



CENTRES OF EXCELLENCE FOR CHILDREN'S WELL-BEING

Children and Adolescents with Special Needs

Get Ready, Get Set, Get Going: Learning to Read in Northern Canada

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EXECUTIVE SUMMARY

Canada's North is an immense region crossing six time zones, inhabited by a young, culturally and linguistically diverse population living in communities that differ immensely in size and economic base. For this paper we define the North as Yukon, Northwest Territories, Nunavut, Labrador, and large northern areas of British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, and Quebec.

In Canada there are 1,980,605 young school-age children; 133,405 (or 6.7%) live in the North.

Like five- to nine-year-olds in the rest of Canada, young northern children spend much of their time focused on learning to read. Today in Canada we expect all children to read well, usually by the end of Grade 3 and children's reading at that time is a strong predictor of high school graduation. Children who do not read adequately by Grade 3 are at high risk for school failure, dropping out, chronic un- or underemployment, and low-income and associated difficulties in adulthood.

The timeframe for learning to read well must take into account the child's language of instruction, the language that is the both medium (that children learn through) and the object (that children learn about) of instruction. For many northern children it is the language of their home and of the community. For others, it represents a second language. The timeframe for learning to read well will vary depending on the language of instruction context.

This report describes the learning opportunities young northern children need to get ready, get set, and get going on the road to reading success by:

- Outlining learning opportunities, then summarizing world-wide research evidence and describing the northern context;
- Drawing on success stories from Canada's North and from its northern neighbours to the east and west, and identifying evidence-based best principles that can be used to guide decision-making about frameworks that support early reading; and
- Providing recommendations to help move these best principles into widespread use in the North.

Northern Children and Northern Schools

According to Statistics Canada, in the Far North, 64% of all young school-age children are Aboriginal and in the Mid North, with the exception of Quebec, at least 22% are Aboriginal. The jurisdictions where Aboriginal children are in the majority are the same jurisdictions where five- to nine-year-olds represent a large proportion of the population as a whole.

Ninety-nine percent of young school-age northerners have one mother tongue, which, for the majority of children, is English, followed by French and Aboriginal languages.

There are approximately 1,081 schools in the North. Northern school districts are often huge and schools are separated from each other and from district offices by vast distances. Band-controlled schools do not have the infrastructure and support provided to provincial/territorial schools through the district offices of school boards. Small schools with combined grades are common in many northern school districts and are the reality in every remote area.

Growing into Reading

The focus of the report is how well children are reading within the North. Although data on reading achievement within northern jurisdictions is limited, we would expect that within the North, social capital differences along with diversity and distance contribute to wide gaps in reading achievement among northern children.

Although only limited northern-based research exists, it can be confidently said that regardless of their gender, background, culture, language or special learning needs, northern children, like all children, need the opportunity to **get ready** to read with supportive early literacy environments, **get set** with language support in school, and **get going** with excellent school-based reading programs.

All schools and communities, including northern schools and communities, face common challenges as they strive to provide quality opportunities. What makes the North unique is the additional challenge of providing a range of relevant quality opportunities for a small, culturally and linguistically diverse population living in a vast and remote region.

Evidence-Based Best Principles

In total, **43 evidence-based best principles** are identified in this report that can be used to guide decision-making about frameworks that support early reading. They are described below under the heading of:

- Northern Children *Get Ready* with Supportive Early Literacy Environments;
- Northern Children *Get Set* with Language Support in School; and
- Northern Children *Get Going* with Excellent School-Based Reading Programs.

Northern Children *Get Ready* with Supportive Early Literacy Environments

Long before children start school, they are developing their language and learning about language and literacy naturally, in the context of their home, family, friends and community. Children who begin school with proficiency in at least one language, have some understanding of the conventions of written language, and who have an interest in reading, have a head start learning to read. The literacy environment in the home, the literacy supports available in the community, and the quality of early childhood education environments all contribute to children's early language and emergent literacy.

Northern children *Get Ready* with supportive early literacy environments when:

- Parents actively engage their children in supportive, interactive language and literacy experiences;
- A variety of literacy materials appropriate to the culture and language are available;
- Parents, especially mothers, have opportunities to further their education;
- Different languages are valued equally;
- Learning more than one language is encouraged;
- Parents and other family and community members model their language or languages to their children;
- Governments support languages;
- All northern families have access to a public library;
- Funding is available to sustain effective family and early literacy programs;
- Communities visibly support languages and literacy;
- They have access to quality, preschool programs focused on the development of a strong language base;

- Language nest programs are available that immerse children in a second language, the language of the school;
- Children attend a Kindergarten where teachers, parents, and staff work together to support language and early literacy; and
- Coordinated, integrated early literacy experiences involving the home, preschool, and school are in place.

Northern Children *Get Set* with Language Support in School

For children, language is the link to their family, cultural background, knowledge and experiences. Language helps children connect what they are reading to their own lives, and the more connections children can make, the better their understanding of what they are reading and the greater their ability to think beyond the text. Language support in school facilitates learning to read; teaching that includes an emphasis on oral language is important for all children, especially those with limited language experience and opportunities. By Grade 4, most children are expected to read well enough to learn from textbooks and other materials and to write what they know and think. This means children need sufficient reading and language proficiency to understand and learn abstract concepts and content often in subject areas that have their own technical language. The child's language, the language of instruction in school and the match between the two influence how well and how quickly children achieve that proficiency in one or more languages.

Northern children *Get Set* with language support in school when:

- Teaching is focused on building proficiency in the language of instruction;
- Teachers validate and build on the child's language and communication;
- The language at home is the language of instruction in school;
- They read well enough in the language of the school to support continued school success;
- Strong bilingual programs that continue the first language as the language of instruction beyond Grade 3 are implemented;
- They are proficient in and knowledgeable about at least one language, which scaffolds their learning of other languages;
- They learn to read and speak in more than one language, increasing their cognitive, social, cultural, and economic pathways and opportunities; and
- Opportunities that respond to the challenges faced by northern language minority schools are developed.

Northern Children *Get Going* with Excellent School-Based Reading Programs

Excellent classroom instruction delivered by skilled and motivated teachers is the key to ensuring that children become effective readers. Excellent teaching transcends language of instruction, background, or aptitude of children and gets children going on the road to reading success. The five essential and interactive components that make up an excellent school-based reading program are: committed leadership; articulated standards with data used to monitor progress and inform instruction; a comprehensive approach to reading instruction; effective intervention for children experiencing difficulties; and the resources, support, and professional capacity to ensure effective delivery.

Northern children *Get Going* with excellent school-based reading programs when:

- Educational leadership promotes the importance of reading and ensures effective instruction;
- Valid, culturally and linguistically relevant measures aligned with curriculum expectations are used;

- System-level reading assessment information is fully understood and used appropriately in educational decision-making;
- Performance expectations in reading are established by all school jurisdictions and in each of the languages of instruction;
- Developmental milestones on children’s reading in each of the northern languages of instruction are available;
- They receive comprehensive reading instruction that includes strategies that build fluency, comprehension, and motivation to read;
- They receive effective early intervention to support reading success;
- The quality of the acoustic environment in northern classrooms is sufficient to ensure children can hear well enough to learn to read;
- Comprehensive assessment tools that are linguistically and culturally relevant are available for all northern children with special needs in reading;
- The quality of the school reading program is reviewed before spending funds on add-on programs;
- They have access to reading resources that reflect and validate their background experiences, languages, and cultural environments;
- Every northern school has access to a library with up-to-date, relevant material, and to a school librarian;
- All northern schools have high speed access to the Internet to support children’s early development as readers;
- Northern schools work with parents and communities to establish and maintain shared high expectations for children’s reading;
- Home/school relationships that support early reading are nurtured;
- School policies are in place that encourage the direct involvement and contribution of community members in the reading program;
- The expertise required to teach reading well is acknowledged and valued;
- Highly skilled teachers of reading are recruited;
- Guidelines are established that articulate the competencies new teachers require to teach northern children to read;
- University/community/school partnerships are established that consolidate existing expertise in northern teacher education and support the preparation of northern teachers; and
- Opportunities to develop special and preferred professional development services to northern schools are established.

Recommendations

The following recommendations are designed to help move the previously listed best principles into widespread use across the North:

Recommendation 1: A public education program responsive to the needs of northern parents, that promotes the importance of their languages and literacy practices at home, and teaches how they can use everyday activities to support their young children’s literacy development.

Recommendation 2: Responsibility for a system of seamless integrated early language literacy and education programs involving children, families, early childhood and primary school educators be included under the jurisdiction of education.

Recommendation 3: Access to quality culturally and linguistically relevant preschools and Kindergarten programs for all northern children, including language nests aligned with the language of instruction in school.

Recommendation 4: Opportunities and sustained support for adult literacy and adult education, including community-based programs.

Recommendation 5: A web-based forum for storytellers, Elders, grandparents, and teachers to write and share age- and reading level-appropriate written materials for children in their own language(s).

Recommendation 6: Development of culturally and linguistically relevant resources, including assessments, and a mechanism for dissemination of those resources to northern schools.

Recommendation 7: An evidence-based Reading Framework for Northern Canada outlining specific expectations for reading in the different language of instruction groups, aligned with learning outcomes for teacher education programs and licensing requirements for teachers.

Recommendation 8: A directory of northern expertise in early reading instruction and related areas (e.g., leadership, early intervention, assessment, special needs) that all schools and communities can draw upon for consultation and services (e.g., professional development).

Recommendation 9: Partnerships involving university/regional/community/school groups to support the development of a Centre(s) of Excellence for initial and continuing education of primary northern teachers and to consolidate existing expertise in northern teacher education.

Recommendation 10: Sabbaticals for northern teachers to allow for study and travel, reimbursement for costs of teacher education, and language fluency and early reading expertise allowances.

Recommendation 11: Funding formulas for northern schools that are based on need and respond to poverty, remoteness, distance, and isolation, and that ensure equitable funding for provincial, territorial, and band-controlled schools.

Recommendation 12: Libraries with linguistically and culturally appropriate resources and technical services for all communities (e.g., integrated public-school libraries).

Recommendation 13: High speed internet access to all northern schools and communities.

Recommendation 14: An immediate comprehensive review of the appropriateness and effectiveness of interventions currently available in northern schools for young children with reading difficulties.

Recommendation 15: A northern reading research strategy to consolidate existing evidence, conduct new research and include oversampling of the North in national studies to ensure sufficient data to inform northern decision making.

Recommendation 16: A Northern Centre for Reading to serve as a one-stop-shop to collate, analyse, store and disseminate reading research, data and reading resources (e.g., as outlined in recommendations 5,6,7, 8 and 15).

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ABOUT THE AUTHORS

Julia O'Sullivan (Principle Investigator) is the Dean of Education at Lakehead University, Thunder Bay, in northern Ontario. From 2000 to 2006, she was the Founding National Director of Health Canada's Centre of Excellence for Children and Adolescents with Special Needs. Her research focuses on teaching and learning early reading, especially with children from marginalized populations. An educational psychologist and licensed teacher, O'Sullivan's professional career spans the academic and public arenas. For more than 20 years she has worked actively with schools, community groups, and governments to develop educational policy and services for young children. She was a member of the Government of Ontario's Expert Panel on Early Reading in 2002, and serves as a literacy expert with Ontario's Turnaround Team Program.

Janet Goosney is a Research Associate with the Centre of Excellence for Children and Adolescents with Special Needs. For more than 10 years, first at Memorial University of Newfoundland, and more recently at Lakehead University, she has worked with Julia O'Sullivan on research focused on young children and reading. For 12 years prior to this, Goosney worked with the Public Library Services as a Reader's Advisor. She has served as an educator with schools, preschools, and in adult basic education programs, and has been an active literacy advocate for various community agencies and organizations concerned with children and adults who are learning to read.

ABOUT THE INTERNATIONAL EXPERT PANEL

William G. Demmert, Jr. currently serves as a professor of education at Western Washington University. He has an extensive research record and is presently principal investigator in a project designed to develop and test curriculum based measurements to monitor student progress in schools that use the Native language as the language of instruction. He is one of the original founders of the National Indian Education Association and he served as the first U.S. Deputy Commissioner of Education for the U.S. Office of Indian Education. In addition, his past positions include: Director of Education for the Bureau of Indian Affairs, Commissioner of Education for the State of Alaska, and co-chair and primary writer of the Indian Nations at Risk Task Force. Demmert's international activities include serving as chairman for the Cross-Cultural Education Seminar Series in the Circumpolar North, and performing as an international advisor and consultant for school reform for the Ministry of Education in Greenland.

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Suzanne Guillemette is the executive director of the smallest school board in Canada, located on the 63rd parallel in Canada's largest territory, Nunavut. Since arriving from the province of Quebec to Nunavut's capital city, Iqaluit, she has used her prior experiences as a teacher, educational consultant, and coordinator to fulfill her responsibilities at the Commission scolaire francophone du Nunavut. While employed in the province of Quebec, Guillemette worked mostly in primary and secondary school levels and schools administration with a focus on teacher's professional development. One of her greatest experiences was seven years spent writing school resources and educational guides for the first primary grades; her collection, *Memo* (from Graficor), was published in Quebec and Belgium.

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Velma Illasiak was born in the Northwest Territories, and since 2000 has been the principal of Moose Kerr School, a Kindergarten to Grade 12 school in Aklavik. Before this she completed an education degree, and has served within the Northwest Territories for many years as a social worker and as a school counselor. As a principal, she is concerned about the literacy and numeracy skills of her students and is working to improve and develop sustainability in these areas. In 2004 Illasiak was awarded the first Northwest Territories Teachers' Association Aboriginal Education Award, recognizing her significant contribution to Aboriginal education. In 2006 she received Canada's Outstanding Principal Award for the Northwest Territories.

Barb Laderoute is a Cree Métis and a member of the Gift Lake Métis Settlement who for most of her career has worked extensively in the field of elementary education. Laderoute is a researcher, an educational consultant, has worked as a school principal, and has sat on numerous committees for work in English as a Second Language. Currently she sits on the school board of the Northland School Division in Alberta. Laderoute recently completed her doctorate in elementary education, and her dissertation is titled: *Nihiyaw Awasak: Validating Cree Literacies*. Laderoute was honored with a two-year Social Sciences and Humanities Research Council award as well as the Andrew Steward Memorial Prize by the University of Alberta for research that could be recognized internationally. Laderoute is breaking new ground as a researcher and has redefined literacy allowing us to recognize different forms of literacy from the Indigenous community.

Kenneth Paupanekis was born and raised, and received his elementary education in Norway House. Although his first language is Cree, he is partially fluent in Anishinabe (Saulteaux) and French. Paupanekis received a B.A. in Psychology from Brandon University, a B.Ed. in Cross Cultural Education from the University of Manitoba, and a M. Ed. in Administration from the University of Manitoba. His work experience includes primary teacher, English language arts and math junior and senior high school teacher, elementary school vice principal, high school principal, native language consultant, education professor, and most recently, area school superintendent, a position from which he retired in 2004. He is currently working part-time for University College of the North in Norway House where he is preparing Cree courses for online delivery.

Vaughan Stoyka Vaughan Stoyka has served the education profession for more than thirty years in a variety of roles including teaching, staff development, curriculum writing, consulting, and pre-service teacher education. Her extensive elementary background includes working across all grade levels, special education, gifted education, and both English and French as a second language. Her postgraduate degree in Educational Curriculum focused on literacy and assessment. In 2001, she joined the Ontario Ministry of Education first as a Policy Advisor and then as a member of the Turnaround Teams Program, working with teams of experts to improve literacy achievement in young learners and to research best practices both in large urban schools and in northern and isolated communities. Stoyka is presently a Student Achievement Officer with the Literacy and Numeracy Secretariat working with school boards and schools across Ontario as part of the Ontario Focused Intervention Partnership to improve student achievement in elementary schools.

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Dawn Wilson has been involved in all aspects of education throughout her career. She retired in 2005 as the principal of Cambridge Bay's Kuliik Ilihakvik Elementary School after 34 years. Wilson graduated from Trent University and was with the first group in Nunavut to be officially certified as a school principal. She been a teacher (teaching all grades), and has been actively involved in reading and literacy with children from Kindergarten to Grade 11. Throughout her career, Wilson has supervised Native Teacher Education Program students, advocated for improved teacher education programs, and has been active in Nunavut's Teacher Federation, especially in professional development, through the Professional Improvement Committee.

