of SLPs surveyed agreed that serving Aboriginal children requires an altogether different approach compared to serving children of dominant cultural groups. One respondent said: *“Existing programs for pre-schoolers assume a value of ‘normative development’ along majority culture lines and teach toward advancing children according to those values. Aboriginal children’s experiences, understanding and expression often seemed, in my experience, mismatched with preschool program content and goals.”* Leaders in research and training on SLP practice have also identified Euro-centric cultural bias as a potential problem in the application of many models of early language facilitation, early intervention, and parent education, and have offered suggestions for culturally responsive practices (Johnston & Wong 2002; van Kleeck, 1994; Warr-Leeper, 2001).

Recommendation 2 – Building relationships. SLPs pointed to the importance of establishing positive and trusting relationships with Aboriginal caregivers of Aboriginal children. There was consensus that time – and remuneration for time - must be provided to build authentic relationships that demonstrate caring and respect for the values and wishes expressed, as a foundation for education, support or intervention.

Recommendation 3 – A collaborative approach. Specialists need to work with families and Aboriginal early learning and child care practitioners to understand how the knowledge they bring can be a part of already existing language support efforts.

Recommendation 4 – A population-based approach. SLPs concurred that language development and special needs should be addressed, whenever possible, in the context of all children and not focused on individual deficits. One respondent explained: *“Practitioners can make an important contribution at the community level, building awareness and understanding of language development, how it progresses and why it matters. Practitioners need to engage in preventive programs that are not necessarily tied to specific children on the caseload. Caseload sizes need to be kept small so that practitioners can be more present and available to the community.”* Direct therapy with individual children or groups of children was rated by SLP respondents as useful but often the lowest priority.

Recommendation 5 – Community capacity-building. SLPs prioritized training and mentoring of primary caregivers, home visitors, and early childhood educators as the most promising service they could deliver. This training could:

- strengthen primary caregivers’ understanding of the importance for language-mediated interaction with their infants and toddlers;
- strengthen community practitioners’ capacity to identify developmental concerns, to advocate, and to partner in service delivery;
- strengthen community leaders’ understanding about SLP services;

Schuele (2001) has argued that SLPs need to collaborate to develop early learning and child care curricula that enhance language skills of all children. A model of the continuum of programs and services to promote language development in the early years offered by Canadian speech-language educator Warr-Leeper (2001) similarly places a priority on community-level capacity development. In her model, a small proportion of specialist investment is allocated to direct, remedial services for individual children.

Recommendation 6 – Culturally-appropriate practices. SLPs recognized the culturally-specific nature of child-raising practices and the emphasis of many Aboriginal peoples on self-determination. One respondent stressed: *“It is important to start by learning what is already being done, how and why and with what results.”* Another respondent cautioned: *“It is not helpful to assume that you know what to do and by virtue of your knowledge you have the right to tell Aboriginal people how to communicate with, teach, or raise their children.”*

SLPs pointed out that many techniques developed in research and practice with European-heritage families do not seem to fit many Aboriginal families. For example, several SLPs commented that Aboriginal care-givers do not seem eager to engage actively in frequent conversation with their infants and toddlers, or to stimulate vocabulary development. However, rather than seeing this as a deficit, the SLP and the particular community could jointly identify the values and styles of language interaction that culture holds as ideal and language facilitation strengths in the community upon which to build. For example, some SLPs described working with communities that appeared to have a preference for quiet, observant children who are quietly respectful of Elders, and who can learn from watching and listening. Methods that build on these strengths include helping to organize frequent story-telling activities, and creating multi-generational learning situations where younger children can hear and use language in the context of action.

In this regard, SLPs emphasized the importance of working with Elders, advocates for early childhood development in the community, parents, and other trusted providers of supports to a family or community. They variously described how these people can offer feedback about tools, methods, and messages that are likely to be accepted and useful in various families or community groups. They can provide knowledge of cultural protocol, cultural values, and culturally conditioned goals for children’s development, the social and linguistic organization of their language, and the role of language.

2. New screening and assessment tools for early identification

There is a serious concern about how to gather information useful for identifying children who could benefit from early intervention and for measuring impacts of programs and intervention strategies. As discussed previously, Aboriginal parents, practitioners, and community representatives have expressed doubts about whether any externally designed, structured observation tool or set of norms for assessing development are valid for Aboriginal children in varying settings and with widely varying opportunities to learn various skills (Stairs & Bernhard, 2002). Doubts have also been expressed about whether ‘mainstream’ developmental monitoring systems are compatible with all Aboriginal parents’ goals for their children’s development, or with community-based efforts to re-build parents’ confidence in being able to raise their children, following generations of family disruption (Ball, 2006). Finally, mainstream assessment is said to overlook localized cultural learning, bi- and multi-lingualism, and abilities that Aboriginal children may have that are not represented on developmental inventories designed with European-heritage, urban children in mind. For example, Aboriginal four-year-olds in various AHS programs in the Northwest Territories are taught to snare rabbits, skin seals, smoke bear meat, and pick only the ripest berries, using their Indigenous languages to tell stories about these activities (Chalmers, 2006). Research needs to explore how these kinds of opportunities to develop literacy and language skills affect developmental outcomes, using measures that are sensitive to these kinds of content and learning processes.

Many SLPs use a family-centred process that elicits functional criteria for assessing whether a child is developing normatively relative to their speech community (Ball & Lewis, 2004). As one SLP described: *“For assessment, it is helpful for the practitioner and community members to sit together and discuss: What skills does the child need to communicate effectively at home, school and in the community? How close is the child coming to accomplishing those? What bridges can be built to support the child in meeting the demands of educational language in the school? How should the curriculum be changed at preschool and school to respond to the information obtained?”* This approach could be used in research evaluating impacts of programs or early interventions on locally-identified developmental targets, yielding change scores that are ecologically valid for home, school and community and not based on provided outcome criteria and norms. Another approach to assessing language development would be to ask a child, in conversation with a familiar peer or adult, to express various concepts appropriate to their age (e.g., time, quantity, relationships of things to one another) and to assess vocabulary, grammar, organization and other age-appropriate targets.

This approach is consistent with professional practice guidelines for SLPs working in multi-lingual and multi-cultural contexts (American Speech and Hearing Association, 2004; Canadian Association of Speech-Language Pathologists and Audiologists, 2002; Genesee, Paradis, & Crago, 2004). These guidelines urge SLPs to work in collaboration and with support of one or more people in the community who are proficient or nearly proficient in the heritage language and/or dialect and who are from the same cultural background as the child in order to provide effective and culturally appropriate services (CASLPA, 2002).

Another approach that is seen by specialists in this field as having potential is dynamic assessment (e.g., Kramer, Mallett, Schneider, & Hayward, 2007), based on the pioneering work in mediated learning by Feuerstein, Klein, and Tannenbaum (1991). The method was devised to gain insights into the learning capacities and styles of children who have experienced serious cultural disruptions and deprivations. After gaining rapport between a child and a teacher, the child's functional skill in a task is tested. The teacher then works with the child to teach the skill, and the child's skill level is then assessed a second time. Coast Salish educator Dr. Lorna Williams has long been an advocate of this approach as a way to gain a differentiated view of what a child can do if they are exposed to suitable learning opportunities and supports. She successfully introduced dynamic assessment to work with First Nations children and other cultural minority students in the Vancouver School District (Williams, 2000).