DEFINITION OF “NORTH”



In this report, we define the North as including the “Far North” (the Yukon, the Northwest Territories, Nunavut, Nunavik (northern Quebec) and Labrador), and the “Mid North” (large areas of British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, and Quebec), that reflect northern conditions and share similar challenges and solutions for teaching and learning early reading (1).

OVERVIEW

From the northern Pacific to the Arctic Circle, from the Northwest Passage and the Hudson and Ungava Bays east to the inlets of Labrador—lies Canada’s North. An immense region crossing all six of Canada’s time zones, this is the land of the northern lights, boreal forest, tundra, and the midnight sun. From the Arctic with its intense cold, severe winters and the lowest precipitation in Canada (2), to regions with long winters and mild summers, the languages of Canada’s First Peoples (including Ojibwe, Cree, Inuktitut, and Dogrib) are heard along with those of the European settlers, English and French, and those of recent immigrants.

Canada’s North has a young, culturally and linguistically diverse population living in communities that differ immensely in size and economic base. There is Dawson Creek, British Columbia, a major transportation centre at the point of origin of the Alaska Highway; mining centres such as Yellowknife; and major ports like Thunder Bay (population 130,000) at the head of Lake Superior. In contrast, there exist isolated villages dependent on a commercial fishery, such as Pinsent’s Arm, Labrador (population 55) and many communities that continue a traditional lifestyle of hunting, fishing, and trapping like the fly-in Cree village of Whapmagoostui, Quebec, and Canada’s most northerly community Grise Fiord in Nunavut, home to 163 Inuit people. Linked by relative geographical isolation from the rest of the country, the northern landscape is one of satellite dishes and drum dances, of walrus and dream-catchers, and of school children in parkas and waterproof kamiks, playing hockey, ice fishing, and surfing the Internet.

From September to June every year, whether by boat, bus, car, or snowmobile, over ice roads or six-lane highways, young northern children go to school. Like five- to nine-year-olds in the rest of Canada, they spend much of their time focused on the most fundamental and important aspect of formal schooling—learning to read. While children have been taught to read for centuries, the expectation that all children will learn to read well has only become established in the last 100 years. Today in Canada we expect all children to read well enough to support their continued school success. Typically this has been interpreted to mean that children should be able to read well by age nine or the end of Grade 3. By Grade 4, learning becomes heavily dependent on reading and writing and children whose reading is not developed sufficiently begin to fall behind. Not surprisingly a child’s reading level at Grade 3 is a good predictor of high school graduation. Children who do not read adequately by Grade 3 are at high risk for school failure, dropping out, chronic un- or underemployment, and low-income and associated difficulties in adulthood.

The timeframe for learning to read well must take into account the child’s language of instruction, the language that is both the medium (that children learn through) and the object (that children learn about) of instruction in school. For many northern children the language of instruction is the language of their home and of the community. For others, it represents a second language, one that they are first exposed to in school; one that may or may not be the dominant language in the community. Although the time to learn to read well will not be the same in all circumstances, time is short and the stakes are high.

The social and economic capacity of northern communities is tied to successful school systems (3,4). The costs associated with poorly developed reading skills are far-reaching for northern children, their families, communities and nations, and are far more severe than the costs 25 years ago. In the North, as in the rest of Canada and the developed world, educational organizations are focused on providing the learning opportunities that promote achievement in early reading. While good reading for young children does not guarantee school success and high school graduation it does provide “a letter of introduction” without which children’s life chances and life choices are significantly reduced.

In this report we describe the learning opportunities young northern children need to get ready, get set, and get going on the road to reading achievement. For each learning opportunity we summarize the research evidence from around the world and describe the northern context. Drawing on success stories from our North and from our northern neighbours to the east and west, we identify evidence-based best principles that can be used to guide decision-making about frameworks that support early reading. We end with recommendations to help move these best principles into widespread use in the North. It is our hope that this report will contribute to a national dialogue on early reading and to local and wider efforts that will make a real difference in the lives of northern children. Children must come first for this to happen, and so that is where we begin—with northern children.

NORTHERN CHILDREN GO TO SCHOOL

Northern Children

In Canada there are 1,980,605 young children whose age at their last birthday was between five and nine years; 133,405 or 6.7% of them live in the North. In **Table 1** the number of five- to nine-year-olds in each northern jurisdiction is shown. In the Canada’s South five- to nine-year-olds represent 6.6% of the population, indicating the northern population is younger.

Table 1: Northern Children Age Five to Nine Years as a Percentage of the Total Population by Jurisdiction, 2001 Census

Far North	Number of children	% of population	Mid North	Number of children	% of population
Yukon	2,045	7.2	British Columbia	20,500	7.9
Northwest Territories	3,615	9.7	Alberta	21,570	8.9
Nunavut	3,345	12.5	Saskatchewan	4,035	12.6
Quebec (Far North)	4,055	10.5	Manitoba	7,410	11.2
Labrador	2,230	8.0	Ontario	29,740	6.9
			Quebec (Mid North)	34,860	6.6
Total (Far North)	15,290	9.6	Total (Mid North)	118,115	7.5

Source: *Statistics Canada, 2001 Census of Population, 20% Sample-based Data*

The population of young Aboriginal and non-Aboriginal northern children by jurisdiction is shown in **Figure 1**. (According to Statistics Canada the 2001 Census figures underestimate the Aboriginal population more than other segments of the population.)

In the Far North, 64% of all young school-age children are Aboriginal and in the Mid North, with the exception of Quebec, at least 22% are Aboriginal. The jurisdictions where Aboriginal children are in the majority are the same jurisdictions where five- to nine-year-olds represent a large proportion of the population as a whole (e.g., Nunavut, Saskatchewan, and Manitoba). What this means is that the Aboriginal population in the North is young rather than the northern population as a whole.

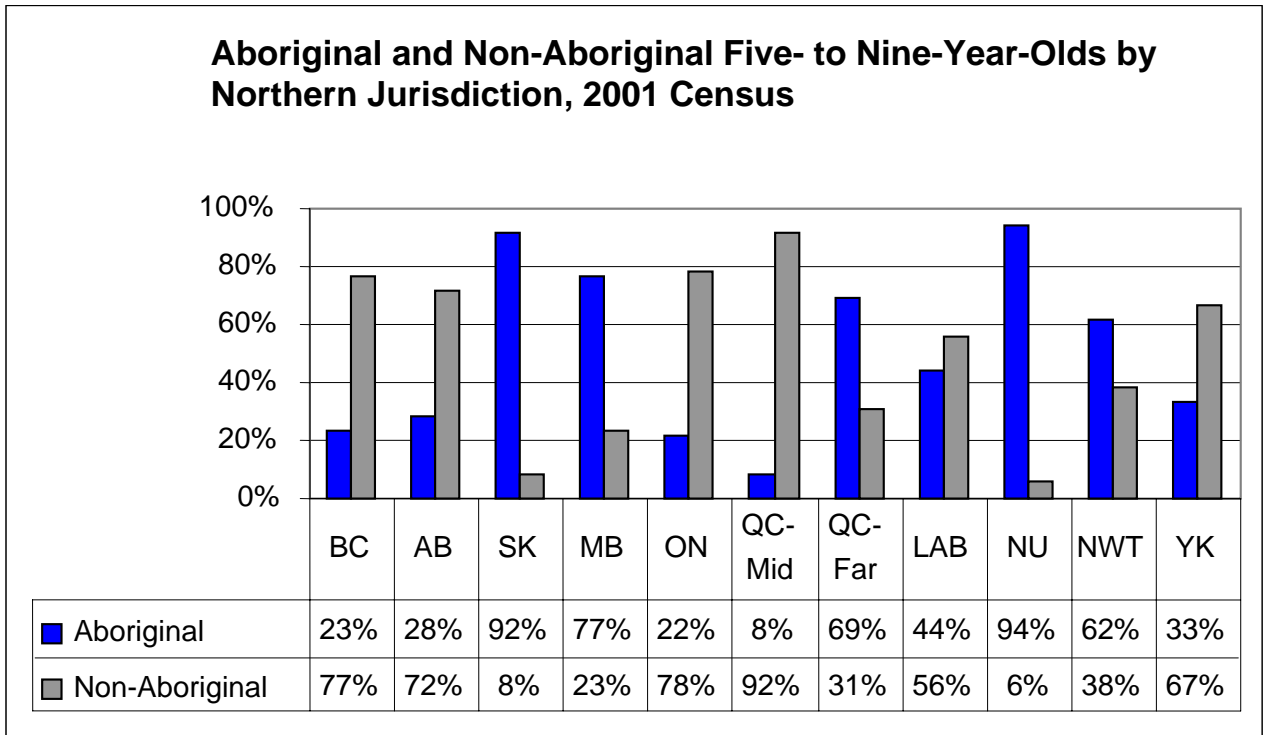
Forty-seven percent of young school-age Aboriginal children live on a First Nations reserve in the North. The majority of Aboriginal children in the Northwest Territories (69%), Saskatchewan (69%), Manitoba (72%), and Quebec including Nunavik (64%) live on reserve. (At the time of the 2001 Census there were no reserves in Nunavut or Labrador.)

Ninety-nine percent of young school-age northerners have one mother tongue. For 60% of these children, English is the mother tongue; for 28% it is French, for 10% it is an Aboriginal language, and for the remaining 2% the mother tongue is a language other than these.

The percentage of mother tongue speakers for each jurisdiction is shown in **Figure 2**.

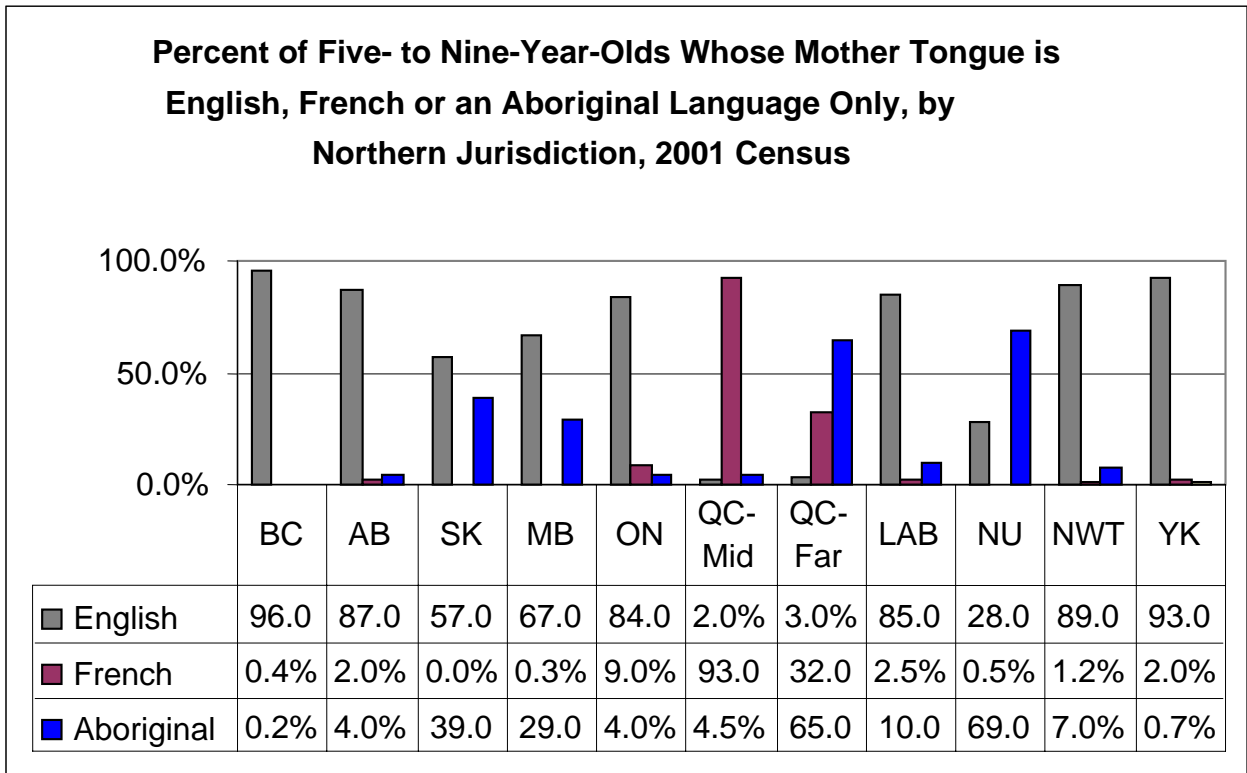
—————
Mother tongue refers to the language first learned in the home and still understood at the time of the Census.
—————

Figure 1



Source: Statistics Canada, 2001 Census of Population, 20% Sample-based Data

Figure 2



Source: Statistics Canada, 2001 Census of Population, 20% Sample-based Data

Thirty-two percent of northern Aboriginal children have an Aboriginal language as their sole mother tongue and these children are more likely to live on reserve (64%) than off. It is still the case that for children on reserve, English is more likely to be their mother tongue than an Aboriginal language (52% compared with 43% for Aboriginal languages). The linguistic diversity of northern children should be reflected in diversity in the language of instruction across schools. This is essential to support early reading achievement.

Northern Schools¹

We calculate² that young school-age northerners attend an estimated 1,081 schools. In the provinces and territories, 850 schools are operated by 107 schools boards and school authorities. Of these, 267 are French language schools operated by 28 French school boards (205 of these schools are in Quebec). There are 163 schools on northern First Nations reserves, all of which are band-controlled except for one federal school in Alberta. Across the North there are 68 privately/independently operated schools.

Some parents choose to home school their children and it is legal to do so across northern Canada.³ Home schooling for children on reserve must also follow the provincial or territorial guidelines. Estimates indicate that 1% to 2% of the school population in Canada is being home schooled (5), but data specific to young northern children have not been published.

Some northern children neither attend school nor are they home schooled, however exact numbers are not available. For example, although there is a school in every community in Nunavut, some families live off the land hunting and fishing, and their children do not attend school. In Labrador, more than 300 Innu children are not receiving schooling of any type (6).

Northern School Districts and Communities

Northern school districts are often huge and schools are separated from each other and from district offices by vast distances. The Stikine school district in northern British Columbia, for example, serves a population of 1,775 people and covers an area of 188,034 square kilometers—an area ten times the size of Lake Ontario. Children attend four all-grade schools in the district (i.e., pre-Kindergarten or Kindergarten to Grade 12), and many have a very long daily bus trip. The school board office in Dease Lake (the last major centre before the Alaskan highway) is 642 kilometers from the school in Atlin—a 16-hour round trip by car. In the same region of northern British Columbia, 47 students are enrolled in the Klappan independent school (Kindergarten to Grade 12) under the control of the Iskut First Nation. In some provinces there is only one French language school board responsible for all French schools throughout the province. Finally, band-controlled schools do not have the infrastructure and support provided to provincial/territorial schools through the district offices of school boards.

¹ Each province and territory retains jurisdiction over education. The Federal Government provides for the education of registered Indians and Inuit people, with the exception of the Cree, Inuit, and Naskapi of Quebec whose education is the responsibility of that province. Funding from the Department of Indian Affairs and Northern Development Canada supports instructional services in on reserve schools (First Nations-operated and federal) and costs of on reserve students attending provincial schools. The Northwest Territories, Nunavut, and Yukon deliver educational services to all residents, including Status Indians and Inuit.

² Based on lists of schools produced by ministries of education and Indian and Northern Affairs Canada that include Kindergarten to Grade 3 and are situated within the North as per our definition.

³ Home schooling or home-based education falls under provincial or territorial jurisdiction and the governing legislation and degree of support, including financial, varies according to the jurisdiction.

Small schools with combined grades are common in many northern school districts and are the reality in every remote area. For example, some provincial schools in northern British Columbia are so remote and isolated that there is no road access. Some have fewer than 10 students spread across many grades; it is not uncommon to find teachers with three or more grades of students in the same classroom (7). Combined grades are considered a particular challenge by northern Francophone teachers (8) teaching in minority language settings. Several First Nations communities are in special access areas and/or remote regions with fewer than 500 residents and a small school with combined grades.

Small remote schools with combined grades are not unique to northern Canada; in Scandinavian countries similar contexts exist. In Iceland, almost 50% of schools outside of the capital and its suburbs (attended by children aged six to 16) have fewer than 100 students. More than half the schools in Finland enrol less than 100 children (especially the language minority Swedish schools), and often schools have only one or two teachers to cover Grades 1 to 9 (<http://www.opf.fi>). In Norway, one-third of young children attend multi-age classrooms (9).

In summary, a small population (133,405) of five- to nine-year-olds from diverse cultures and speaking different languages attend 1,081 schools within a geography that is more than three times the size of the rest of Canada and includes vast distances and remoteness. These children are all learning to read. Their achievement in early reading will have a tremendous impact on their success at school and their educational and economic prospects in adulthood. What does it take to succeed?

GROWING INTO READING

The years before school entry are critical for shaping the profile of cognitive and social skills that children manifest when they reach school. Parenting, childcare environments, and the child's social skills all contribute to the child's language skills, which directly connect to children's reading during their first year in school. The sum total of these influences may define the child's "readiness to read" at school entry (10).

Most children begin school unable to read in any formal sense. They may communicate very well through speaking and listening; some may know that the written symbols (e.g., letters and groups of letters) on a page represent or match the words that they speak and hear every day; and some may even "pretend" to read. But very few young children begin school able to read independently and, even in Canada today, some children begin school without ever having held a book.

When learning to read, children must come to understand that the words they speak and hear can be written down and read. They must figure out what those words and parts of words look like and use their understanding of oral language to identify words and bring meaning to the words and the text as a whole. They must learn to think about their reading, to monitor their understanding as they read and to apply strategies to fill in gaps in understanding. Their general knowledge, rooted in their experiences, culture, values, and beliefs allows them

District 5 -
Conseil Scolaire
Francophone
Provincial de
Terre-Neuve et
du Labrador has
its board office
in St. John's,
Newfoundland,
841 kilometres
(across land and
sea) to the most
northerly French
school in Happy
Valley-Goose
Bay.

to go beyond the text, making inferences and drawing conclusions (11). The focus of this report is reading because while there are many types of literacy, the basic ability to get meaning from print is fundamental to school success (12). We are not asking how well northern children are reading compared with southern children; our interest is how well children are reading within the North.

Outcomes on national and international assessments of reading consistently reveal significant and persistent differences across educational jurisdictions in Canada, between official language groups, by gender, by socio-economic circumstances, and by Aboriginal status (13). These outcomes are not unique to Canada; findings on large-scale assessments in other countries confirm these reading gaps. Data on reading achievement within northern jurisdictions while limited (especially to children whose language is English and who learn to read in English) is consistent with this pattern. Furthermore there is reason to expect that gaps are wider within the North. This is because social capital, or the long-term capacities in communities/school districts which affect achievement but are outside the explicit control of the school (e.g., different social and economic institutions present, joint characteristics of the families in the area) tend to be lower in remote communities, contributing to wider reading gaps for children there (14). We would also expect that the large proportion of young Aboriginal children living in poor and remote northern communities need to be a main focus of efforts to support early reading achievement. There is a pressing need for research specific to northern children, northern communities and schools to examine these issues in full.

Northern children do not grow into accomplished readers by accident. We know that many factors such as health, social, economic, and family circumstances influence children's well-being and development including their development as readers. We also know that many schools in the North face tremendous challenges ensuring that children attend on a regular basis and that adequate nutrition and other necessities are in place to support their learning. In this report, though, our focus is on those learning opportunities that have the most direct influence on reading. Decades of research on reading have provided a very good picture of the learning opportunities young children need. Those learning opportunities are universal for all young children, including northern children. However, the challenge of providing quality opportunities is greater in the North and especially for children from marginalized groups (15).

While we do not have a large body of northern-based research, we can say with confidence that regardless of their gender, background, culture, language or special learning needs, northern children, like all children, need the opportunity to get ready with supportive early literacy environments, get set with language support in school, and get going with excellent school-based reading programs. All schools and communities, including northern schools and communities, face common challenges as they strive to provide quality opportunities. What makes the North unique is the additional challenge of providing a range of relevant quality opportunities for a small, culturally and linguistically diverse population living in a vast and remote region.

In the next three sections we describe those opportunities. For each one we briefly summarize the research evidence from around the world, describe the

Successful reading for children at age nine means comprehending in print much of what they are expected to comprehend when listening to spoken language (11). That definition is relative, not absolute: It is relative to the language of instruction, the language through which children are taught and are expected to learn in school; the language in which they first learn to read.

The development of reading, writing and spelling is interdependent, but *reading* is the focus of this report.

northern context, and identify evidence-based best principles that can guide decision-making to support northern children as they get ready, get set, and get going on the road to reading achievement.

NORTHERN CHILDREN GET READY WITH SUPPORTIVE EARLY LITERACY ENVIRONMENTS

The Evidence

Children’s language and knowledge about language and literacy serve as a foundation for learning to read (16). Long before children start school, they are developing their language and learning about language and literacy naturally, in the context of their home, family, friends and community. Children who begin school with proficiency in at least one language and with some understanding of the conventions of written language (e.g., knowing how to hold a book, or that English, French and Inuktitut are read from top to bottom and from left to right), and with an interest in reading, have a head start learning to read (17). Well before formal reading instruction is appropriate, many informal opportunities for learning language and learning about language and literacy are available to varying degrees in all homes and child care settings. In this section we outline how the literacy environment in the home, the literacy supports available in the community, and the quality of early childhood education environments all contribute to children’s early language and emergent literacy (18).

Early Literacy Environment in the Home

The foundation for reading development begins at home. The home is the child’s first centre of learning and the parents and other family members are the first teachers. Right from the start, language and language use help to convey meaning to children about the culture and identity of their people, and contribute enormously to their values and ways of understanding the world. The extent and nature of language use that children are exposed to and engaged in at home heavily influence children’s language development (19). The literacy practices children observe—for example, parents reading the newspaper and writing letters—convey meaning to children about the relative importance and value of literacy in their home. When children are engaged by parents and other family members in everyday language and literacy activities their language development understanding and valuing of literacy is enhanced (20).

Every parent can engage their child in language and literacy experiences. Speaking with children, story telling, acting out and re-telling stories, singing, rhyming games, and experiences with other family members are all everyday activities that require no material resources and support language development. Every home and community has literacy materials that parents can actively engage their children in to help develop their early understanding about literacy. Printed materials such as currency, flyers, catalogues, and directions on medicine bottles can be used to engage children. Activities like reading recipes together when cooking, reading and following directions on the washing machine, writing grocery lists, and writing messages for the fridge are all everyday literacy practices that support children’s early literacy understanding. Outside the house, reading signs on stores, road signs, and menus at restaurants are all meaningful, informal and authentic literacy learning activities for children. Parents need to

Language and knowledge about language involves more than vocabulary. When more than 1,000 children in the United States were followed from age three to Grade 3, oral language conceptualized broadly (e.g., expressive language and auditory comprehension) served as a better foundation for early reading than did vocabulary alone (16).

understand the importance of early literacy and seek natural ways to use whatever they have to support their children in their own context.

Best Principle: *Parents actively engage their children in supportive, interactive language and literacy experiences.*

The economic resources available to families impact the quality of the early literacy environment in the home. Here the North faces particular challenges. Northern families are less able to afford books and other literacy resources than southern families, as they are often less well off than other Canadians and also live in a part of the country where the cost of living is high. For example, in 2006 a family of four in most isolated communities in the Northwest Territories, Nunavut, or Quebec would spend \$240 to \$320 a week to buy a basic nutritious diet, compared with \$145 to \$155 for families living in cities in southern Canada. The cost of living also varies within northern jurisdictions. The Indian and Northern Affairs Canada Food Mail program (http://www.ainc-inac.gc.ca/ps/nap/air/index_e.html) found in 2005 that in Whitehorse, Yukon, a food basket cost \$163, compared to \$373 in Old Crow, Yukon, a community of 300 people located north of the Arctic Circle with no road access.

Families who can afford literacy resources may not be able to access appropriate materials. It is difficult to buy books in a small remote community without a bookstore or Internet access. Furthermore, resources written in the languages of northern children and that make contact with the children's cultural background are not widely available. Resources in French, for example, may be very difficult to access in some communities.

For some Aboriginal languages, there is no heritage of literature or written work, and in some communities the preservation of an oral tradition through written form is not encouraged (21). Several northern organizations are working to fill the gap in children's literacy materials. In western Nunavut, for example, where Inuinnaqtun is the language used in some communities, reading materials for young children are being produced in that language by the Committee for Original Peoples Entitlement.

Best Principle: *A variety of literacy materials appropriate to the culture and language are available.*

The educational level of families influences children's early literacy environment at home. More enriched early literacy environments are associated with more educated parents, especially mothers. While many northerners are highly educated, academic achievement in the North, as measured by high school graduation rates, is still the lowest in Canada—far below the 77% of Canadian youth graduating with a high school diploma in 2000-2001 (22). In every northern jurisdiction, Aboriginal people over 15 years of age who have not graduated from high school outnumber those who have. The reverse is true for non-Aboriginal northerners except in Alberta, where non-high school graduates outnumber graduates (23). All homes and families have assets to support their children's language and literacy development. The families' role is significant no matter what their level of education or financial resources.

Best Principle: *Parents, especially mothers, have opportunities to further their education*

Languages in Northern Homes: Language (oral and written) is more than a medium for communication. It is a symbol of cultural identity. Every time someone speaks an Aboriginal language or French or English they send an important message about who they are and their respect for the other person in the conversation. Language can be used to establish the power of one group over another. For example, if English is always the language of the media, business, and the school, it gains prestige and status over other languages (24).

There are 114,315 children in the North aged from birth to four years, and the overwhelming majority (99%) has one mother tongue. The mother tongue of 60% of these children is English, while French accounts for 26% of this population, and an Aboriginal language for 10%. For almost all northern children whose mother tongue is English, English is the only language spoken at home. For almost all children whose sole mother tongue is French, French is the only language spoken at home. Most French speaking children live in Quebec where French is the dominant language in the community, the language of the school, the media, and the world of work. The context for French language minority communities outside of Quebec is different. There, English or an Aboriginal language is the dominant language. Studies on children living in Francophone minority communities have found more English being used in homes, and the number of mixed cultural/language families is ever-increasing (25). For some Francophone children attending French language schools, French is not the language used at home.

For 42% of children whose mother tongue is an Aboriginal language, English is also spoken in the home. The perceived status of the Aboriginal mother tongue influences the language and literacy practices in the home and community. For example, more than 30 years ago the small communities within the Lower Kuskokwim School District in Alaska voiced little doubt about the status and important role of the Yup'ik and Cup'ig languages and culture in their villages. Today many of the villages no longer exist in the same level of linguistic and geographic isolation than they once did (e.g., due to the advent of television, increased access between villages and larger centres). The use of English has increased in the communities and the status of the home languages has declined. Communities continue to support the use of Yup'ik language and culture in the schools but less so than before (26).

In Nunavik (in the Arctic region of Quebec), where Inuktitut is the dominant language, mothers with young children who rated their own fluency in Inuktitut as high also rated their children's fluency as high and spoke Inuktitut with their children more often than mothers with lower fluency ratings. Furthermore, mothers spoke in Inuktitut more often with their children than with their partner, suggesting that Inuktitut may be the language of childhood. This is reinforced by the finding that mothers considered fluency in Inuktitut to be more important than fluency in English for the present, while fluency and literacy in English were seen as more important for the future. As the mothers' perceptions of their fluency in English rose, their ratings of their own and their children's fluency in Inuktitut decreased (27).

Best Principle: *Different languages are valued equally.*

Mother tongue is defined as the language first learned at home and still understood at the time of the Census. The Census does not include measures of the proficiency of mother tongue language.

It is important for parents to understand that children learn languages naturally and easily during their early years and that proficiency in more than one language offers cognitive, academic, and economic advantages for children (28). In jurisdictions such as Nunavut, the goal is a bilingual community. Worldwide, children in several northern countries have multiple languages. In Norway, for example, many children speak, read, and write in Norwegian, Finnish, and Sámi. Coordinated bilingualism, where different languages are valued equally preserves for children the links between the mother tongue and culture of their people while providing enriched language environments and experiences.

Inuktitut is the dominant language in the small community of Nouveau, Quebec. In a survey of Anglophone, Francophone, and Inuit residents of that community, all three groups believed that bilingualism is possible, that Anglophone and Francophone children should try to become fluent in Inuktitut as well as their mother tongue, and that early education in the mother tongue is a means to future success. In every language the respondents rated their oral language fluency as superior to their literacy. The gap was wider for Inuit, likely reflecting less opportunity to read and write in Inuktitut due to fewer resources (24).

Best Principle: Learning more than one language is encouraged.

Different cultures hold different values and beliefs about childcare, language socialization, and language use. There are also wide cultural differences in who talks to young children, on what topics and in what contexts, in rules about turn taking, the value of talk, how status is handled in interactions, pause times, and in beliefs about teaching language (19). Characteristics of Aboriginal children's speech and their use of language in different contexts could result from purposeful language socialization processes in their community.

Although there are wide differences in language and language use in northern homes, one common thread unites all—parents and other family members are language models for their children in the home. It is important that all parents support and encourage their children's language and early literacy, and model their language or languages at home so that children can build the strongest language base to support their reading achievement. Parents may need to be reassured that in certain situations, for example, where the mother speaks one language and the father another, there is no harm done and there may even be an advantage for their child.

Best Principle: Parents and other family and community members model their language or languages to their children.

Northern parents' efforts to promote language and early literacy at home are best facilitated by government support—especially for languages that are endangered. This is illustrated well by an example from Scandinavia. There are over 70,000 Sámi living mainly in the Sámi homeland, which stretches across the northern regions of Norway, Sweden, Finland, and the Kola Peninsula of Russia. The Sámi have their own rich language (made up of nine different languages with a number of dialects), culture, literature and way of life. Missionaries had started to introduce formal schooling for Sámi children by the end of 1600s and boarding schools were introduced in the early 1900s. The Sámi language was not used in the classroom, and often not allowed to be spoken, resulting in many who could not read, write, or pass on their mother tongue to their own children. This situation of assimilation was similar in all the Scandinavian countries and continued into the 1960's when demand for reform resulted in the Sámi School. Today, young children can receive preschool

education in Sámi and all school children are entitled to choose Sámi as their language of instruction in schools that have their own curriculum and that offer an education equal to that of public schools (<http://www.samediggi.fi>).

Currently in 2007 there are 12 language-culture centres in Norway where children (preschoolers and school-age) can learn the Sámi language and culture and about 1,300 Sámi children in the Sámi homeland are attending schools where the first language of instruction is Sámi, and are learning to read in that language. Government support was essential and while the context is different in northern Canada there is much we can learn from the Sámi experience.

Best Principle: Governments support languages.

Literacy Support in the Community

Families cannot do it alone. They must be able to draw on appropriate resources and support in their community to facilitate their children's language and literacy development. These include library services and literacy programs for families and children.

Public Libraries: The northern library is one institution that can offer support and reach out to help adults help children get ready to read. The roles of libraries and librarians are changing and are no longer restricted to just an information resource. There are 35 libraries in the Territories, but no count of public libraries in the northern parts of the provinces. Every community in Nunavut has a public library, and virtual libraries consisting of public access Internet workstations are available in some northern communities. In some regions, such as Labrador, families who live more than 15 miles away from any of the libraries can take advantage of the Books by Mail borrowing program, provided free of charge.

Accessing such resources requires quite a sophisticated understanding of literacy, the importance of early literacy, and the motivation and ability to follow through. There is no funding from the Federal Government directly targeted for First Nations public libraries on reserve, and public library services and funding to First Nations from local or provincial governments vary. A 2001 report (29) from Saskatchewan Libraries identifies inequities in library services for First Nations and Métis people in all provinces, and, in particular, inequities for on reserve First Nations. There are still many northern communities that do not "qualify" for a library, so parents and care givers do not have this additional support and neither do schools. A national survey of teachers in French schools in minority settings found more than half of 672 respondents identified a lack of library resources and community resources in French to be a problem (8).