First Nations SLPs Sharla Peltier and Colleen Wawrykow have pointed to the need to adapt existing screening and assessment tools or to create new ones with culturally relevant item content and language tasks, such as story telling and legend retelling. Johnston (1982, in press) has been a long-standing proponent of the potential of narrative approaches to assessment. A challenge, however, is that many Aboriginal language groups use models of narrative that differ both in content and organization from the narratives of western European-heritage Canadians whose home language is English (Silliman, Diehl, Aurilio, Wilkinson, & Hammargren, 1995). Research has shown cross-cultural variation in narrative depending upon the subject of the narrative (Melzi, 2000). This is an important area for research, since narrative skill could be a useful indicator of language development and disorders, and a good predictor of academic success of Aboriginal children, if more was known about developmental targets for narrative skill in different Aboriginal populations (Johnston, in press).

TAILORING TARGETS TO REGIONAL VARIATIONS

Practitioners, investigators and community leaders know that there are wide regional variations in needs, objectives, resources, opportunities and challenges for child and family development. Within regions, some communities and some families may emphasize Indigenous language acquisition, getting ready for mainstream schooling, or literacy involving interpreting signs on the land more than on paper.

'No one size fits all' has been a recurrent learning point across health, education, community development and other sectors over the past decade. Especially in Aboriginal agencies and communities, skepticism is growing up around franchises for 'branded' programs. In many professional training programs, there is a movement away from 'universalistic' principles of child, family, and community development and away from the illusion of 'best practices' that could be dropped into any setting.

Family-focused, culturally responsive policies, funding, and evaluation frameworks encourage ingenuity, diversity and community initiative (Sternberg & Grigorenko, 1997). Although targets are effective tools in some settings, they can have unintended consequences, including being overly prescriptive in a way that is out of step with a community-driven approach. In family-centred and community development models, each family or community is asked to articulate targets that fit their circumstances, needs, goals and level of readiness, and to specify indicators that will show the extent to which self-identified or negotiated targets have been achieved.

Reinforcing this view, the Romanow Commission Report (2002) emphasized that service needs and models of service delivery for rural, northern and Aboriginal communities need to be conceptualized differently than for other populations. Service strategies need to take into account geographic and social circumstances, cultural factors, distance from diagnostic services and follow-up by specialists, and different kinds of challenges and assets of rural, northern, and Aboriginal communities. The Romanow Commission Report urges flexible, long-term funding for northern communities to innovate and evaluate creative new strategies that hold promise for equivalency of supports and services in the urban south. Similarly, the Canadian Centre of Excellence for Children and Adolescents with Special Needs has advocated caution in promoting mainstream approaches in the north, and support for new approaches and new training to meet needs of Aboriginal and northern children.

LOOKING FORWARD

This final section suggests some initial steps towards advancing a national strategy for supporting Aboriginal children's language and literacy development.

The current lack of research-based knowledge about what kinds of strategies are likely to improve language and literacy development among Aboriginal young children poses significant challenges for policy, training, investments in programs and services, and for program evaluation. Yet, there is broad agreement that improved language and literacy outcomes for Aboriginal children is a top priority, and a national strategy for promoting access to enhancement programs and early interventions must start somewhere.

Lack of empirical knowledge combined with a groundswell of innovation at the community level calls for a strategy that:

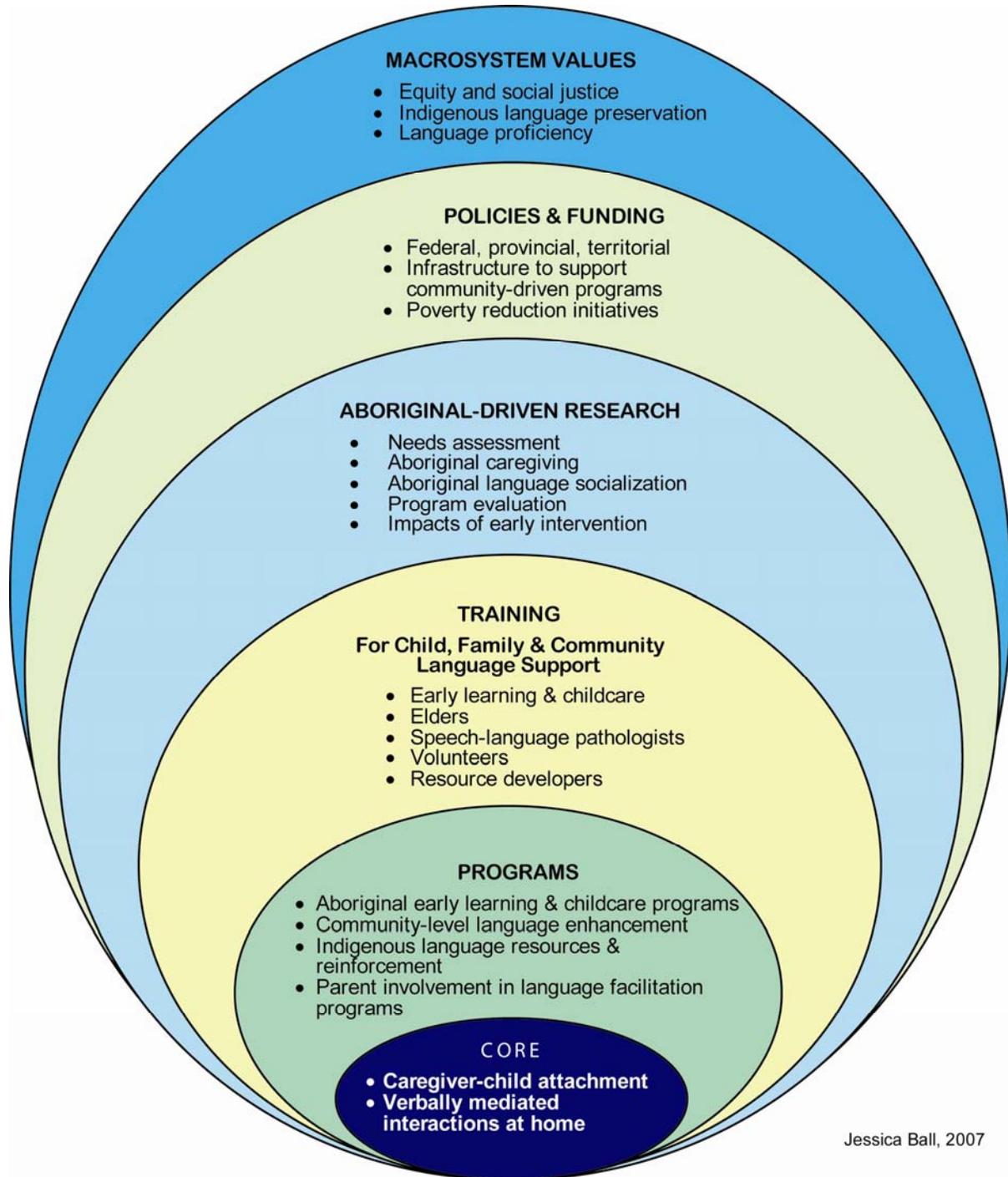
- **holds the development of this new field as a 'generative' endeavour combining knowledge gained from community-driven strategies with practices borrowed from a variety of other cultural contexts and service disciplines;**
- **recognizes and provides opportunities to document and evaluate customized community-based early language and literacy initiatives;**
- **values the opportunities for new knowledge to be created as approaches to training and program delivery are tested, evaluated, studied empirically, and reported in a nationally networked, Aboriginal-driven, 'community of learners.'**

Given the unique and pressing focus, needs and opportunities in this area, the potential for a national Centre of Excellence on Aboriginal Young Children should be considered.