Some northern communities are meeting the library challenge. For example, the community of North West River, located on the shores of Lake Melville, Labrador, started a volunteer library for its residents more than 20 years ago. The town's population of 550 raises funds to hire a librarian and buy books, while volunteers run the library. The library has a children's section, a Book Nook and Kiddies Corner, as well as programs for parents, and for children up to 10 years old.

The Governments of the Scandinavian countries have each established Sámi Parliaments as official representative bodies, with Language Acts that give Sámi the right to use their language in schools and courts, in Norway Sámi is an equal language with Norwegian.

The library represents the visible presence of reading, literacy, and their importance in the community.

Similarly, a group of parents and school personnel in Norway House were concerned that screening showed many children coming into nursery school with undeveloped language. A Roundtable Committee on Early Literacy started a toy and book library for preschool children. Families can attend regular sessions with mini lessons, such as how to use books and tell stories to children. Norway House will hold its second annual parent conference in May 2007.

Northern countries such as Norway and Finland have extensive public library systems. All schools have access to the libraries and some public libraries are located in schools. Several small communities in Canada's north integrate the public and school library to make resources more widely available.

***Best Principle:** All northern families have access to a public library.*

Literacy Programs for Northern Families: Various family support programs in literacy exist in the North. These programs are usually initiated and operated by the community and are funded from a variety of sources, including special grants and volunteer efforts. Family resources centres, recreation departments, nursing stations, and Sunday schools all play a role in supporting children's early literacy development. They offer a range of supports including family literacy programs, and programs designed to help parents stimulate their children's language and early literacy development at home. Much more common in larger northern communities, most support programs have never been evaluated for their effectiveness and cannot count on sustained funding (30).

Nearly all prescriptions for language and literacy facilitation have been developed with French- and English-speaking children and families of European heritage in mind; however a few programs have been adapted to support northern families. For example, HIPPY Canada (Home Instruction for Parents of Preschool Youngsters) is a home based program that helps parents provide educational enrichment for their preschool children. Aboriginal HIPPY is designed for parents in First Nations communities to help their children's linguistic, social, and cognitive skills while respecting Aboriginal culture and languages. Each day parents engage their children with a story book, game, or puzzle. In place in 12 countries around the world, HIPPY research in New Zealand indicates advantages in early reading for six-year-old HIPPY graduates when they begin school, as well as the development of close ties between home and school (31). French HIPPY is currently in development.

Family literacy programs should build on the literacy assets at home. Parents' Roles Interacting with Teacher Support (PRINTS) is a family literacy program directed at parents of children aged birth to about six years old. The values and activities of Aboriginal culture, focused around the medicine wheel as a framework, have been incorporated into Aboriginal PRINTS. The program uses low cost materials like flyers and catalogues for activities, and parents learn how to make and use them in a hands-on manner with their children. Programs are run across Canada from Port Hope Simpson, Labrador, to Thunder Bay, Ontario to High Level, Alberta, as well as internationally. Parents who take part in PRINTS report that they spend more time with their children on reading and writing

Traveling libraries have almost disappeared from northern Canada, but are a way of life in other northern countries. For example, in Sweden, Norway, and Finland, many schools operate library buses that travel to remote communities bringing reading resources (including computer access) to children.

activities as a result of the program, and 87% of the children have a positive attitude toward reading (32). Furthermore, parents are more likely to involve other family members in supporting their young children’s learning and to become involved in their own continued learning (32). Consequently, the program has long term effects on family capacity in early literacy. PRINTS has not yet been produced in French.

Before investing in programs, projects or resources, communities should first determine the needs of their families and design projects that value and build on their available strengths and resources. Programs and resources that build family and community capacity in early literacy represent very good investments for children’s reading attainment.

Best Principle: Funding is available to sustain effective family and early literacy programs.

Literacy Promotion in the Community: Families’ efforts to support language and literacy at home are reinforced when communities promote literacy. Initiatives such as establishing road signs in the language or languages of the community and utilizing community based radio and television are important. Such initiatives represent the importance of language, languages, and literacy in the community. For example, in Norway, children’s television shows include subtitles in Sámi once a week; in Finland the use of subtitles in movies and on TV is widespread; and in Kahnawake Quebec, the Mohawk radio station CKRK promotes the language with stories and legends in Mohawk and story-telling for children on the air (33). Communities can access federal programs (e.g., Brighter Futures), and funding (e.g., Canadian Heritage funds French and Aboriginal Languages Initiatives) to support their efforts.

Best Principle: Communities visibly support languages and literacy

Quality Early Childhood Education Environments

Quality early education environments contribute to young children’s language and literacy development. Early education environments in the north include preschool, Kindergarten and pre- Kindergarten.

Northern Preschools: Research from around the world confirms that good preschool programs facilitate early literacy development and are especially beneficial for children at risk for reading difficulties. Results of a recent national longitudinal study in the United States involving more than 7,000 children indicated that, regardless of family resources, children who attended preschool entered Kindergarten with better developed early literacy skills than those who experienced other types of child care. Preschool attendees continue to achieve at relatively high levels to Grade 3 regardless of the type of classrooms they experienced in school (e.g., size of the classes or the quality of reading instruction). The classroom context mattered much more for children who did not go to preschool (35).

In Quebec, emergent literacy materials and resources for parents, early childhood educators, and others have been produced as part of the Hand-in-hand A-Z project and are available in French and English (<http://www.meq.gouv.qc.ca/dfga/politique/eveil/>)

Canadian preschools and nursery schools are for children usually from ages 2½ to 5 years. Their purpose is to provide early educational or developmental experiences for children (34).

Quality northern preschools make a difference (30). For example, children in some Aboriginal Head Start (AHS) programs in the Northwest Territories maintained reading and language achievement gains made in the preschool years up to Grade 5 compared with their non-AHS peers (36). In the Northwest Territories, children who attended preschool (approximately 50% of children) were rated by their Kindergarten teachers as performing better in reading than those who had not attended preschool (37). Preschool provides the opportunity to identify children at risk and facilitate appropriate programs when they enter school. In the Northwest Territories, 76% of schools with Kindergarten have access to a preschool screening program, and, for 81% of those schools, the screening information arrived at the school in time for programming (37).

Not all children in the North who would benefit from a quality preschool have access, while some parents choose not to enrol their children. In 2001, 80% of Canadian children did not have access to regulated programs, and access was especially deficient in remote communities (34). Preschool experiences in French are available in some northern regions (e.g., Hay, Yellowknife, Iqaluit, Whitehorse, and Labrador City), but in most remote communities preschool in French does not exist. Early childhood is the door/gateway to schooling in French and the establishment of a range of services including French preschools to promote linguistic cultural and identity development during early childhood is essential.

The distribution of resources for Aboriginal early childhood care and development programs is intended to address inequities in educational attainment between Aboriginal and non-Aboriginal children, however, access is severely limited. Only about 30% of Aboriginal children living in the Arctic attend preschool, however of those who do attend, most are enrolled in Aboriginal-specific programs (38).

It is not true that any preschool program is better than none. Programs that offer rich language learning opportunities for children and that use informal learning activities are key. Such programs are staffed by early childhood educators who understand the important role they play in children's early literacy development and fully incorporate literacy building materials into their programs. Educators who model good language use, read with children, and use music, singing, rhymes, and art to build literacy are a tremendous asset for children's early literacy development. Literacy learning at the preschool level should be informal, play and activity based. Many preschool programs lack sufficient emphasis on language and literacy (18), and appropriate resources for northern preschool programs are few. Those in minority language situations must frequently develop their own curricula and materials, placing a tremendous burden on early childhood educators.

The importance of appropriate preschool is recognized internationally and reflected in educational policies. In other northern countries, for example Iceland and Sweden, preschool education is considered the first step in a lifelong learning continuum and the education system is the responsibility of the national ministries of education. The Swedish preschool cares for children from ages one to five years all year round. In 2003, 76% of all children aged one to five years attended. Parents pay a fee which does not exceed 1% to 3% of the family

Young children who live in Norway House Cree Nation in Manitoba can take advantage of Aboriginal Head Start and the Nursery School offered by the Frontier School Division. The Nursery School is provided every day for a half-day for four-year-olds, and is run by a qualified teacher.

Aklavik Child Development Centre and Moose Kerr School in the Northwest Territories work in partnership on literacy initiatives to help bridge the transition from preschool to school. Relevant professional development opportunities at the school are extended to preschool staff to develop familiarity with various school program initiatives.

income, depending on the number of children in the family (39), and children whose parents are unemployed or on parental leave are guaranteed a place in preschool for at least three hours a day. The National Agency for Education is responsible for the preschool system and a national curriculum is in place. In contrast, Canada has no national policy on Early Childhood Education and Care (ECEC), and no national ECEC legislation.⁴

Best Principle: They have access to quality, preschool programs focused on the development of a strong language base.

Language Nests: Some northern children will attend school and learn to read initially in a language that is not their home language. Children learn to read more easily if they bring knowledge of the second language to reading instruction. In an effort to stop the decline of their language, Maori, the Indigenous people of New Zealand, created total immersion Maori language programs for preschool children in the 1980s. Onowar McIvor (40) defines language nest programs as immersion preschool or child care programs conducted entirely in the heritage language of an Indigenous group using traditional teaching methods within an appropriate cultural context.

Revitalization of language is the primary focus of language nests, but they also offer distinct advantages to children who will attend schools where the language of instruction represents a second language. When children are immersed in the second language in preschool they outperform those who begin immersion at age five or six (28).

Aha Punana Leo established Hawaiian medium preschools statewide and provided for the development of small public Hawaiian medium programs grade-by-grade around its matriculating students (41). In Hawaii, fewer than 50 children spoke Hawaiian in the 1980s; now more than 2,000 have been educated through the Hawaiian medium, families speaking Hawaiian at home are increasing, and Hawaii medium education from preschool to graduate education (including teacher education) is in place (41).

Language nests based on the Maori and Hawaiian models have since been introduced in northern Canada; in the Northwest Territories alone there are 20 language nests for preschool children. Language nests have been recommended for those children in Nunavut who do not speak Inuktitut at home but will be taught initially in that language.

Language nests also promise benefits for language minority children who do not speak French at home but will attend French school in the North. Language nests aligned with the language of instruction in school have been introduced in other northern countries for children in language minority communities. For example, in Finland, there are language-cultural centres for children in the Swedish

Aha Punana Leo is the nonprofit Native Hawaiian educational organization founded in 1983. It led the Hawaiian language medium education movement (41).

⁴ The Government of Canada is responsible for Early Childhood Education services for Aboriginal peoples, funds childcare programs on reserves and in northern and Inuit communities including Head Start programs, both on reserve and off reserve. Otherwise, each province and territory has a program of regulated child care which varies across the country. (34).

language minority community. Children learn Swedish there and go on the schools where the language of instruction is Swedish.

***Best Principle:** Language nest programs are available that immerse children in a second language, the language of the school.*

Northern Kindergarten: Kindergarten is available across the North and although it is not mandatory it does provide the first publicly-funded opportunity for all young northern children to access the literacy preparation they need to get ready for reading. Kindergarten is offered across northern Canada by the provincial and territorial ministries of education and by First Nations on reserve. Kindergarten is optional across the North and is usually part-time, with most children starting to attend at age five. Ninety percent of all northern children attend (34).

Kindergarten is important for early reading. While formal reading instruction begins in Grade 1, critical pre-reading skills are developed in Kindergarten. Kindergarten also provides the first opportunity for schools to share expectations for children's reading with parents, to involve them in the program, and to suggest activities for home. An interactive Kindergarten where parents and teachers work as a team to understand and support children is of greater benefit than Kindergarten without this interaction. The more activities parents report taking part in, the better their children do in reading, the more likely they are to be promoted to the next grade, and the less likely they are to need special education services. These findings hold even when differences in family background are taken into account (42).

Kindergarten also serves as the first school-based step in prevention and early intervention for children with reading difficulties. Canadian four- and five-year-olds who enter Kindergarten with the least well developed oral vocabulary struggle with reading at ages eight and nine (43). For children who begin school less ready to read than others, Kindergarten provides the opportunity for teachers to identify gaps and address them. When early identification and intervention are successful, children enter Grade 1 ready to read.

In some northern areas Kindergarten is a full-day program. There is some evidence that full-day Kindergarten is more effective than half-day in promoting children's emergent literacy development, especially for children at risk for reading difficulties (44). However research has not been conducted that disentangles program and teacher effects so it is not clear which full-day programs are advantageous and why. There is also evidence that small class sizes in Kindergarten are especially beneficial, but here again the effects of teacher, program, and other factors have not been established (30). Canadian research on Kindergarten is badly needed; especially research that disentangles the effects of these factors and follows children to determine long term outcomes on reading achievement.

***Best Principle:** Children attend a Kindergarten where teachers, parents, and staff work together to support language and early literacy.*

Finland has a population of 5.3 million and is a bilingual country whose students are consistently among the highest achievers in world-wide assessments in reading, mathematics, and science. Education begins with optional pre-school and day-care centres, and compulsory education starts at age seven. Basic education, including books, materials and one hot meal a day is free of charge. The language of instruction is mostly Finnish or Swedish, with Sámi and Roma in some schools.

Since 2003-2004, the Beaufort Delta Education Council in the Northwest Territories has invested extra funds to offer full-time compulsory Kindergarten to support learning in early literacy and mathematics. The Council has made a commitment to continue to offer full-time Kindergarten classes as long as funds are available.

Pre- Kindergarten: In some northern areas, school programs are offered for younger children (e.g., northern Alberta for children with disabilities, Manitoba, Ontario, Quebec (low-income children only) and the Yukon). Some research suggests that pre-Kindergarten programs are especially beneficial for children at risk (30). Pre-Kindergarten is available in some northern Saskatchewan communities including Creighton, La Ronge, and Sandy Bay. It is designed to be developmentally appropriate and include early intervention programs founded on Saskatchewan's Kindergarten curriculum. Programs include language and speech interventions, and involvement of Elders, parents, and families. Some programs are supported with partnerships between school divisions and local human service/childcare agencies.

The Parents as Early Educators Program (P.E.E.R.) has been operating in Norway House Cree Nation in northern Manitoba for 10 years. Formed originally through a partnership between Norway House Cree Nation and the Frontier School Division as a pilot project, its success led to its expansion into other communities with full funding from the School Division. The goal of this program is to get parents to see themselves as their child's first teacher and to feel a part of the school community when their children start school. The P.E.E.R. Program provides supports to parents through home visits and mentorship. Every child born in the community is registered, and parents can choose to opt in or out of the program. The children are followed until school, with home visits to those prioritized as high risk or special needs. Through this program specialists from the Frontier School Division, such as speech pathologists, can help bridge the transition to school with early assessment, which otherwise wouldn't take place till age four.

***Best Principle:** Coordinated, integrated early literacy experiences involving the home, preschool, and school are in place.*

For northern children, compulsory schooling begins at age six, except in northern Manitoba and Saskatchewan where it begins at age seven. The Ministry of Indian and Northern Affairs requires that students begin school at the age mandated by their province or territory. In other northern countries the age at which compulsory schooling begins varies as it does in the Canadian North. In Finland, Sweden, and Denmark, compulsory schooling begins at age seven. Norwegian and Icelandic children begin school at age six.

Conclusions

Long before they begin school, challenging environments help get northern children ready for reading. Families, with support from the community, provide children's early literacy environments. Linguistic and cultural diversity together with the costs of northern living and relative geographic isolation pose significant challenges for families and communities. Resources and programs are often unavailable, and when available they may not be culturally and linguistically relevant or respond to community needs. Short-term funding means that many promising programs are not sustained. There are significant gaps in research to support the development and evaluation of programs and services in language and early literacy in the North. Jurisdictional issues complicate the establishment

There is no evidence that a child's age when reading instruction begins is directly related to reading achievement. What make the difference are the child's early literacy development, and the quality of reading instruction in school.

of seamless integrated early literacy experiences involving children, families, and early childhood and primary school educators. Nonetheless, every northern family and community has assets to support children’s early literacy and many are providing enriched early literacy environments for young children as celebrated in the success stories outlined above.

NORTHERN CHILDREN GET SET WITH LANGUAGE SUPPORT IN SCHOOL

The Evidence

The development of language and reading go hand-in-hand for young school children (16). Language is the link to the child’s family, cultural background, knowledge, and experiences. Language helps children connect what they are reading to their own lives. The more connections children can make the better their understanding of what they are reading and the greater their ability to think beyond the text (45). Language support in school facilitates learning to read, and teaching that includes an emphasis on oral language is important for all children, especially those with limited language experience and opportunities (46). By Grade 4, children are expected to read well enough to learn from textbooks and other materials and to write what they know and think (18). This means children need sufficient reading and language proficiency to understand and learn abstract concepts and content often in subject areas that have their own technical language (47). The child’s language, the language of instruction in school, and the match between the two influence how well and how quickly children achieve that proficiency in one or more languages (48, 28, 18).

Language of instruction is the language that is both the medium (that children learn through) and the object (that children learn about) of instruction in school.

Building on the Language Children Bring to School

All children need language support in school to facilitate their development as readers. It is much easier to learn to read (identify and understand) words that you already know because you use them every day when speaking and listening. The more connections children make between what they are reading and their prior knowledge and experience, the more meaning they get from print and the better able they are to think about what they are reading, to make inferences and draw conclusions (45). Every primary classroom should be a language saturated classroom in which teachers engage children in dialogue, model language use, encourage discussion and elaboration of ideas, and teach children about and to think about language and language structure. In language saturated classrooms, teachers take every opportunity to help children expand their language. The more expansive the child’s language, the stronger their language bridge to reading. Oral language support is especially critical for children who have had restricted opportunities for language and conceptual development prior to school entry—for example, children from low-income families (46). Language saturated classrooms do not come prepackaged. Instead they depend on teachers who understand the interdependency of language-reading-thinking, know the language well enough to reveal how it works and can be used, and give children feedback on their oral communications (49).

Best Principle: Teaching is focused on building proficiency in the language of instruction.

Northern schools must be prepared to teach reading to children whose home culture may have values about talk and language that differ from those of the school. These children include those whose culture values listening, observing, and doing as a major mode of learning. As well, some northern children do not have a strong language base in any language at school entry. For example, the most prevalent form of developmental delay reported among northern Aboriginal children is speech language delay. Some children use a nonstandard variety of English at home and in their communities (19).

Children in smaller remote communities may develop a restricted language code or a communication system that relies on non-verbal gestures, such as facial expressions. This system of communication may be fully functional in their home community but does not prepare them with the language base necessary to learn to read well early (19). For example, the small community of Mayo in central Yukon has 500 people, 60% to 79% of whom are Nacho N’Yak Dun citizens. For some Nacho N’Yak Dun children, the importance of daily reading, writing, and speaking grammatically correct English is not fully understood and applied at home, putting them at a disadvantage when the language of the school is English, as is the case in the Yukon (50).

Research on the impact of cultural differences in language and communication on children’s reading is desperately needed. That work is necessary to develop effective teaching strategies that build on children’s language. Such research should examine the impact of children’s language and communication on teacher expectations. Teachers must validate the language children bring to school to motivate children to learn and use the more standard language used in school.

***Best Principle:** Teachers validate and build on the child’s language and communication.*

Language of Instruction

In an ideal world, all children would come to school with well-developed language—the same language used by their teachers and their community, and the same language that preserves the culture and identity of their people. This language should be the language of instruction that children hear and use every day in their school and the language in which they are first taught to read. By reinforcing language, culture, and ways of understanding the world that are consistent with those at home, children are offered real access to reading (51). Around the world, children perform better on reading assessments when the language of the assessment matches the language of instruction, which matches the child’s home language. This is the case in Canada (52), and in other countries, including Norway (9), and New Zealand (53).

For some Aboriginal children, an Aboriginal language is their language at home and in school. There is little research on the development of reading in Aboriginal languages, but the work that exists supports the conclusion that Aboriginal children learn to read more easily and better if taught initially in their home language. In Nunavik (Northern Quebec), Inuktitut is the dominant language and children are taught in Inuktitut from Kindergarten to Grade 2 and

Official languages across the North are: Inuktitut, Inuinnaqtun, English and French in Nunavut; Chipewyan, Cree, Gwich’in, Inuinnaqtun, Inuktitut, Inuvialuktun, North Slavey, South Slavey, Tâchô, English and French in the Northwest Territories; English in the Yukon and all northern provinces except Quebec; and French in Quebec.

switch to instruction in English or French in Grade 3. Findings from a longitudinal study that included measures of early literacy showed that Inuit children taught in Inuktitut demonstrated the same pattern and level of achievement in oral language and early reading shown by mainstream children taught in their first language. The children's progress in English is good although obviously not as high as their achievement in Inuktitut. Progress in English is likely related to the widespread use of English in the community and in the media (54). In comparison, Inuit children instructed in English or French from Kindergarten to Grade 2 showed poorer achievement in reading and oral language in both their first and second languages.

Cree is the language of instruction from pre-Kindergarten to Grade 3 in the Cree schools in James Bay. In Nunavut, children are taught in Inuktitut or Inuinnaqtun to Grade 3 (although not all of the children speak those languages at home). Elsewhere in the North, instruction in the Aboriginal languages for children whose home language is an Aboriginal language is not widely available (55).⁵ In the Northwest Territories, communities and schools elect which language to focus on from among the 11 official languages (56). Currently there are no schools for young children there where the language of instruction is an Aboriginal language.

***Best Principle:** The language at home is the language of instruction in school.*

Time to Develop Proficiency in the Language of Instruction

In Canada today we expect all children to learn to read well enough to support their continued success in school. Typically this has been interpreted to mean that children should be able to read well by age nine or by the end of Grade 3. There is nothing magical about age nine—instead it represents the age when most children move from the primary grades, where 40% to 50% of instructional time is focused on teaching written language, to Grade 4 where the amount of reading instruction decreases, new subjects are introduced, and children are expected to read well enough to learn from textbooks and other written material and to write what they know and think (18). The language associated with mathematics, science, and other school subjects is different from the language of ordinary conversation and the language of the playground (57). By the end of Grade 3, children who have not developed sufficient proficiency to support learning through reading begin to fall behind in school (46).

Most of this research has been conducted with English speaking children learning to read in English. Little is known about the timeframe for children to develop proficiency in different language of instruction contexts. Successful reading for children at age nine has been defined as their comprehending in print much of what they are expected to comprehend when listening to spoken language (11). That definition is relative to the language of instruction. Consequently, the timeframe for achieving good reading must take into account the child's language of instruction, the language that is both the medium (that children learn

Khew Waciston (Eagle's Nest) School in Onion Lake, Saskatchewan, is operated by Onion Lake Cree Nation and has a Cree Immersion program for students in Nursery School to Grade 2 (Grade 3 will be added in 2007/2008). All subjects are taught in Cree and based on Saskatchewan Education objectives. At the school they develop their own Cree resources, and translate other books and materials into Cree.

Through the James Bay and Northern Quebec Agreement, the James Bay Cree and the Inuit of Northern Quebec have special language education rights.

⁵ With the exception of the Northwest Territories and Nunavut, Aboriginal languages do not have federal, provincial or territorial recognition as official languages in Canada.

through) and the object (that children learn about) of instruction in school. For many northern children the language of instruction is the language of their home and of the community. For others, it represents a second language, one that they are first exposed to in school—one that may or may not be the dominant language in the community. The time to develop proficient reading will not be the same in all circumstances. Research to establish these timeframes is critical.

Best Principle: *They read well enough in the language of instruction to support continued school success.*

When instruction is switched to a second language before children achieve proficiency, it can result in imperfectly learned second language and sometimes underdeveloped first language. This is a vital consideration for some northern schools and communities where bilingual programs switch the language of instruction and where schools cannot guarantee the availability of teachers proficient in the relevant language from year to year. Ian Martin found that the present language instruction model in Nunavut, which provides instruction in Inuktitut to Grade 3 then in either French or English, can result in imperfectly learned second language and sometimes undeveloped first language (58). He calls for a strong bilingual program with several models to suit the specific population, language, and circumstances of the community (58). Martin maintains there is every reason to believe that, under a strong bilingual program, Nunavut students' English and Inuktitut skills will improve significantly over today's level (58).

Research from Nunavik supports the concern about the length of time children spend learning in their first language. In Grade 3, children in Nunavik move to programs where English or French is the language of instruction. Although their early language and reading development (to Grade 2) is good in both Inuktitut and their second language, there is considerable concern that the children experience difficulty learning subject matter when the language of instruction is switched to English or, especially, French. This is related to poor reading skill in the second language. These children do not appear to have sufficient academic reading and writing skill (i.e., ability to understand text in curriculum areas and go beyond the text to draw inferences and conclusions). Even when using the second language in conversation, they have difficulty in contexts where few contextualized cues are present (e.g., social studies). Furthermore, their language development in Inuktitut does not continue to grow as well as might be hoped once they reach Grade 3 and beyond (59), and their self esteem also suffers. Although high while they are taught in Inuktitut, personal self esteem steadily declines from Grade 3 on as the children move to English or French (54). A more gradual transition to the dominant second language program has been recommended (48). The language expansion beyond Grade 3 is dependent on the development of teaching resources in Inuktitut and the availability of more teachers qualified to teach in the language.

Best Principle: *Strong bilingual programs that continue the first language as the language of instruction beyond Grade 3 are implemented.*

Inuktitut may be perceived as the language of childhood by teachers in Nunavik. Many see the child's mother tongue as a medium to ease children's transition into school but do not understand that children's knowledge of their mother tongue has beneficial consequences for their reading and school success (59).

Learning to Read in More than One Language

Time invested in developing first language reading works to the advantage of second language reading. Children who learn to read in one language can transfer their reading skills (e.g., prediction, self-correction) when learning to read in a second language (60), and children who spend more time learning to read in their first language achieve excellent academic results in both first and second languages. Although the surface aspects of different languages (e.g., pronunciation) are clearly separate, there appears to be an underlying cognitive/academic proficiency, common across languages, that makes the transfer of literacy-related skills possible (28).

The effects of learning to read in a second language on first language reading have been positive in virtually all studies. For example, when gender, socio-economic background, and parents' education are taken into account, the 2000 Program for International Student Assessment (PISA) literacy scores show that French immersion students outperform their counterparts in non-immersion programs when reading in English (61).

The Fort Defiance Elementary school in Arizona serves children who mostly speak English but they learn to read initially in Diné (Navajo). Kindergarten and Grade 1 instruction is exclusively delivered in Diné. Instruction through English is introduced in Grade 2 and gradually increased until Grade 6 where 50% of instruction is through English and 50% in Diné. At Grades 3 and 5 in English reading writing and mathematics, children in the immersion program out perform those in English medium programs in the district on the Arizona state measure, the Arizona Instrument to Measure Standards (AIMS) (62).

The goal to read and write for success should provide a platform for the subsequent development of literacy in other languages (11). Proficiency in more than one language can only be achieved if students bring a strong base in their home language to support second language learning.

***Best Principle:** They are proficient in and knowledgeable about at least one language, which scaffolds their learning of other languages.*

Advantages: The development of language and literacy in more than one language entails no negative consequences for children's academic, linguistic, or intellectual development. On the contrary, the benefits for children extend to enhanced development in several areas of cognitive functioning and educational achievement (28,47). This offers advantages and opens new doors and opportunities. Northern Aboriginal communities across Canada are virtually united in their desire to have their children maintain and grow their language and culture on the one hand, while simultaneously preparing them to compete in mainstream languages and cultures. Many Aboriginal languages are under threat, and in some jurisdictions language revitalization is pursued in part through language of instruction in school. There are examples in Canada and other jurisdictions where language revitalization and bilingual education have

In Finland, instruction is in one's mother tongue (Finnish or Swedish), with a compulsory first foreign language begun in Grade 3 (90% of children choose English), and a second introduced in Grade 7. Students frequently elect to study a third language in Grade 8. In Norway, children learn to read and write Bokmaal and Nynorsk (the two forms of official written Norwegian), study English as a foreign language from the primary grades, and in Grade 8 choose a second foreign language (9).

advanced successfully. The Kahnawake Mohawk immersion program in Quebec and the program at the Nawahi School in Hawaii are two examples.

Established in 1989, the Kahnawake Mohawk immersion program was the first Aboriginal language immersion program in Canada. Today, more than half of the community's children study entirely in Mohawk to Grade 3. In Grades 4 to 6, 60% of instruction is in Mohawk and 40% in English. The program also includes a nursery school for early immersion (63).

Longitudinal evaluation of the children's English language skills showed that by Grade 3 children in the Mohawk immersion program performed as well as average Canadian children on the vocabulary, mathematics concepts, and mathematics computations of the English Canadian Test of Basis Skills. The third graders could not read the English used in the other subtests (e.g., reading comprehension, mathematics problem solving), but when the tests were read aloud their performance was equivalent to average Canadian children. In Grade 4, children could read all the subtests and with the exception of spelling scored on a par with children in the rest of Canada. After one year of instruction in English, immersion students performed as well as students in English programs (a lag in spelling is a common finding in studies of immersion) (63).

Initially, the Mohawk immersion program was chosen only by a minority of parents until studies demonstrated that the English skills of the students did not suffer in the long run, findings which parallel those of English-speaking children in French immersion. The program is now over-prescribed, and only the lack of qualified teachers prevents more children from attending.

The Kahnawake program was modelled after Canada's French immersion program, which has been used as a model in countries including: the United States (English-French), Finland (Finnish-Swedish, Finnish-Russian, and Finnish-French), Estonia (Russian-Estonian), and Japan (Japanese – English) (64). The Kahnawake program has become a model for other Aboriginal communities in Canada.

In the Nawahi School in Hawaii, the language of instruction is Hawaiian and the school develops high fluency and literacy in Hawaiian as a primary language and English as a second language. Formal teaching of English language arts begins in Grade 5 and consists of a single class each semester from then on. English is not used as a medium of instruction in other classes. Children's oral and reading fluency in English increases throughout the elementary grades (when it is not taught) and is at par or superior to students from English medium schools at graduation. The benefits for Native Hawaiian students is a much higher level of fluency and literacy in their indigenous language plus psychological benefits to their identity that encourage high academic achievement and pursuit of education to the end of high school and beyond. Native Hawaiians have a low academic profile in the public schools and a lower graduation rate than other ethnic groups. The Nawahi School has a 100% graduation rate and college attendance rate of 80% since its first graduation in 1999 (41). Although the context is different in small remote northern communities, there is much that can be learned from experiences elsewhere.

Our recommendation is to build within the context of your own history and community conditions while opening your eyes internationally for inspiration (41).

Best Principle: They learn to read and speak in more than one language, increasing their cognitive, social, cultural, and economic pathways and opportunities

French Language Minority Schools

Canadian legislation recognizes minority language rights, which include the right to schooling in French for French-speaking minorities in English-speaking areas, and in English for English-speaking minorities in French-speaking areas. French language schools are found in all northern provinces and territories outside of Quebec, and English language schools are found in northern Quebec. Access is not universal but is restricted to those communities where numbers support the operation of a language minority school. Many northern French language minority schools are small, and exist in communities where English or an Aboriginal language is the dominant language.

In other northern countries with more than one official language, instruction is available in those languages. For example, in Finland, access to Finnish and Swedish instruction is legislated. As in Canada's North, however, even a legislated right to schooling in a language does not guarantee access. Issues such as not enough teachers available to instruct in the language, or not enough children who speak the language to support a publicly funded school can curb or prevent access, and are among the factors influencing language of instruction in official minority languages around the world.

Minority language schools face unique challenges teaching reading—challenges that are magnified in northern communities. Teachers are difficult to recruit and retain, and resources for teachers in French are difficult to access. Children attending French schools may not speak French at home, and the French language and culture may seldom be heard or seen beyond the school walls. These challenges are reflected in outcomes on national and international assessments of reading. These outcomes consistently reveal significant and persistent differences in reading achievement between official language groups. For example, in 2003, only Finland outperformed Canadian 15-year-olds in reading on the Programme for International Student Assessment (PISA). Despite these overall results, in Canada significant and persistent differences are found between official language groups, except in Quebec (13). These differences are replicated on the Pan-Canadian Assessment Program (PCAP), which includes a sample of 13- and 16-year-olds from each of the northern provinces and territories.