Figure 4 portrays 'nested' systems that could be strategically engaged to improve outcomes, sustain investments, and generate new knowledge regarding Aboriginal young children's language and literacy development.

1. **The core** is the child's experience in their home.
2. **Programs** can enhance the language and literacy experiences of children and families and provide extra supports where needed.
3. **Training** is a pre-requisite to enable effective program delivery.
4. **Research** can help to identify key determinants of Aboriginal language and literacy development and program effectiveness.
5. **The policy and funding environment** must support these initiatives in communities.
6. **The macrosystem**, which embodies the ethos of Canadian society, must act upon a core value placed on Aboriginal children's well-being in the contexts of their families and communities.

Figure 4
Nested systems of support for Aboriginal young children’s language and literacy



1. National consultation

Successful design, implementation, and evaluation of an innovative national strategy depend upon meaningful collaboration across federal, provincial and territorial funding bodies, national Aboriginal organizations, training institutions, disciplines, professions, and regulatory bodies. A partial list of objectives of national consultation is suggested below.

- Consolidate perceptions of needs and goals for Aboriginal young children's language and literacy development.
- Gather available baseline indications of need in communities, provinces and territories.
- Establish scope of initiative.
- Establish roles for various stakeholders.
- Establish roles for provinces, territories and national offices.
- Explore strategies fitting diverse settings and priorities for community development.
- Explore ways to capitalize on existing programs and human resources.
- Explore training options especially to enhance language facilitation skills of early learning and child care practitioners and to increase the relevance of speech-language pathology training to prepare practitioners to work collaboratively with Aboriginal families and communities.
- Define curriculum development needs for workshops and for-credit courses.
- Identify communities and training providers for exploratory pilot projects.

2. Basic research agenda

Throughout this review, attention has been drawn to a number of basic questions and gaps in knowledge that detract from the potential for effective, culturally supportive practice in this field. Basic research is needed to develop new tools and to support the accumulation of practice-based evidence that of promotion, prevention, and early intervention strategies that have ensure optimal language and literacy outcomes among Aboriginal children. An initial list of projects for discussion is suggested below.

- Collect baseline data on a few primary indicators of language development (e.g., the Aboriginal Children's Survey by Statistics Canada offers one avenue).

- Collect baseline data on Aboriginal children’s language development trajectories and parents’ language development goals and expectations in a few contrasting communities (e.g., through community-university partnerships).
- Develop culturally appropriate screening and diagnostic assessment practices and valid, reliable screening and diagnostic assessment tools in relevant languages.
- Investigate English and French dialect learning in early childhood and implications for early language learning, assessment, and supports.
- Investigate culturally-based language socialization practices that are foundational to speech communication.

To date, no national gathering has been convened to gather, discuss, and consolidate what has been learned through practice and through various data collection exercises and quasi-research projects that are known to have been done but have never reported in the gray literature or in peer-reviewed publications. Such a meeting is timely and could yield an agenda for research, training, and practice to meet Aboriginal young children’s needs within a national language and literacy strategy.

3. Leadership Development

- Given the importance of early language development for cognitive and social learning and for school readiness, funds are needed to create an office of Aboriginal advisors for Aboriginal young children’s language and literacy programs in each province and territory. These advisors need to be established parallel to and working in conjunction with other advisors on Aboriginal children in the provinces and territories, such as Aboriginal infant development, early childhood development, and supported child care advisors where these are in place. These advisors could play a pivotal role in coordinating research, training, program support, and program evaluation efforts, helping to overcome the current fragmentation of efforts across federal and provincial jurisdictions and sectors.
- A gathering of Aboriginal communities and post-secondary institutions that have successfully partnered to deliver training for practitioners in early childhood and early intervention, along with educators in speech-language pathology, should be convened to plan a strategy for increasing community-based capacity to support Aboriginal early language and literacy.

4. Practice Recommendations

Family Development

- Involve primary caregivers through a variety of home-environment, community-wide, and centre-based programs to promote the kinds of social interactions which stimulate language, to promote elaborated use of the home language, and to

encourage children's self-confidence in expressing themselves and communicating.

- Within this strategy, support Indigenous language and literacy acquisition, especially in Nunavut, the Northwest Territories, Labrador and northern Quebec.

Community centre-based programs

- Extend the reach of Aboriginal early learning and child care programs.
- Enrich language facilitation, support, and early detection of communication difficulties within the context of Aboriginal early learning and child care programs.
- Develop new Aboriginal capacity to staff these programs through additional post-secondary training of community-based practitioners.

Action steps to harness the full potential of these family and community development initiatives as effective sites to facilitate early language and literacy are suggested below.

- Focus on home and community environments for children's language development and not only on characteristics of individual children. For communities with high rates of referrals of children for speech-language diagnosis and therapy (e.g., reports as high as 70% in some communities), targeting services to individuals is neither feasible nor effective given the lack of speech-language diagnostic and therapy services.
- Begin with an understanding of cultural care giving practices and language socialization goals in the family.
- Bring primary caregivers into focus as 'first teachers' in all types of facilitation and support strategies.
- Use family development activities to strengthen confidence among Aboriginal caregivers about being able to raise their children as part of a program of healing from the era of residential schooling and ongoing family disruption through child welfare practices.
- Innovate approaches that are driven by the community's agenda for development.
- Add to the capacity of current Aboriginal practitioners in community-based child care and development programs through community-based, culturally informed, advanced training in facilitating Aboriginal children's language and literacy.
- Avoid exclusive dependence upon speech-language pathology services.

- Establish partnerships across service sectors, including the local speech-language pathology services, to ensure equitable diagnostic assessment and treatment for children whose needs are best met by speech-language clinicians, and participate in a collaborative way to guide speech-language clinicians in culturally appropriate practice.
- Produce resources for young children in the language of the community.

CONCLUSION

Aboriginal children's experiences with language and literacy and the roles of language and literacy are unique in many ways compared to non-Aboriginal children and require a distinctive, Aboriginal-driven approach. Given the importance of early language and literacy development for cognitive, social and cultural learning and school readiness, priorities for investments are suggested below.

- **Investment Priority 1.** Develop and support provincial and territorial leadership specifically for speech-language development initiatives for Aboriginal young children;
- **Investment Priority 2.** Develop and deliver training curricula to prepare Aboriginal infant and early childhood practitioners as well as speech-language pathologists to deliver language facilitation and support programs
- **Investment Priority 3.** Deliver innovative family, community and home language development programs that are culturally and linguistically appropriate, advance goals for Aboriginal community development, and meet Aboriginal children's needs;
- **Investment Priority 4.** Enable community-university research partnerships to create and mobilize new knowledge about Aboriginal early language learning, assessment, and support, and to evaluate programs and assess impacts on children's speech-language and literacy outcomes.