These outcomes are not unique to Canada. Around the world, children in language minority situations perform more poorly than the majority in reading. Specific countries include Norway (9), Finland, New Zealand (53, 65), the United States (66), and Australia (67). Although many factors contribute to these outcomes, initiatives and opportunities that help children establish a base in French language and culture before they enter school (e.g., language nest described in the previous section), and help schools recruit and retain teachers who are well prepared to teach reading in French within a northern language minority school are critical.

Best Principle: Opportunities that respond to the challenges faced by northern language minority schools are developed.

Conclusions

In many northern communities, decisions must be made by the school, the community, and parents about the language of instruction in the school. There are several factors influencing those decisions including language rights and the centrality of language to culture and identity. Families with more than one language may want their children taught in the majority language, or in the minority language, or in a bilingual program. The availability of qualified teachers proficient in the language of instruction limits options, as does the limited teaching resources for the many languages of the North. Parents, schools, and communities faced with these challenges must weigh the costs and benefits associated with decisions about the language of instruction, including the impact on children's reading. The child's home and school environments have substantial effects and many children learn to read well in the different language of instruction contexts. Resources, the community vision of language and education, and the role of literacy in the language of the home, community, and school all play a role. There are no easy answers and no "one size fits all" model.

NORTHERN CHILDREN *GET GOING* WITH EXCELLENT SCHOOL-BASED READING PROGRAMS

The Evidence

Excellent classroom instruction delivered by skilled and motivated teachers is the key to ensuring that children become effective readers. Excellent teaching transcends language of instruction, background, or aptitude of children and gets children going on the road to reading success. While there is no simple or single model, in the past 35 years considerable research has been conducted and consensus reached about the knowledge, skills, and supports children need for reading success, and about how to deliver them in-classrooms. School-based programs that integrate organizational issues with coherent classroom instruction and that recognize, respect, and incorporate the characteristics of the community they serve are key (68,69). In this section we outline the five essential and interactive components that make up an excellent school-based reading program: committed leadership; articulated standards with data used to monitor progress and inform instruction; a comprehensive approach to reading instruction; effective intervention for children experiencing difficulties; and the resources, support, and professional capacity to ensure effective delivery (18).

Leadership

An excellent school-based reading program does not just appear—it begins with leadership. When educational leaders communicate that early reading is the number-one priority, and that success in early reading is the expectation for every child, the stage is set for establishing excellent reading instruction.

School principals who continuously promote the importance of reading (e.g., all school prizes are books, family literacy evenings at the school) and celebrate children's success (e.g., drop everything to listen to a child read) send a clear message to the whole school community about what counts. When reading is the instructional focus in the early grades, then organizational issues (e.g., timetabling) are addressed in ways that give priority to reading (e.g., an uninterrupted two-hour block of reading and writing instruction first thing in the

At the school level, the principal is key for encouraging ownership of reading achievement among students, teachers, parents and the school community

morning). Principals also need to play an active role ensuring the appropriate environment and supports are in place for effective reading instruction and monitoring what is actually happening in classrooms. This is leadership with “legs.”

Ownership, responsibility, and accountability go hand-in-hand and children’s achievement is enhanced when they, their parents and teachers have a personal investment in the outcomes (70). Leadership that encourages ownership brings people (e.g., teachers, parents, Elders, community members) and organizations together to work in partnership around early reading. The principal’s efforts must be supported by leadership throughout the system. Leadership like this does not require a strong background in early reading. Instead, the qualifications are an understanding of the vital importance of good reading for school success, the unswerving belief that with excellent instruction all children can learn to read well, and the commitment to see that it happens.

Best Principle: Educational leadership promotes the importance of reading and ensures effective instruction.

Standards and Assessment

The second component of an excellent school-based reading program is reading standards or expectations that specify what children should know and be able to do as readers. Without standards or “something to shoot for,” teachers, schools, and school systems have little to guide them. Standards are not enough. Educators need to know how well the individual child, school, or system is actually doing in relation to the standards. Measures or assessments aligned with curriculum standards are essential to track progress effectively, provide meaningful information about strengths and weaknesses in reading instruction, and direct improvement (71, 72). There is no “one size fits all” standard or measure. Measures aligned with curriculum expectations must be specific to the language of instruction and the cultural background of the children.

Best Principle: Valid, culturally and linguistically relevant measures aligned with curriculum expectations are used.

In British Columbia, the provincial assessment has been linked to national and international reading measures, making it possible to incorporate international benchmarks in provincial reports (73).

How do northern teachers, schools and school systems go about establishing reading standards and how do they measure progress? The Yukon, the Northwest Territories, and all the northern provinces have system-level standards and require students to participate in system-wide reading assessments. These assessments differ in terms of the earliest grade levels that participate (Grades 3 to 6), the format of the assessment (e.g., multiple choice or elaborated written responses), and whether standardized or criterion referenced measures are used (see Table 2). Criteria for modification (e.g., given more time to complete or ascribe assigned) and exemptions from taking the assessments vary across jurisdictions. System-wide assessments are usually available in English and French. Little is known about “the fit” between large scale assessments and the different cultural and linguistic populations of the North. How, for example, do Inuit children interpret items on these assessments?

Table 2: System-wide Compulsory Reading Assessment in Northern Jurisdictions by Earliest Grade Administered, Language, Frequency, Type, Response Format, and Outcomes

Jurisdiction	Grade	Language	Frequency	Type	Format	Outcomes
Alberta	3	English	Annual	Criterion referenced Performance based	Multiple choice Written response	1 of 3 categories
	6	French				
British Columbia	4	English French	Annual	Criterion referenced Performance based	Multiple choice Written response	1 of 5 categories
Manitoba	3	English French	Annual	Classroom based work	Multiple measures	1 of 3 categories
Newfoundland and Labrador	3	English	Annual	Criterion referenced Performance based	Multiple choice Written response	1 of 5 categories
Northwest Territories	1	English French	On-going	Classroom based work	Multiple measures	Functional Grade level
	3	English	Annual	Criterion referenced Performance based	Multiple choice Written response	1 of 3 categories
	6	French				
Nunavut	na*					
Ontario	3	English French	Annual	Criterion referenced Performance based	Multiple choice Written response	1 of 4 categories
Quebec	6**	English French	Annual	Performance based	Written response	1 of 4 categories
Saskatchewan	na***					
Yukon	3	English	Annual	Criterion referenced Performance based	Multiple choice Written response	1 of 3 categories
	6	French				

** La Commission Scolaire Francophone du Nunavut, has a compulsory criterion referenced reading assessment in French at the beginning and end of each year, starting in Grade 1. It is teacher-based.

** Quebec Grade 4 students may receive an optional annual assessment in reading, similar to the compulsory Grade 6 assessment.

*** Saskatchewan divisions are offered an optional criterion referenced and performance based reading test in English and French for Grade 4 students every two years. It also has student and teacher questionnaires.

Many band authorities are reluctant to require their schools to participate in provincial assessment programs because of concerns regarding control, cultural bias, and unfair comparison of schools (74). Conclusions about early reading that can be drawn from system-wide assessment are limited to the particular assessment used, how well the assessment is aligned with curriculum standards, and the population involved (71). Considerable expertise is required to analyse system-based data on reading achievement and understanding how that data relates and does not relate to policy and practice at the classroom, school, and system level. Such expertise is both costly and in short supply within the education system, and the misuse of findings from large scale assessment is a real concern (72).

Best Principle: *System-level reading assessment information is fully understood and used appropriately in educational decision-making.*

When system-level assessments are not aligned well with curriculum standards, the information from the assessment has limited usefulness for informing policy or practice to improve reading instruction. Consequently, many northern jurisdictions are establishing performance expectations in reading to monitor young children's reading achievement in Grades 1, 2, and 3, and to inform reading instruction at the local level. For example, in the Northwest Territories, the Alberta Achievement Test is the measure used for system-wide assessment. This test, however, is not directly aligned with the curriculum standards, and in 2004-2005, assessment of Functional Grade Level was introduced to add to and balance out the limitations of the Alberta Achievement Test. Using a variety of classroom-based assessments, teachers determine the grade level each child has worked within for most of the school year. In 2004-2005, teachers reported that 80% of first graders, 74% of second graders, and 69% of third graders were reading at or above grade level (that same year, 61% of the Grade 3 children met expectations on the Alberta Achievement Test). The decrease in the proportion of children reaching the standards is a concern, as is the fact that in the communities, only 53% of Grade 3 children were reading at grade level. With these data, educators in the Northwest Territories are establishing baseline statistics against which progress can be measured and improvements planned (75).

Individual schools and schools boards are also developing early reading standards and aligning them with assessments. In the Northwest Territories, the South Slave Divisional Educational Council (SSDEC) developed Kindergarten to Grade 3 reading and writing benchmarks or indicators, which are offered online as a teacher's resource. Standards aligned with assessments for reading achievement in Aboriginal languages are emerging. For example, in the Kitikmeot School Board in Nunavut, language consultants developed standards/expectations for young children's reading, writing, and speaking in Inuinnaqtun and English. A support document was published for teachers that includes advice on assessment and concrete examples of children's work that illustrate the expectations at different grade levels. Curriculum expectations and assessments for reading and writing in Yupik have been developed in Alaska.

Finland has no national or system-wide assessment. National standards, tied to a national curriculum and aligned with assessment at the classroom level, guide instruction in the classroom.

High frequency words, informal reading inventories, and levelled books in Yupic were put in place to monitor children's progress and inform instruction (26).

Best Principle: Performance expectations in reading are established by all school jurisdictions and in each of the languages of instruction.

The cultural and linguistic diversity of northern children poses particular challenges in terms of reading expectations and assessment. The different definitions, purposes, and histories of reading and literacy among northern populations must be reflected in how and by whom standards and assessments are developed. Measures developed with southern metropolitan populations are not a good fit with the background and experiences of northern children. How do northern children in remote communities interpret words like subway, high-rise, or fast food restaurant? Where in the assessments do we find themes reflecting life in the North like hunting, ice fishing, and travel over the ice road? Reading standards and measures in French are available but were designed in Europe or in the United States and translated into French. Research is underway in Canada to establish normative information and reading milestones for children learning to read in French, including in French language minority schools and communities (<http://www.cllrnet.ca>). Those milestones should lead to standards and associated measures. These must be adapted to reflect life in the North for French children.

There has been no systematic collection and analysis of normative reading data for children learning to read in Aboriginal languages. What are the expectations for reading development in Inuktitut, Cree, and other Aboriginal languages? Without normative data it is very difficult to establish viable standards and measures. In New Zealand (53), researchers established normative information on reading development in the Maori language for children during their first 17 months in school. This has the potential to set realistic expectations in reading for the first two years in school, to locate student performance in relation to a cohort group, to develop clear profiles of overall achievement, and to meet monitoring and reporting requirements (76). The work in New Zealand is rooted in the Maori world view, and research and frameworks of this kind are badly needed in northern Canada.

Best Principle: Developmental milestones on children's reading in each of the northern languages of instruction are available.

A Comprehensive Approach to Early Reading Instruction

The third component of an excellent school-based reading program is comprehensive instruction. Effective early reading instruction enables all children to become fluent readers who understand what they are reading, apply their knowledge in new contexts and are motivated to read. The main goals for reading instruction are **fluency** or the ability to identify words accurately and quickly, **comprehension** or the ability to understand reflect on and learn from text, and **motivation** or the interest in and desire to read. A comprehensive approach to early reading instruction addresses all three goals well and for all children. There is no strict "recipe" for comprehensive instruction, but the essential elements include sufficient time dedicated to reading each day and strategies that build fluency, comprehension, and motivation (68).

Fluency requires knowledge about how sounds are connected to print. Fluency allows children to read with increasing enjoyment and understanding, and is critical for continued development in reading. There is considerable research on the importance of teaching children how to connect the sounds that

they hear with the print on the page (69) although most of that research has been conducted with children learning to read in English. The degree of explicitness with which sound to print knowledge skills, and strategies are taught is particularly important. While an informal approach to reading instruction may be effective for some children (mainly those with an abundance of literacy knowledge at school entry), other children, especially those at risk for reading difficulties, require a more structured approach. The effectiveness of reading instruction is increased and the number of children experiencing difficulties reduced when early reading instruction includes explicit teaching of sound-symbol knowledge and strategies. For example, the reading achievement gap between English speaking Maori and non-Maori children in New Zealand was eliminated by the end of Grade 2 when instruction included explicit teaching of sound-symbol relations (69).

Although there is no published research examining the effectiveness of teaching sound-symbol knowledge and strategies to children learning to read in Aboriginal languages, there is no evidence to suggest that it would not be critical. There are strong phonological influences on word identification across languages (77).

Teaching sound-symbol relations is part of reading instruction in many northern schools where an Aboriginal language is the medium of instruction. For example, in two schools within the Kitikmeot region of Nunavut, the language of instruction is Innuinaqtun, a language that utilizes Roman orthography. Charts in the classrooms illustrate the sounds made by Roman and syllabic orthographies. Research is desperately needed to guide the teaching of sound-symbol relations in Aboriginal languages, including the development of resources for teachers.

Understanding is the purpose of reading. If children can identify words but do not understand what they are reading then they are not achieving the goal of reading. Comprehensive instruction helps children build on and use their language, background knowledge, experience, and values to make sense of what they are reading. It teaches children to think about reading, how to monitor their understanding, how to figure out what they know and need to know to make sense of text. It includes strategies to build oral language, explicit teaching of reading comprehension strategies, and teachers' modeling language and strategy use themselves (45).

Meaningful practice with reading materials that are consistent with the child's cultural background serve as a bridge to reading and scaffold the development of children's fluency and comprehension. Through practice, children strengthen their reading ability, come to see themselves as good readers, and develop an increasing interest in and desire to read coupled with the expectation that they will succeed (68).

Best Principle: *They receive comprehensive reading instruction that includes strategies that build fluency, comprehension, and motivation to read.*

There are two different ways people in Nunavut write Inuktitut: in Roman orthography and syllabics. The syllabic writing system has 60 characters, with most of them representing complete syllables. For example, NU in Roman orthography is represented by one symbol in syllabics. http://langcom.nu.ca/languages/en_writing.html

Early Intervention: Even with excellent comprehensive instruction, some children will not progress as well or as rapidly as expected. Some will need more time and help than others, but all children must ultimately master the same basic skills for reading, fluency, comprehension, and motivation. Children who experience difficulties learning to read, even those with identifiable learning disabilities, do not need radically different instructional support, although they may need more intensive support (18). These children require and will benefit from early intervention.

It is important that the teacher identify these children as soon possible as intervention in Grade 1 is much more effective than intervention later on. Early intervention for reading involves additional instruction specifically designed for the individual child or a small group of children. Additional instruction means additional to, not instead of, regular classroom instruction. It should build on classroom instruction so that similar teaching strategies are used to focus intensely on the child's particular strengths and weaknesses that have been identified through curriculum-based assessment.

Best Principle: They receive effective early intervention to support reading success.

In some schools, early intervention must also focus on the classroom environment. There is particular concern in the North about the numbers of children with hearing impairment and the impact of hearing on early reading. Hearing loss is linked with deprivation of language and literacy development, especially if English is a second language (78). The frequency of mild hearing impairment secondary to chronic ear infection is significantly elevated among northern Aboriginal children, reaching 50% in some Inuit communities in the Far North (79). Similar numbers have been reported from other circumpolar areas. In most schools, including new schools, the quality of the acoustic environment in the classroom is not adequate. Children with mild hearing impairment will have particular difficulty hearing short words (e.g., of, in) and word endings (e.g., ing, ed) and this will interfere with learning how those sounds look when written down. The installation of FM sound enhancement systems should be a priority in all existing northern classrooms. New school construction in the North should conform to acceptable acoustic standards. Importantly, a guideline to this effect is in place in Nunavut.

Best Principle: The quality of the acoustic environment in northern classrooms is sufficient to ensure children can hear well enough to learn to read.