Investments in these four areas would enable a collaborative approach to professional and community capacity building and practice with Aboriginal young children, families and communities. A targeted Aboriginal early language and literacy initiative has the potential to:

- address the right of Aboriginal children to be supported in learning their home language;
- reduce errors in diagnosis and treatment due the misinterpretations of language dialect differences as deficits;
- strengthen the Aboriginal capacities to stimulate early language and literacy development and support children with speech-language challenges;

- address inequities in resources for Aboriginal children needing supports for optimal speech-language development , especially in rural, remote and northern communities;
 - reduce dependencies on expensive and unevenly distributed specialized services;
 - reduce secondary learning difficulties due to language and literacy difficulties;
 - enhance Aboriginal children’s opportunities for success.
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REFERENCES

- Allen, S. E. M., Crago, M., & Pesco, D. (2006). The effect of minority language exposure on minority language skills: the case of Inuktitut. *International Journal of Bilingual Education & Bilingualism*, 9(5), 578-596.
- American Speech-Language-Hearing Association. (2004). *Knowledge and skills needed by speech-language pathologists and audiologists to provide culturally and linguistically appropriate services*. ASHA Online Desk Reference, 4. Retrieved March 11, 2007: <http://www.asha.org/NR/rdonlyres/BA28BD9C-26BA-46E7-9A47-5A7BDA2A4713/0/v4KScultlinguistic2004.pdf>
- Arnold, D. (1997). Co-occurrence of externalizing behavior problems and emergent academic difficulties in young high-risk boys: a preliminary evaluation of patterns and mechanisms. *Journal of Applied Development Psychology*, 18, 317-330.
- Assembly of First Nations (1988). *Tradition and education: towards a vision of our future*. A declaration of First Nations jurisdiction over education. Summerstown, ON: Author.
- Assembly of First Nations (1999). State of emergency concerning our First Nations languages. Letter addressed to Minister Robert Nault, Indian Affairs and Northern Development. July 20. Retrieved January 10, 2007: http://www.afn.ca/Programs/Languages/state_of_emergency_concerning_ou.htm
- Ball, J. (2002). The challenge of creating an optimal learning environment in child care: cross-cultural perspectives. In L. Girolometto & E. Weitzman (Eds.), *Enhancing caregiver language facilitation in child care settings* (pp. 1-12). Proceedings from a Symposium of the Canadian Language and Literacy Research Network, Toronto, October 18, 2002.
- Ball, J. (2005a). "Nothing about us without us:" restorative research partnerships involving Indigenous children and communities in Canada. In A. Farrell (Ed.), *Exploring ethical research with children* (pp. 81-96). Open University Press/McGraw-Hill Education.
- Ball, J. (2005b). *Talking points: exploring needs and concepts for Aboriginal early childhood language facilitation and supports*. Public Health Agency of Canada, Aboriginal Head Start in Urban and Northern Communities. Retrieved November 20, 2007: <http://www.ecdip.org/earlylanguage/>
- Ball, J. (2006). *Developmental monitoring, screening and assessment of Aboriginal young children: findings of a community-university research partnership*. Paper presented at the Aboriginal Supported Child Care Conference, Vancouver, November 23.

- Ball, J., Bernhardt, B.M., & Deby, J. (2006). *First Nations English dialects: proceedings of an exploratory study in Canada*. University of Victoria. Retrieved November 20, 2007: <http://www.ecdip.org>
- Ball, J., & Lewis, M. (2004). Talking points: what can speech and language professionals contribute to Aboriginal early childhood development? In C. St. Aubin (Ed.) *Compendium on Aboriginal Early Childhood Development*. Ottawa: Canadian Child Care Federation.
- Ball, J., & Lewis, M. (2006). Aboriginal parents' goals for children's language: what is our role? *IMPrint: The Newsletter of Infant Mental Health Promotion*, 46, 11-16.
- Ball, J., & Pence, A. (1999). Beyond developmentally appropriate practice: developing community and culturally appropriate practice. *Young Children*, March, 46-50.
- Ball, J., & Pence, A. (2006). *Supporting Indigenous children's development: community university partnerships*. Vancouver: UBC Press.
- Battiste, M. (2000). Maintaining Aboriginal identity, language, and culture in modern society. In M. Battiste (Ed.). *Reclaiming Indigenous voice and vision* (pp. 192-208). Vancouver: UBC Press.
- Battiste, M. (2004). *Evaluation measures for Aboriginal language and culture project: a literature review*. Aboriginal Language Task Force, Ottawa, ON: Canada Heritage.
- Battiste, M. (2005). *State of Aboriginal learning: background paper for the national dialogue on Aboriginal learning*. November 13, 2005, Ottawa.
- B.C. Aboriginal Child Care Society (2004), *A guide for culturally-focused early intervention therapy programs for Aboriginal children and families in British Columbia: healthy children and partnerships*. Prepared by Deanne Zeidler and Alison Gerlach. Vancouver: Author.
- B.C. Aboriginal Child Care Society (2006). *Moe the Mouse and his theme box: speech-language and literacy promotion for young children and their families*. Prepared by Margaret Chesterman and Ann Gardiner. Vancouver: Author.
- Beatch, M. (2006). *Transformative experiences of Aboriginal home visitors in an early literacy family intervention program*. Unpublished Masters Thesis. Faculty of Education, Simon Fraser University. Author.
- Bell, D., with Anderson, K., Fortin, T., Ottoman, J., Rose, S., Simard, L. & Spencer, K. (2004). *Sharing our success: ten case studies in Aboriginal schooling*. Kelowna, BC: Society for the Advancement of Excellence in Education. Retrieved January 17, 2007: http://www.sae.ca/publications/A_021_HHH_MID.php

- Bergstrom, A., Cleary, L., & Peacock, T.D. (2003). *The seventh generation: native students speak about finding the good path*. Charleston, WV: AEL.
- Bernhardt, B., Ball, J., & Deby, J. (2007). Cross-cultural issues in assessment of phonology. In S. McLeod (Ed.), *The international guide to speech acquisition*. Delmar Thomson Learning.
- Bird, V., & Akerman, R. (2005). *Every which way we can: a literacy and social inclusion position paper*. London, UK: National Literacy Trust. February, 2005. Retrieved November 15, 2007: <http://www.literacytrust.org.uk/socialinclusion/policychallenge.html>
- Blackstock, C. (2005). Same country; same lands; 78 countries away. *First Nations Research Site Online Journal*, 2 (1), 130-158.
- Blank, M., Rose, S., & Berlin, L. (1978). *The language of learning: the preschool years*. New York: Grune & Stratton.
- Bowd, A. (2002). *Otitis Media: its health, social and educational consequences particularly for Canadian Inuit, Métis, and First Nations children and adolescents*. Centre of Excellence for Children and Adolescents with Special Needs. Learning and Communication Task Force, Lakehead University, 954 Oliver Road, Thunder Bay, Ontario, P7B 5E1, Canada. lnorth@lakeheadu.ca
- Bowd, A. D. (2005). Otitis media: health and social consequences for Aboriginal youth in Canada's youth. *International Journal of Circumpolar Health* 64(1), 5-15.
- Brady, S., & Shankweiler, D. (1991). *Phonological processes in literacy: a tribute to Isabelle Y. Liberman*. Hillside, NJ: Lawrence Erlbaum Associates.
- British Columbia Aboriginal Network on Disability Society (BCANDS) (1996). *Identification of barriers to post-secondary training and employment*. Vancouver, BC.
- Brittain, J., Dyck, C., Rose, Y., & MacKenzie, M. (2006). *The Chiasibi child language acquisition study (CCLAS): a progress report*. Presentation at the 38th Algonquian Conference, Vancouver B.C. October 28.
- Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.
- Bruner, J. (1975). Language as an instrument of thought. In A. Davies (Ed.), *Problems of language and learning*. London: Heinemann.
- Burnaby, B. (1996). Aboriginal language maintenance, development, and enhancement: a review of the literature. In G. Cantoni (Ed.). *Stabilizing Indigenous languages*. Flagstaff, AZ: Northern Arizona University.