Special Needs in Reading: The small group of children whose needs will not be met by early intervention need to be identified, given diagnostic assessments, and provided with appropriate instruction. For northern children, waiting lists for professional assessment can be long and year after year many parents search for help for their children. Even when professional assistance is available it may not be appropriate. For example, there are no Aboriginal-specific valid reading assessment tools available, and in Francophone minority communities outside of Quebec, accessing diagnostic reading services in French is next to impossible. Research to establish appropriate diagnostic tools for northern children with special needs in reading is desperately needed, as well as research on how to deliver assessment services within the North. Importantly, research is underway in northern British Columbia to validate the use of computerized assessment with Web Cam support to study the literacy skills of children living in remote communities. The final product will be an Internet-based assessment device that can be used to assess reading and suggest which children are having difficulties and in which areas (<http://www.cllrnet.ca>).

Diagnostic assessment must be followed by appropriate teaching (i.e., teaching that responds to the assessment outcomes implications). All too often, assessment and diagnostic labels become ends in themselves rather than leading to instruction that meets the needs of the child. Teachers and parents need to understand assessment findings and plan what they will do individually and together to support the child's reading development. This promotes understanding, ownership and accountability.

Best Principle: *Comprehensive assessment tools that are linguistically and culturally relevant are available for all northern children with special needs in reading.*

The International Reading Association is concerned that lack of both appropriate reading instruction and early reading interventions among low performing minority children is contributing to the over representation of these children in special education programs (80). Socio-economic factors together with the struggles inherent in learning to read in a second language and cultural conflicts places Aboriginal children and children in language minority communities at serious risk for misdiagnosis (77). There is no systematic evidence that placement in special education programs facilitates reading achievement, nor is there evidence that dyslexia or reading disability is more common among northern children, Aboriginal children, and children in language minority communities. Reading disability likely occurs with similar frequency in all populations and across all written languages. The universal hallmark appears to be the same core difficulty representing and processing sound-based information. Cross language research on the brain organization for speech and reading in monolingual and bilingual populations suggests that while the rate of acquisition may differ the development of a brain based reading circuitry in English speaking and culturally diverse learners follows a similar course (77). There is considerable evidence that in schools where large proportions of children are attending pull-out programs for reading, school restructuring efforts that address instruction, curriculum, assessment, and professional development for teachers have tremendous success (18).

The elements of comprehensive reading instruction are embodied in Ontario's Turnaround Team program, which provides support to 100 schools to help improve early reading achievement. Schools are chosen based on Grade 3 Provincial Assessment results and participation is voluntary. Typically one-third or less of the children in the school are meeting provincial expectations in Grade 3. Strategies contributing to positive change include: an uninterrupted literacy block in all primary grades (60 to 90 minutes); teaching strategies that represent comprehensive instruction; in-class reading resources; assessment and monitoring; and collaborative teamwork—setting aside time in the school day for the team to meet, plan, and compare students' work and develop a common understanding of the role that reading plays in the curriculum (70). Of the first 29 schools, 23 (several of which were northern schools) showed up to 77% improvement (81). A French language school serving a small number of communities in the North increased the proportion of Grade 3 children meeting or exceeding expectations by more than 20%, even though many students did not speak French when admitted, and many did not speak French at home. For the

Most teachers are familiar with the following scenario: "I knew he was bright but had difficulty reading," said the teacher. "I had him assessed. It took six months to get the assessment and when the report came back it said *this boy is bright but is behind in reading.*"

first time, this school had children who exceeded provincial expectations. Two English schools serving significant numbers of Aboriginal children improved significantly, surpassing the performance of most other schools in their district and in the province. Further research would show why some schools improved more than others. There is a lot that northern educators can learn from the experiences of the Turnaround Team program.

***Best Principle:** The quality of the school reading program is reviewed before spending funds on add-on programs.*

Resources and Support

An excellent school-based reading program requires culturally relevant materials, appropriate library and technology resources, and support from parents and community members.

Materials: Appropriate materials are especially hard to come by in remote communities and teachers often must create their own. For example, according to the Northwest Territories Teacher Induction Website (<http://www.newteachersnwt.ca/>), teachers there do not have the option of leafing through catalogues or taking materials off the library shelf. There are few ready-made materials supporting the culture-based Northwest Territories curricula and teachers are asked to help produce and share their own materials to supplement those from the Department of Education, Culture, and Employment. Individual communities have undertaken important initiatives to produce resources. For example, the Kwayaciiwin Education Resource Centre provides support to the 24 First Nations of the Sioux lookout district in northern Ontario. The Centre produces curriculum guidelines resources and books based on culture and values in English and Anihshiniimowin. Common curricula in early language arts education such as those developed under the Western Canadian Protocol for Collaboration in Basic Education (involving Manitoba, Saskatchewan, Alberta, British Columbia, the Yukon, the Northwest Territories, and Nunavut) provide a framework for developing and disseminating culturally appropriate resources.

***Best Principle:** They have access to reading resources that reflect and validate their background experiences, languages, and cultural environments.*

Libraries in Northern Schools: A school library (distinct from or integrated with a public library) and the presence of a teacher-librarian are important resources that make a difference in northern children's reading achievement and reading motivation. Links between children's reading and the library and librarian have been demonstrated across grade levels, socio-economic levels, and across rural and urban schools. Most provincial and territorial elementary schools in the North have a library, although Nunavut and the Northwest Territories have fewer than the provinces, and funding for library resources is meager. Nationally the median expenditure on the school collection in 2003-2004 was \$2,000, which covers the costs of one encyclopaedia series. There was little or no money for electronic materials (82). Information on the availability

Asiilaak—
Nunavut Living
Dictionary—is an
online Inuktitut
dictionary with
French and English
translations for
many terms
(<http://www.livingdictionary.com/>).

of libraries in northern band-controlled schools is not available. The mere existence of a library is not enough—it must contain relevant and up-to-date print and electronic collections including an abundance of children’s literature that makes contact with lives and background of northern children. Modern technology in the library that provides access to additional literacy resources for teachers, children and their parents, and enables them to produce their own, is needed.

Securing a teacher-librarian is often dependent on a funding formula based on student population, and many northern schools do not qualify. People for Education found none of Ontario’s northern elementary schools had a sufficient student population for a teacher-librarian (83). Schools with a full-time teacher-librarian are much more likely to have links to the library on their school Website, and student test scores on reading are higher in schools where networks provide remote access to library resources (84).

***Best Principle:** Every northern school has access to a library with up-to-date, relevant material, and to a school librarian.*

Technology in Northern Schools: In 2003-2004, more than 99% of provincial and territorial schools in Canada had computers, and more than 97% of all schools, including nearly every school in the three territories, were connected to the Internet. Information is not available for band-controlled schools. While there are many ways to connect to the Internet, not all types of connections are available in the North. Rural and remote schools (20%) are more likely than urban schools (5%) to use slow “dial-up” connections; satellite connection is sometimes the only “high speed” method of accessing the Internet in northern schools. The Northwest Territories and Nunavut (as well as Prince Edward Island) had the lowest proportion of schools connected by broadband, with Nunavut having the lowest at 50 (85). Although Canada is a world leader in the use of broadband technologies, many northern communities cannot access this technology because of their small customer base and the high cost of deploying technology over vast distances. Norway and Finland now have broadband Internet access, and video conferencing systems are available in almost every school. Equity of access to the Internet will ensure literacy opportunities for children around the world (86).

***Best Principle:** All northern schools have high speed access to the Internet to support children’s early development as readers.*

Parents and Community Members: Northern parents can play a valuable supportive role in their children’s reading. In particular, parents’ expectations about their child’s reading are strongly related to the child’s reading achievement. Parents who expect their children to read well and who encourage their child’s reading have a very positive influence on their children’s reading. Parents, especially low-income parents, are influenced by the reading marks on their child’s report cards. However, teacher marks usually overestimate children’s reading considerably in comparison with outcomes on other reading

A Panel member spoke of out-dated books discovered in a northern school library last year. In the opening of one science text, the author had expressed the hope that, ‘One day, man will land on the moon.’

More than 50% of teachers in Norway and Finland have a laptop computer and continuing education in technology for teachers is free.

measures. The result is that some parents naively believe their children are reading much better than they actually are. These parents in particular are unlikely to change what they are doing at home to help their child or to advocate for change and improvement at school (46). Northern parents need the highest expectations for their child's early reading and they have the right to accurate information about their children's progress.

Best Principle: *Northern schools work with parents and communities to establish and maintain shared high expectations for children's reading.*

Parents' involvement with the school helps children's reading achievement, but the nature of the school and home relationship varies. Some are harmonious, some subservient, and others antagonistic. Harmonious home-school relations have the most positive effects for children, but considerable research is needed on how to promote harmonious relationships in support of children's reading. Some northern parents are reluctant to involve themselves in the school and there are many reasons why. Some populations, especially Aboriginal parents and low-income parents, have a history of marginalization by school systems. Some parents have an uncomfortable history with schools, and some are unsure of school protocol. Schools should revisit their policies and make sure that parents are respected, have uncomplicated and effortless access to the school, and are encouraged to participate in reading activities.

If there is no history of parent involvement in a school, the whole school community should collaborate on a needs assessment to consider how to engage parents in their child's reading development, and allow communities to root the school reading program within their culture. This will give direction to the program, reflect the lives and traditions of the children, and link the classroom and community. Parents and communities need to have ownership in the program through meaningful involvement in program development. Surveys of parents and community about what they want their children to know and be able to do and networking with other schools will assist with planning and implementation (62).

There will always be situations where schools are unable to engage all parents in their children's reading. In those situations northern schools and teachers should acknowledge that while a valuable support is not in place, it is teachers after all, not parents, who are responsible for teaching children how to read.

Best Principle: *Home/school relationships that support early reading are nurtured.*

Local community members are a tremendous resource for northern schools and can contribute significant support to the early reading program. Retired professionals (e.g., teachers, librarians), Elders, local musicians and artists can all contribute to building a language and print saturated school community. For example, Elders tell stories to young children who with help, put legends and stories on CD which can be used later by others as a resource. School-community

Helen Kalvak Elihavik School in Uluhoatuk, Holman Island, in the Northwest Territories, hosts a variety of family activities once a month to bring parents into the school—for example, Bannock & Book lunches each week. The school has seen an increase in parental contact since they began the program in 2001-2002.

One Panel member was asked by a mother to act as a volunteer mediator and accompany her to a meeting with school representatives to discuss how to help her child with reading. At the meeting the Panel member and young mother sat across the table from 16 professionals.

partnerships can develop initiatives that support early language and literacy development and seek funding through Canadian Heritage for initiatives that support French and Aboriginal languages and through the Canada Council for the Arts. Opening the door of the school to the community depends on leadership that values and seeks out the involvement and contribution of the whole community in promoting early literacy.

Best Principle: School policies are in place that encourage the direct involvement and contribution of community members in the reading program.

Professional Capacity

The final and most important component of an excellent school-based reading program is professional capacity. The quality of teaching is key to children's reading achievement (18). What do northern teachers need to know and be able to do to teach northern children to read well? They need to: understand how children learn to read and the instructional environments that support them; set high standards and expect all children to meet them; use assessments and data to guide their practice; provide effective instructional and motivational strategies for children; and recognize and help children who struggle with reading. Importantly, they must embed their teaching in the child's culture so that children can use their experiences, values, and beliefs to help them get going on the road to reading success. This involves knowing and understanding the language and culture of the community served and the ability to work with parents and community effectively. The expertise required to teach reading is extensive, and it takes many years to establish. Yet within the education systems, the expertise of the teacher often goes unrecognized and is in this Panel's view the most underrated and undervalued feature of an excellent school-based reading program.

Best Principle: The expertise required to teach reading well is acknowledged and valued.

Licensing Requirements: Northern teachers are licensed by individual jurisdictions (i.e., province or territory), and the Ministry of Indian and Northern Affairs requires that band-controlled schools hire provincially certified teachers (87). For teachers of young children (Kindergarten to Grade 3), all provinces and territories request academic degrees including a program of teacher preparation, and most request a specialization in primary/elementary education (exceptions include Newfoundland and Labrador where teachers are licensed for Kindergarten to Grade 12, and Nunavut where teachers are licensed for Kindergarten to Grade 8), but none requires that teachers responsible for teaching young children to read have a specific background in early literacy.

Not all northern teachers meet these minimum licensing requirements. There is a shortage of teachers worldwide, and northern Canadian teachers are leaving to fill the demand in southern Canada and around the world (88). Schools pressed by the need to fill teacher vacancies frequently waive the minimum requirements for certification (80). Recruitment and retention of Francophone teachers in French schools outside of Quebec (89) and of Aboriginal teachers (74) are

If you were stranded on an island with no books, no teacher manual, no curriculum guide and no electronic report card you would still be able to teach children to read because you understand how they learn to read and the instructional environments that support them. That's the expertise every teacher needs.

In Finland, the basic qualification for primary teachers is a Master's degree including specialization in two subject areas

particular challenges. Whatever the challenges, the educational futures of young northern children must be placed in the hands of qualified, knowledgeable and caring teachers.

***Best Principle:** Highly skilled teachers of reading are recruited.*

Initial Teacher Education Programs: How well prepared are teachers to teach reading to northern children? There is very little research on effective teacher education programs in reading. The International Reading Association recommends that initial teacher education programs should include specified hours (180 hours) in reading and how to teach it (90). Few teacher education programs meet these standards. Our review of the programs offered by 45 Canadian institutions (based on Internet-based academic calendars) found that while all require some course work in teaching language arts (reading, writing, listening, and speaking), few require course work specifically devoted to reading instruction. Overall, the typical graduate of a teacher education program in Canada begins his or her career with little more than 24 to 36 hours of education about reading and how to teach it.

Most new teachers report feeling less than prepared to teach reading well, especially when children are struggling. The International Reading Association has called for a significant national investment in teacher preparation to ensure that every beginning teacher is competent to teach reading from the first day on the job (91). This call should also be heard in Canada and teachers should be especially prepared to teach reading in the North. Teachers cannot be expected to teach reading well if they have not been adequately prepared. Recently the Association of Canadian Deans of Education (92) developed an accord outlining the broad basic principles fundamental to initial teacher education programs. Further development in this area, for example, an accord on early literacy education or northern education, would contribute to improved preparation of teachers.

***Best Principle:** Guidelines are established that articulate the competencies new teachers require to teach northern children to read.*

Many northern teachers have graduated from mainstream programs and come to northern classrooms with deep commitment but little background in the language and the culture of northern communities. Few mainstream programs offer course work on teaching northern children, Aboriginal children, or teaching in language minority schools. Few northern teachers teaching through English or French when children have an Aboriginal language as mother tongue (e.g., in Nunavik where Inuktitut is children's mother tongue) have an educational background in French or English as a second language (59).

The Principal of Moose Kerr School in the Northwest Territories, started an *Adopt a Teacher Program*, asking Elders to become involved with new teachers. She has found that Elders help teachers become more familiar with the community's culture, support teachers to become part of the community, guide and give insight to teachers about student behaviour, contributing to teacher retention and to greater understanding for teachers about their students.

This situation is not unique to Canada's North—in the Sámi region of Norway, Finland, and Sweden, teachers from mainstream programs were not prepared during their teacher education programs to teach in Sámi schools, and had little knowledge of the Sámi people and the Sámi pedagogy. In response to this situation, the Sámi University College in Norway was established to prepare Sámi teachers for the Sámi schools. Since 1989, it has graduated 141 Sámi-speaking schoolteachers and 70 preschool teachers (2006 data). In teacher education programs, Sámi pedagogy, which utilizes the outdoors and hands on learning, is emphasized.

A few Canadian universities, some in partnership with indigenous institutes of higher education, offer Aboriginal Teacher Education and Northern Teacher Education programs (e.g., Memorial University in Newfoundland, University of Saskatchewan), most delivered in English. There is no university in the Far North; however provincial universities in partnership with community colleges deliver programs in the Territories. Some programs are community-based, which encourages and facilitates enrolment of local people in teacher education. In Nunavut and the Northwest Territories targets for proportion of Aboriginal teachers in the teaching force have been established accompanied by teacher education initiatives. The diversity of languages and the language of instruction requirements in schools in the Far North make admission to teacher education programs and program delivery especially challenging (e.g., applicants must meet academic and language requirements). In Nunavut, for example, both Inuktitut and Inuinnaqtun are the languages of instruction in the Kitikmeot region and teacher education programs delivered in each language are needed.