- Burnaby, B. (2002). *First Nations language and culture programs in provincial schools*. Ottawa: Indian and Northern Affairs Canada.
- Campbell, F.A., & Ramey, C.T. (1994). Effects of early intervention on intellectual and academic achievement: a follow-up study of children from low-income families. *Child Development*, 65, 684-698.
- Canada Council on Learning (2007). *State of learning in Canada: no time for complacency*. Report on Learning in Canada 2007, Ottawa: Author.
- Canadian Association of Speech-Language Pathologists and Audiologists (2002). *CASLPA Position Paper on Speech-Language Pathology and Audiology in the Multicultural, Multilingual Context*.
<http://www.caslpa.ca/english/resources/multicult.asp>
- Canadian Centre for Justice (2001). *Aboriginal peoples in Canada*. Statistics Profile Series. Ottawa: Minister of Industry.
- Canadian Heritage (2005). *Towards a new beginning: a foundation report for a strategy to revitalize First Nation, Inuit, and Métis languages and cultures*. Report to the Minister of Canadian Heritage by The Task Force on Aboriginal Languages and Cultures, Jun, 2005. Ottawa. Cat. No. CH4-96/2005.
- Canadian Institute of Child Health (2000). *The health of Canada's children* (3rd Ed). Ottawa: Canadian Institute of Child Health.
- Capute, A., (1987). Using language to track development. *Patient Care*, 21 (19), 60-70.
- Catts, H., & Kamhi, A. (1999). *Language and reading disabilities*. Needham Heights, MA: Allyn & Bacon.
- Catts, H., Fey, M., Zhang, X., & Tomblin, B. (1999). Language basis of reading and reading disabilities: evidence from a longitudinal investigation. *Scientific Studies of Reading*, 3 (4), 331-361.
- Cazden, C., Cope, B., Fairclough, N., Gee, J., Cress, G., Luke, A., Luke, C., Michaels, S., & Nakata, M. (1996). A pedagogy of multiliteracies: designing social futures. *Harvard Educational Review*, 66 (1), 60-92.
- Chalmers, J. (2006). *Ten years of Aboriginal Head Start in the Northwest Territories*. Yellowknife: Western Arctic Aboriginal Head Start Council. Available at:
<http://www.nwtheadstart.org>
- Cohen, N. J., & Heinz, L. (2004). *Outcomes of a Canadian national project to enhance children's language and cognitive development in community-based programs*. Presentation made at the meeting of the International Society for the Study of Behavioural Development, Ghent, July.

- Cole, E. (1989). E pluribus unum pluribus: multicultural imperatives for the 1990s and beyond. *Journal of the American Speech-Language and Audiology Association*, 31, 65-70.
- Coll, C. G., Lamberty, G., Jenkins, R., McAdoo, H.P., Crnic, K., Wasik, B.H., & Garcia, H.V. (1996). An integrative model for the study of developmental competencies in minority children. *Child Development*, 67, 1891-1914.
- Council of Ministers of Education (2004). Quality education for all young people: challenges. Retrieved March 10, 2007: http://www.cmec.ca/international/ice/47_ICE_report.en.pdf
- Crago, M. (1990). Development of communicative competence in Inuit children: implications for speech-language pathology. *Journal of Childhood Communication Disorders*, 13, 73-83.
- Crago, M. (1992a). Ethnography and language socialization: a cross-cultural perspective. *Topics in Language Disorders*, 12 (3), 28-39.
- Crago, M. B. (1992b). Communicative interaction and second language acquisition: an Inuit example. *TESOL Quarterly*, 26(3), 487-505.
- Crago, M.B., Eriks-Brophy, A., Pesco, D., & McAlpine, L. (1997). Culturally based miscommunication in classroom interaction. *Language, Speech, & Hearing Services in Schools*, 28 (3), 245-254.
- Crystal, D. (1997). *English as a global language*. Cambridge, England: Cambridge University Press.
- Cummins, J. (1980). Ancestral-language maintenance: the roles of school and home. *Multiculturalism*, 14 (2), 23.
- Curran, T.M. (2005). Investigating early relationships between language and emergent literacy in three and four year old children. *Dissertation Abstracts International, B: Sciences and Engineering*, 65(7), 3426-B-3427-B.
- Danesi, M. (1988). The utilization of the mother tongue in the educational experience of the minority-language child: a synopsis of research findings. *Multiculturalism*, 11 (3), 6.
- Davies, G., & Mayfield, M.I. (1981). A program for native infants and families. *Daycare and Early Education*, 9, 12-14.
- Day, R. (1985). The ultimate inequality: linguistic genocide. In N. Wolfson & J. Manes (Eds.), *Language of inequality* (pp. 163-181). Berlin: Mouton de Gruyter.

- Dean, M. (2005). Education service provider for Dogrib Community Services, NWT. Personal communication.
- De Jong, D.H. (1998). Is immersion the key to language renewal? *Journal of American Indian Education*, 37 (3).
- deLeeuw, S., Fiske, J., & Greenwood, M. (2002). *Rural, remote and north of 51: service provision and substance abuse related special needs in British Columbia's hinterlands*. Prince George, BC: University of Northern British Columbia Task Force on Substance Abuse.
- Dickinson, D., & Beals, D. (1994). Not by print alone: oral language supports for early literacy development. In D. Lancy (Ed.), *Children's emergent literacy: from research to practice* (pp. 29-40). Westport, CT: Praeger Press.
- Dickinson, D., & Tabors, P. (2001). *Beginning literacy with language*. Baltimore: Paul H. Brookes.
- Ermine, E. (1998). Pedagogy from the ethos: an interview with Elder Ermine on language. In L.A. Stiffarm (Ed.) *As we see...Aboriginal pedagogy* (pp. 9-28). Saskatoon, SK: University Extension Press.
- Feuerstein, R., Klein, P.S., & Tannenbaum, A. (1991). *Mediated learning experience: theoretical, psychosocial, and learning implications*. London, UK: Freund Publishing House, International Center for Enhancement of Learning Potential.
- First Nations Centre (2005). First Nations regional longitudinal health survey (RHS) 2002/03: results for adults, youth and children living in First Nations communities. Ottawa, On: Author. Retrieved November 20, 2007: www.naho.ca/firstnations/english/documents/RHS2002-03TechnicalReport_001.pdf
- First Nations Child and Family Caring Society (2005). *Wen:de: we are coming to the light of day*. Ottawa: Author. Retrieved November 20, 2007: <http://www.fncfcs.com/docs/WendeReport.pdf>
- First Nations Education Steering Committee (FNESC) (2006). *The First Nations schools association school measures and data collection project—2006 results*. Vancouver: Author. Retrieved March 1, 2007: www.fnesc.ca
- Fishman, J. (1996). What do you lose when you lose your language? In G. Cantoni (Ed.), *Stabilizing Indigenous languages* (pp. 80-91). Flagstaff, AZ: Northern Arizona University.
- Fournier, S., & Crey, E. (1997). *Stolen from our embrace: the abduction of Aboriginal children and the restoration of Aboriginal communities*. Vancouver, BC: Douglas & McIntyre.

- Francis, N. (1999). Bilingualism, writing, and metalinguistic awareness: oral-literate interactions between first and second languages. *Applied Psycholinguistics*, 20, 533-561.
- Fulford, G., with Daigle, J.M., Stevenson, B., Tolley, C., & Wade, T. (2007). *Sharing our success: more case studies in Aboriginal schooling*. Kelowna, B.C.: Society for the Advancement of Excellence in Education.
- Genesee, F., Paradis, J., & Crago, M. (2004). *Dual language development & disorders*. Baltimore, MD: Brookes.
- Gerber, A. (1993). *Language-related learning disabilities: their nature and treatment*. Baltimore, MD: Paul H. Brookes.
- Gillis, J. (1992). Views of Native parents about early childhood education. *Canadian Journal of Native Education*, 19 (1), 73-81.
- Gillon, G.T. (2005). Facilitating phoneme awareness development in 3- and 4-year old children with speech impairment. *Language, Speech, and Hearing Services in Schools*, 36, 308-324.
- Girolametto, L. (1988). Improving the social-conversational skills of developmentally delayed children: An intervention study. *Journal of Speech and Hearing Disorders*, 53, 156-167.
- Girolametto, L., Weitzman, E., & Clements-Baartman, J. (1998). Vocabulary intervention for children Down syndrome: parent training using focused stimulation. *Infant-Toddler Intervention: A Transdisciplinary Journal*, 8, (2), 109-126.
- Girolametto, L., Weitzman, E. & Greenberg, J. (2000). Training day care staff to facilitate children's language. *American Journal of Speech-Language Pathology*, 12, 299-311.
- Greenwood, M. (n.d.). Children are a gift to us: Aboriginal-specific early childhood programs and services in Canada. Retrieved November 20, 2007: <http://www.accel-capea.ca/pdf/FinalGreenwood.pdf>
- Guralnick, M., Connor, R., Hammond, M., Gottman, J.M., & Kinnish, K. (1996). The peer relations of preschool children with communication disorders. *Child Development*, 67, 471-489.
- Harrison, B. (1998). Te wharekura o rakaumangamanga: the development of an indigenous language immersion school. *Bilingual Research Journal*, 22 (2, 3, & 4), 103-122.
- Hart, B., & Risley, T.R. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore: Paul H. Brookes.

- Health Canada (2005). First Nations comparable health indicators. Retrieved March 8, 2007: http://www.hc-sc.gc.ca/fnih-spni/pubs/gen/2005-01_healthsante_indicat/index_e.html#potential
- Heath, S. (1983). *Ways with words: language, life and work in communities and classrooms*. Cambridge: Cambridge University Press.
- Hebert, Y. (2000). The state of Aboriginal literacy and language education. In M.B. Castellano, L. Davis, & L. Lahache (Eds.). *Aboriginal education: fulfilling the promise* (pp. 55-75). Vancouver: UBC Press.
- Heckman, J.J. (2006). Skill formation and the economics of investing in disadvantaged children. *Science*, 312 (5782), 1900-1902.
- Heinz, L., & Cohen, N.J. (2004). *A community-based prevention project – the challenge of supporting multiple sites in building evaluation capacity*. Annual conference of the Canadian Evaluation Association, Saskatoon, SK, May.
- Hincks-Dellcrest Institute (2003). *TLC3 Project: early Language and Cognitive Development*. www.tlc3.ca/htm
- Hinshaw, S.P. (1992). Externalizing behavior problems and academic underachievement in childhood and adolescence: causal relationships and underlying mechanisms. *Psychological Bulletin*, 111, 127-154.
- Hughes, K. (1990). *“You took my talk”: Aboriginal literacy and empowerment*. Ottawa: House of Commons, Standing Committee on Aboriginal Affairs.
- Ignace, M.B. (1998). *Handbook for Aboriginal language program planning in British Columbia*. Vancouver, BC: First Nations Education Steering Committee: Aboriginal language sub-committee.
- Isaac, K. (2005). Executive Director of the B.C. Aboriginal Child Care Association. Personal communication.
- Johnston, J. (1982). Narratives: a new look at communication problems in older language disordered children. *Language, Speech, and Hearing Services in School*, 13, 65-75.
- Johnston, J.R. (in press). Narrative: 25 years later. *Topics in Language Disorders*.
- Johnston, J., & Wong, M.-Y. A. (2002). Cultural differences in beliefs and practices concerning talk to children. *Journal of Speech, Language, and Hearing Research*, 45, 916-926..
- Joshi, A. (2006). Parent Child Mother Goose Program Review. University of British Columbia, Unpublished Manuscript, Author.

- Kamana, K., & Wilson, W. (1996). Hawaiian language programs. In G. Cantoni (Ed.), *Stabilizing Indigenous Languages*. Flagstaff, AZ: Northern Arizona University.
- Kavanaugh, J., & Mattingly, I. (1972). *Language by ear and by eye*. Cambridge, MA: MIT Press
- Kirkness, V.J. (1998). The critical state of Aboriginal languages in Canada. *Canadian Journal of Native Education*, 22 (1), 93-107.
- Kirkness, V.J. (2002). The preservation and use of our languages: respecting the natural order of the creator. In B. Burnaby & J.A. Reyhner (Eds.), *Indigenous languages across the community*. Proceedings of the 7th Annual Conference on Stabilizing Indigenous Languages (pp. 17-23). Flagstaff, AZ: Northern Arizona University.
- Kohlberg, L., Yaeger, J., & Hjertholm, E. (1968). Private speech: four studies and a review of theories. *Child Development*, 39, 691-736.
- Kramer, K., Mallett, P., Schneider, P., & Hayward, D. (2007). *Assessment of narratives with grade 3 children in a First Nations community*. Poster presented at the 29th Symposium on Research in Child Language Disorders, Madison, WI, June.
- Lafrance, J., & Collins, D. (2003). Residential schools and Aboriginal parenting: voice of parents. *Native Journal of Social Work*, 4, 104-125.
- LeMare, L. & Audet, K. (2003). Understanding HIPPY in the context of contemporary perspectives on development, risk, and intervention. In M. Westheimer (Ed.), *Parents making a difference: international research on the Home Instruction for Parents of Preschool Youngsters (HIPPY) Program* (pp. 169-177). Jerusalem: The Hebrew University Magnes Press.
- LeMare, L., Harkey, T., & Beatch, M. (2007). *Home Instruction for Parents of Preschool Youngsters (HIPPY) in five Aboriginal communities in B.C.* Paper presented at a meeting of the Consortium for Child Health, Intervention, Learning and Development, ECD Policy Forum, Vancouver, November 19.
- Malcolm, I., Haig, Y., Konigsberg, P., Rochecouste, J., Collard, G., Hill, A., & Cahill, R. (1999). *Towards more user-friendly education for speakers of Aboriginal English*. Perth: Centre for Applied Language and Literacy Research.
- Manolson, A., with Ward, B., & Doddington, N. (1995). *You make the difference: in helping your child learn..* Toronto: Hanen Centre.
- Mayfield, M.I., & Davies, G. (1984). An early intervention program for Native Indian infants and their families. *Canadian Journal of Public Health*, 75, 450-453.
- McCarty, T. L. (2003). Revitalizing indigenous languages in homogenising times. *Comparative Education*, 39(2), 147-163.

- McIvor, O. (2004). *Building the nests: Indigenous language revitalization in Canada through early childhood immersion programs*. Unpublished Masters Thesis, Victoria: University of Victoria.
- Melzi, G. (2000). Cultural variations in the construction of personal narratives. *Discourse Processes, 30*, 153-177.
- Michel, K. (2005). *You can't kill Coyote: stories of language healing from Chief Atahm School Secwepemc Language Immersion Program*. Unpublished PhD Dissertation. Burnaby: Simon Fraser University.
- Miller, J.R. (1996). *Shingwauk's vision: a history of Native residential schools*. Toronto: University of Toronto Press.
- Minister of Public Works and Government Services (2002). *Aboriginal Head Start in urban and northern communities: program and participants 2001*. Retrieved April 20, 2007: <http://www.hc-sc.gc.ca/hppb/childhoodyouth/acy/ahs.htm>
- Morrison, D., Mantzicopoulos, P., & Carte, E. (1989). Pre-academic screening for learning and behavior problems. *Journal of the American Academy of Child and Adolescent Psychiatry, 28* (1), 101-106.
- Morrison, F.J., Griffith, E.M., Williamson, G., & Hardway, C.L. (1995). *The nature and sources of early literacy*. Paper presented at the Biennial Meeting of the Society for Research in Child Development, Indianapolis, IN.
- Murray, S. (2005). *Achievement at Maori immersion and bilingual schools: update for 2004 results*. New Zealand Ministry of Education.
- Mussell, W. (2005). *Warrior-caregivers: understanding the challenges and healing of First Nations men. A resource guide*. Ottawa: The Aboriginal Healing Foundation.
- Myers, N., & Permuter, M. (1978) Memory in the years from two to five. In P. Ornstein (Ed.), *Memory development in children*. Hillsdale, NJ: Lawrence Erlbaum.
- National Institute for Child Health and Development (1997). *The relationship of child care to cognitive and language development*. Presented at the Annual Meeting of the Society for Research in Child Development, Washington, DC. April.
- Nevins, M.E. (2004). Learning to listen: confronting two meanings of language loss in the contemporary White Mountain Apache speech community. *Journal of Linguistic Anthropology, 14*(2), 269-288.
- Norris, M.J. (2007). Aboriginal languages in Canada: trends and perspectives on maintenance and revitalization. In J. White, D. Beavon, & S. Wingert (Eds.). *Aboriginal policy research: moving forward, making a difference* (pp. 197-228). Vol.3. Toronto: Thompson Educational Publishing.

- Norris, M.J., & Jantzen, L. (2004). *From generation to generation: survival and maintenance of Canada's Aboriginal languages within families, communities, and cities*. Ottawa: Indian and Northern Affairs Canada. Retrieved July 10, 2007: http://www.ainc-inac.gc.ca/pr/ra/alcl_e.html
- Norton, R., & Fettes, M. (1994). *Taking back the talk: a specialized review on Aboriginal language and literacy. A research study prepared for RCAP*. Ottawa, ON: Canada Communications Group.
- Ochs, E., & Schieffelin, B. (1984). Language acquisition and socialization: three developmental stories and their implications. In R. Sweder & R. LeVine (Eds.). *Culture theory: essays on mind, self, and emotion* (pp. 276-320). Cambridge: Cambridge University Press.
- Owens, R. (2001). *Language development* (5th ed.). Boston: Allyn and Bacon.
- Pacini-Ketchabaw, V., Bernhard, J.K., & Freire, M. (2001). Struggling to preserve home language: the experiences of Latino students and families in the Canadian school system. *Bilingual Research Journal*, 25 (1/2), 115-145.
- Peltier, S. (2003). Advocacy and the Need for SLP Services in First Nation Communities. *Ontario Association of Speech-Language Pathologists and Audiologists Connection*, 29 (1), 7-8.
- Peltier, S. (2005). Speech-language clinician, Nipissing First Nation. Personal communication.
- Pepper, J., & Weitzman, E. (2004). *It takes two to talk: a practical guide for parents and children with language delays*. Toronto: The Hanen Centre.
- Pesco, D., & Crago, M. (2008). Language socialization in Canadian Aboriginal communities. In P.A. Duff & N.H. Hornberger (Eds.), *Encyclopedia of Language and Education* (2nd Ed.). Vol. 8: Language socialization (pp. 273-285). New York: Springer Science & Business Media LLC.
- Peter, L., with Christie, E., Cochran, M., Dunn, D., Elk, L., Fields, E., Fields, J., Hirata-Edds, T., Huchaby, A., Raymond, R., Shade, H., Sly, G., Wickliffe, G., & Yamamoto, A. (2003). Assessing the impact of total immersion on Cherokee language revitalization: A culturally responsive, participatory approach. In J. Reyhner, O. Trujillo, R.L. Carrasco, & L. Locard, (Eds.). *Nurturing native languages* (pp. 7-23). Flagstaff, AZ: Northern Arizona University.
- Philipson, R. (1992). *Linguistic imperialism*. Oxford, UK: Oxford University Press.

- Philpott, D. (2004). *An educational profile of the learning needs of Innu youth*. Memorial University, NFLD. Retrieved January 18, 2007:
<http://www.turtleisland.org/discussion/viewtopic.php>
- Pinker, S. (1984). *Language learnability and language development*. Cambridge, MA: Harvard University Press.
- Public Health Agency of Canada (2007). Aboriginal Head Start in Urban and Northern Communities: National Impact Evaluation Phase II. Paper presented at the International Union for Health Promotion and Education, Vancouver, BC, June 10.
- Rice, M., & Kemper, S. (1984). *Child language and cognition*. Baltimore: University Park Press.
- Romanow, R. (2002). *Building on values: the future of health care in Canada*. Ottawa: Commission on the Future of Health Care in Canada.
- Roopnarine, J.L., Suppal, P., Shin, M., & Donovan, B. (1999). Sociocultural contexts of dramatic play: Implications for early education. In J. Christie & K. Roskos (Eds.), *Literacy and play in the early years: cognitive, ecological, and sociocultural perspectives*. Mahwah, NJ: Erlbaum.
- Royal Commission on Aboriginal Peoples (1996). *Gathering strength: report on the Royal Commission on Aboriginal Peoples, 13*. Ottawa: Canada Communication Group Publishing.
- Salee, D., with D. Newhouse & C. Levesque (2006). Quality of life of Aboriginal people in Canada: an analysis of current research. Institute for Research on Public Policy (IRPP) *Choices*, 12 (6), 1-40.
- Saxe, G. (1979). Developmental relations between notational counting and number conservation. *Child Development*, 50, 180-187.
- Scaldwell, W.A., & Frame, J.E. (1985). Prevalence of otitis media in Cree and Ojibway school-children in six Ontario communities. *Journal of American Indian Education*, 25(1), 1-3.
- Schieffelin, B. (1990). *The give and take of everyday life*. New York: Cambridge University Press.
- Schieffelin, B. & Eisenberg, A. (1984). Cultural variation in children's conversations. In R. Schiefelbusch & J. Pickar (Eds.). *The acquisition of communicative competence*. Baltimore: University Park Press.
- Schieffelin, B. & Ochs, E. (1986). Language Socialization. *Annual Review of Anthropology*, 15, 163-246.

- Schouls, T., Olthuis, J., & Engelstad, D. (1992). The basic dilemma: sovereignty or assimilation. In D. Engelstad & J. Bird (Eds.) *Nation to nation: Aboriginal sovereignty and the future of Canada* (pp. 12-27). Concord, ONT: Anansi.
- Schuele, C. M. (2001). Socioeconomic Influences on Children's Language Acquisition. *Journal of Speech-Language Pathology and Audiology, 25* (2) 77-88.
- Scollon, R., & Scollon, S. (1981) *Narrative, literacy and face in interethnic communication*. Norwood, NJ: ABLEX.
- Shewan, C. (1988). 1988 omnibus survey: adaptation and progress in times of change. *Journal of the American Speech-Language and Hearing Association, 30* (8), 27-30.
- Shonkoff, J.P., & Phillips, D. (2000). *From neurons to neighborhoods: the science of early childhood development*. Washington: National Academies Press.
- Silliman, E., Diehl, S., Aurilio, M., Wilkinson, L., & Hammargren, K. (1995). Getting the point: a narrative journey into the Athabaskan culture. *Topics in Language Disorder, 15*, 30-53.
- Smith-Moran, D. (2005). A personal readiness curriculum for home visitors to Aboriginal families enrolled in Home Instruction for Parents of Preschool Youngsters (HIPPY). Unpublished M.A. thesis. University of Victoria, Canada.
- Smolewski, M., & Wesley-Esquimaux, C. C. (2003). *Historic trauma and Aboriginal healing*. Ottawa, ON: Aboriginal Healing Foundation Research Series.
- Snowling, M., & Stackhouse, J. (1996). *Dyslexia, speech, and language: a practitioner's handbook*. London: Whurr Publishers.
- Speech Pathology Australia. *Speech Pathologists working in Early Intervention Programs with Aboriginal Australians*. Fact Sheet 2.4.
- St. Aubin, C. (2003). Community collaboration for professional development. In *Research connections Canada: supporting children and families* (pp. 183-226). Ottawa, ON: Canadian Child Care Federation.
- Stairs, A.H. (1994). Indigenous ways to go to school: exploring many visions. *Journal of Multilingual and Multicultural Development, 15*, 1, 63-76.
- Stairs, A.H., & Bernhard, J.K. (2002). Considerations for evaluating 'good care' in Canadian Aboriginal early childhood settings. *McGill Journal of Education, 37* (3), 309-331.
- Standing Committee on Human Resources Development and the Status of Persons with Disabilities (2003). *2002-2003 Proceedings of the Standing Committee on Human Resources Development and the Status of Persons with Disabilities: Taking the*

necessary measures to enhance the integrity of the Social Insurance Number, A review of the action plan. Ottawa: Author.

- Statistics Canada (2003). *Aboriginal Peoples of Canada: a demographic profile, 2001 Census: Analysis Series.* Ottawa: Minister of Industry, Government of Canada. Retrieved, November 10, 2007: <http://www.statcan.ca/bsolc/english/bsolc?catno=96F0030XIE2001007>
- Sternberg, R.J. & E. L. Grigorenko (Eds.). *Intelligence, heredity, and environment.* New York: Cambridge University Press.
- Stevenson, H.W., Parker, T., Wilkinson, A., Hegion, A., & Fish, E. (1976). Longitudinal study of individual differences in cognitive development and scholastic achievement. *Journal of Educational Psychology*, 68, 377-400.
- Stiles-Davis, J., Tada, W., & Whipple, T. (1990). Facilitative effects of labeling on preschool children's copying. *Perceptual and Motor Skills*, 70, 663-672.
- Tannock, R., Girolametto, L. & Siegel, L. (1992). Language intervention with children who have developmental delays: effects of an interactive approach. *American Journal of Mental Retardation*, 97, 145-160.
- Task Force on Aboriginal Languages and Cultures (2005). *Towards a new beginning: a foundational report for a strategy to revitalize First Nation, Inuit and Metis language and cultures.* Ottawa, ON: Aboriginal Affairs Branch, Canadian Heritage. Retrieved November 20, 2007: <http://www.aboriginallanguagetestaskforce.ca>
- Taylor, D. (2007). Professor in Psychology, McGill University. Personal communication.
- TLC³ National Project Management Team (2004). *Final report of the TLC³.* Toronto, Ontario: Author.
- Toma, C. & Wertsch, J.V. (2003). The multiple agendas of intersubjectivity in children's group writing activity. In C. Raeff & J.B. Benson (Eds.). *Social and cognitive development in the context of individual, social, and cultural processes* (pp. 131-146). London: Routledge.
- Tremblay, R.E., Barr, R.G., Peters, R. DeV. (2006). Encyclopedia on early childhood development – Language development and literacy [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development. Retrieved November 20, 2007: <http://www.excellence-earlychildhood.ca/encyclopedia>
- Walton, C. (1993). Aboriginal education in Northern Australia: a case study of literacy policies and practices. In P. Freebody & A. R. Welch (Eds.), *Knowledge, culture and power: international perspectives on literacy as policy and practice.* Pittsburgh, PA: University of Pittsburgh Press.

- Wilgosh, L. & Mulcahy, R. (1993). Cognitive educational models of assessment, programming and instruction for Native learners. *Canadian Journal of Native Education*, 20, (1), 130.
- van Kleeck, A., (1994). Potential cultural bias in training parents as conversational partners with their children who have delays in language development. *American Journal of Speech-Language Pathology*, 3 (1), 67-78.
- Warr-Leeper, G.A. (2001). A review of early intervention programs and effectiveness research for environmentally disadvantaged children. *Journal of Speech-Language Pathology and Audiology*, 25 (2), 89-102.
- Weitzman, E., & Greenberg, J. (2002). *Learning language and loving it: a guide to promoting children's social, language, and literacy development in early childhood settings*. (2nd ed). Toronto: The Hanen Centre.
- Wells, G. (1974). *Language development in the preschool years*. Cambridge: Cambridge University Press.
- Wesley-Esquimaux, C.C., & Smoleswski, M. (2004). *Historic trauma and Aboriginal health*. Ottawa: Aboriginal Healing Foundation.
- WHO/CIBA (1996). Prevention of hearing impairment from chronic otitis media. *Report of a WHO/CIBA Foundation Workshop held at the CIBA Foundation, London, UK, 19-21 November 1996*.
- Williams, L. (2005). Canada Research Chair on Aboriginal Languages, University of Victoria, Personal communication.
- Wilson, W. H., & Kamana, K. (2001). Mai loko mai o ka 'i'ni: proceeding from a dream. the 'Aha Punana Leo connection in Hawaiian language revitalization. In: L. Hinton & K. Hale (eds.), *The Green Book of Language Revitalization in Practice*. San Diego, CA: Academic Press.
- Wright, S.C. & Taylor, D. M. (1995). Identity and the language of the classroom: investigating the impact of heritage versus second language instruction on personal and collective self-esteem. *Journal of Educational Psychology* 87(2), 241-252.
- Wright, S. C., Taylor, D. M., & Macarthur, J. (2000). Subtractive bilingualism and the survival of the Inuit language: heritage- versus second-language education. *Journal of Educational Psychology*, 92(1), 63-84.
- Wurm, S.A. (Ed.) (1996). *Atlas of the world's languages in danger of disappearing*. Paris: UNESCO Publishing.