Best Principle: University/community/school partnerships are established that consolidate existing expertise in northern teacher education and support the preparation of northern teachers.

Continuing Teacher Education: All teachers need professional contact, mentoring, and continuing education opportunities to grow as teachers of reading. Teachers need the time to meet in order to plan and share their experiences about reading instruction. For teachers in small isolated schools, opportunities to interact with teachers in similar situations should be pursued and small networks that cut across jurisdictional boundaries (e.g., involving teachers in provincial and band-controlled schools) encouraged. Professional contact like this can guard against teacher turnover—the major threat to sustaining excellent reading instruction in northern schools.

Concentrated professional development in reading instruction is associated with substantial improvements in the reading achievement of children (93) and building teacher expertise is a priority in the professional development plans of most northern schools. Professional development needs to be accessible, sustainable, and available at times when the teacher can participate. In the North, the cost of professional development is expensive and relevant professional development hard to access. High travel costs, large distances between schools, towns and district offices, and time that teachers must be away from the school and their family life are just some of the challenges facing northern teachers seeking professional development opportunities. Technology holds promise here and can improve some of the challenges faced by northern isolated schools. For example, videoconferencing technology, which allows two or more people at different locations to see and hear each other at the same time, offers tremendous potential for delivering professional development in reading to northern teachers by offering them the ability to participate in ongoing education offered anywhere in the world. However, in 2003-2004 only 7% of Canadian schools had such technology (85).

The Reading First Teacher Education Network (RFTEN) was established with a grant from the U.S. Department of Education to support professional development in evidence-based reading instruction.

Oglala Lakota College located on the Pine Ridge Reserve in South Dakota partnered with RFTEN and offered a two week reading institute for teachers and established follow up and outreach to teachers, teacher candidates, and parents. Challenged by vast distances (Pine Ridge is the second largest reserve in the U.S.A), the Institute uses the Internet and video streaming to make it possible for participants to view and listen to instruction by College faculty and other national reading language and literacy experts, and to share strategies for fostering children's reading and literacy development through effective classroom and home instruction (94).

Through the Internet, a community of reading teachers can be established where teachers network with colleagues to share ideas and support their ongoing learning. Of course, for northern teachers, this will depend on the connectivity speed and bandwidth provided to northern communities and schools.

***Best Principle:** Opportunities to develop special and preferred professional development services to northern schools are established.*

Conclusions

The diversity and distance in northern Canada pose significant challenges in the provision of excellent school-based early reading programs but northern schools and communities are addressing those challenges in meaningful ways. New and emerging research is providing helpful direction but considerable research is needed to build the evidence base for continued development. Innovative partnerships involving schools, school boards, community groups, ministries and universities enhance initial and continuing teacher education programs and opportunities. Shared ownership between the school and community advances accountability and high expectations. Up-to-the-minute technology would help sustain literacy learning communities involving parents, teachers and children, teacher education programs, and the provision of enriched literacy learning environments and services for children with special needs in reading. Excellence in school-based reading programs in all northern schools requires a new approach to school funding, one that puts the needs of children first.

SUMMARY AND RECOMMENDATIONS

In summary, the International Expert Panel identified 43 evidence-based best principles (described above and listed in Appendix 1) that can be used to guide decision-making about frameworks that support early reading. In addition, northern success stories consistent with those best principles were described.

The following recommendations are designed to help move these best principles into widespread use across the North:

Recommendation 1: A public education program responsive to the needs of northern parents, that promotes the importance of their languages and literacy practices at home, and teaches how they can use everyday activities to support their young children's literacy development.

Recommendation 2: Responsibility for a system of seamless integrated early language literacy and education programs involving children, families, early childhood and primary school educators be included under the jurisdiction of education.

Recommendation 3: Access to quality culturally and linguistically relevant preschools and Kindergarten programs for all northern children, including language nests aligned with the language of instruction in school.

Recommendation 4: Opportunities and sustained support for adult literacy and adult education, including community-based programs.

Recommendation 5: A web-based forum for storytellers, Elders, grandparents, and teachers to write and share age- and reading level-appropriate written materials for children in their own language(s).

Recommendation 6: Development of culturally and linguistically relevant resources, including assessments, and a mechanism for dissemination of those resources to northern schools.

Recommendation 7: An evidence-based Reading Framework for Northern Canada outlining specific expectations for reading in the different language of instruction groups, aligned with learning outcomes for teacher education programs and licensing requirements for teachers.

Recommendation 8: A directory of northern expertise in early reading instruction and related areas (e.g., leadership, early intervention, assessment, special needs) that all schools and communities can draw upon for consultation and services (e.g., professional development).

Recommendation 9: Partnerships involving university/regional/community/school groups to support the development of a Centre(s) of Excellence for initial and continuing education of primary northern teachers and to consolidate existing expertise in northern teacher education.

Recommendation 10: Sabbaticals for northern teachers to allow for study and travel, reimbursement for costs of teacher education, and language fluency and early reading expertise allowances.

Recommendation 11: Funding formulas for northern schools that are based on need and respond to poverty, remoteness, distance, and isolation, and that ensure equitable funding for provincial, territorial, and band-controlled schools.

Recommendation 12: Libraries with linguistically and culturally appropriate resources and technical services for all communities (e.g., integrated public-school libraries).

Recommendation 13: High speed internet access to all northern schools and communities.

Recommendation 14: An immediate comprehensive review of the appropriateness and effectiveness of interventions currently available in northern schools for young children with reading difficulties.

Recommendation 15: A northern reading research strategy to consolidate existing evidence, conduct new research and include oversampling of the North in national studies to ensure sufficient data to inform northern decision making.

Recommendation 16: A Northern Centre for Reading to serve as a one-stop-shop to collate, analyse, store and disseminate reading research, data and reading resources (e.g., as outlined in recommendations 5, 6, 7, 8 and 15).

APPENDIX 1: LIST OF BEST PRINCIPLES

Northern children *Get Ready* with supportive early literacy environments when:

1. Parents actively engage their children in supportive, interactive language and literacy experiences;
2. A variety of literacy materials appropriate to the culture and language are available;
3. Parents, especially mothers, have opportunities to further their education;
4. Different languages are valued equally;
5. Learning more than one language is encouraged;
6. Parents and other family and community members model their language or languages to their children;
7. Governments support languages;
8. All northern families have access to a public library;
9. Funding is available to sustain effective family and early literacy programs;
10. Communities visibly support languages and literacy;
11. They have access to quality, preschool programs focused on the development of a strong language base;
12. Language nest programs are available that immerse children in a second language, the language of the school;
13. Children attend a Kindergarten where teachers, parents, and staff work together to support language and early literacy; and
14. Coordinated, integrated early literacy experiences involving the home, preschool, and school are in place.

Northern children *Get Set* with language support in school when:

15. Teaching is focused on building proficiency in the language of instruction;
16. Teachers validate and build on the child's language and communication;
17. The language at home is the language of instruction in school;
18. They read well enough in the language of the school to support continued school success;
19. Strong bilingual programs that continue the first language as the language of instruction beyond Grade 3 are implemented;

20. They are proficient in and knowledgeable about at least one language, which scaffolds their learning of other languages;
21. They learn to read and speak in more than one language, increasing their cognitive, social, cultural, and economic pathways and opportunities; and
22. Opportunities that respond to the challenges faced by northern language minority schools are developed.

Northern children *Get Going* with an excellent school-based reading program when:

23. Educational leadership promotes the importance of reading and ensures effective instruction;
24. Valid, culturally and linguistically relevant measures aligned with curriculum expectations are used;
25. System-level reading assessment information is fully understood and used appropriately in educational decision-making;
26. Performance expectations in reading are established by all school jurisdictions and in each of the languages of instruction;
27. Developmental milestones on children's reading in each of the northern languages of instruction are available;
28. They receive comprehensive reading instruction that includes strategies that build fluency, comprehension, and motivation to read;
29. They receive effective early intervention to support reading success;
30. The quality of the acoustic environment in northern classrooms is sufficient to ensure children can hear well enough to learn to read;
31. Comprehensive assessment tools that are linguistically and culturally relevant are available for all northern children with special needs in reading;
32. The quality of the school reading program is reviewed before spending funds on add-on programs;
33. They have access to reading resources that reflect and validate their background experiences, languages, and cultural environments;
34. Every northern school has access to a library with up-to-date, relevant material, and to a school librarian;
35. All northern schools have high speed access to the Internet to support children's early development as readers;
36. Northern schools work with parents and communities to establish and maintain shared high expectations for children's reading;

37. Home/school relationships that support early reading are nurtured;
38. School policies are in place that encourage the direct involvement and contribution of community members in the reading program;
39. The expertise required to teach reading well is acknowledged and valued;
40. Highly skilled teachers of reading are recruited;
41. Guidelines are established that articulate the competencies new teachers require to teach northern children to read;
42. University/community/school partnerships are established that consolidate existing expertise in northern teacher education and support the preparation of northern teachers; and
43. Opportunities to develop special and preferred professional development services to northern schools are established.

REFERENCES

- (1) Canada Royal Commission on Aboriginal Peoples (1996). *Report of the Royal Commission on Aboriginal peoples, Volume 4: Perspectives and realities*. [Electronic version]. Retrieved January 19, 2003 from http://www.ainc-inac.gc.ca/ch/rcap/sg/sgmm_e.html
- (2) Statistics Canada (2001). *The Canada E-Book*. (Catalogue no. 11-404-X1E). Ottawa, ON: Author. Retrieved April 1, 2003 from http://142.206.72.67/02/02a/02a_000_e.htm
- (3) National Broadband Task Force (2002). *The new national dream: Networking the nation for broadband access*. Ottawa, ON: Industry Canada.
- (4) Ministers National Working Group on Education (2002). *Our children: Keepers of the sacred knowledge: Final report of the Ministers National Working Group on Education*. Ottawa, ON: Department of Indian Affairs and Northern Development Canada.
- (5) Basham, P. (2001). Home schooling: From the extreme to the mainstream. *Public Policy Sources*, 51, 1-18. Retrieved September 03, 2005 from <http://www.fraserinstitute.ca/admin/books/files/homeschool.pdf>
- (6) Philpott, D.F., Nesbit, W.G., Cahill, M.S. & Jeffery, G.H. (2004). *An educational profile of the learning needs of Innu youth: Brief summary of findings*. St. John's, NL: Memorial University of Newfoundland.
- (7) Imrich, J., Clarke, H., Surgenor, E. & Wells, N. (2003). *Enhancing rural learning: Report of the Task Force on Rural Education*. Victoria, BC: Ministry of Education.
- (8) Gilbert, A., LeTouzé, S., Thériault, J.Y. & Landry, R. (2004). *Teachers and the challenge of teaching in minority settings*. Ottawa, ON: Canadian Teachers' Federation.
- (9) Rasmussen, J.B. (2003). Reading literacy performance in Norway: Current practice and critical factors. *European Journal of Education*, 38(4), 427 - 443.
- (10) NICHD Early Child Care Research Network (2004). Multiple pathways to early academic achievement. *Harvard Educational Review*, 74(1), 1-29.
- (11) Literacy Experts Group (1999). *Report to the Secretary for Education 1999*. Wellington, New Zealand: Ministry of Education. Retrieved March 23, 2007 from <http://www.minedu.govt.nz/index.cfm?layout=document&documentid=3810&data=1&fromprint=y>
- (12) Canadian Council on Learning (2007). *State of learning in Canada: No time for complacency: Report on learning in Canada 2007*. Ottawa, ON: Author.
- (13) Crocker, R. C. (2002). *Learning outcomes: A critical review of the state of the field in Canada*. (Submitted to the Canadian Education Statistics Council). Retrieved July 01, 2003 from <http://www.cmec.ca/stats/pcera/indexe.asp>

- (14) Demmert, W.G., Grissmer, D. & Towner, J. (2006). A review and analysis of the research on Native American students. *Journal of American Indian Education, 45*(3), 5-23.
- (15) Willis, A. I. (1997). Focus on research: Historical considerations. *Language Arts, 74*(5), 387-397.
- (16) NICHD Early Child Care Research Network (2005). Pathways to reading: The role of oral language in the transition to reading. *Developmental Psychology, 41*(2), 428-442.
- (17) Clay, M.M. (2002). *An observational study of early reading achievement*. (2nd Ed.). Portsmouth, NH: Heinemann
- (18) Snow, C.E., Burns, S. & Griffin, P. (Eds). (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- (19) Ball, J. (2005). *Talking points: Exploring needs and concepts for Aboriginal early childhood language facilitation and supports (April 2005)*. Ottawa, ON: Public Health Agency of Canada.
- (20) Weigel, D.J., Martin, S.S. & Bennett, K.K. (2006). Ecological influences of the home and the child-care center on preschool-age children's literacy development. *Reading Research Quarterly, 40*(2), 204-233.
- (21) Stiles, D. B. (1997). Four successful indigenous language programs. In J. Reyhner (Ed.), *Teaching indigenous languages* (pp. 148-262). Flagstaff, AZ: Northern Arizona University. (ERIC Document Reproduction Service No. ED415079).
- (22) Statistics Canada (2003). *Secondary School Graduations: 2000/01*. The Daily. Released November 18, 2003. (Catalogue no. 11-001-XIE). Retrieved December 20, 2003 from <http://www.statcan.ca/Daily/English/031118/d031118d.htm>
- (23) Statistics Canada (2005). Population by Aboriginal Identity Status (3), Home Language (18), Mother Tongue (18) and Selected Characteristics (8) for Canada, Far North, Mid North, South, Northern Reserves, 2001 Census, 20% sample-based data. Ottawa, ON: Statistics Canada.
- (24) Taylor, D. M. & Wright, S. C. (1989). Language attitudes in a multilingual northern community. *Canadian Journal of Native Studies, 9*, 85-119.
- (25) La Commission Nationale des Parents Francophones (CNPf) (2005). *The best is .. the future: Early childhood in Canada's Francophone minority communities: A transformative analysis*. Ottawa, ON: Author.
- (26) Williams, B. & Rearden, N. (2006). Yup'ik language programs at Lower Kuskokwim School District, Bethel, Alaska. *Journal of American Indian Education, 45*(2), 37-41.

- (27) Taylor, D.M., McAlpine, L. & Caron, M. (2000). Patterns of perceived language ability and use in Arctic Quebec. *International Journal of Bilingual Education and Bilingualism*, 3(4), 283-296.
- (28) Cummins, J. (1998). Immersion education for the millenium: What have we learned from 30 years of research on second language immersion? In M.R. Childs & R.M. Bostwick (Eds.), *Learning through two languages: Research and practice. Second Katoh Gakuen International Symposium on Immersion and Bilingual Education* (pp. 34-47). Katoh Gakuen, Japan. Retrieved December 6, 2005 from <http://www.carla.umn.edu/cobaltt/modules/strategies/immersion2000.html>
- (29) Minister's Advisory Committee on Library Services for Aboriginal People (2001). *Information is for everyone: Final report of the Minister's Advisory Committee on Library Services for Aboriginal People*. Regina, SK: Saskatchewan Libraries. Retrieved March 4, 2005 from <http://www.lib.sk.ca/staff/minaboriginal/ablib/ablibfinal.html#canada>
- (30) Cleveland, G., Corter, C., Pelletier, J., Colley, S., Bertrand, J. & Jamieson, J. (2006). *A review of the state of the field of early childhood learning and development in child care, kindergarten and family support programs*. Ottawa, ON: Canadian Council on Learning. Retrieved December 12, 2006 from http://action.web.ca/home/crru/rsrscs_crru_full.shtml?x=93284
- (31) Baker, A. J. L. & Piotrkowski, C. S. (1996). *Parents and children through the school years: The effects of the Home Instruction Program for Preschool Youngsters* (Final report to the David and Lucile Packard Foundation). New York: National Council of Jewish Women, Center for the Child.
- (32) Fagan, W.T. (2001). *Transfer of learning in parent-focussed family literacy programs*. St. John's, NL: Memorial University of Newfoundland.
- (33) Hoover, M. L., and the Kanien'kehaka Raotitiohkwa Cultural Center (1992). The revival of the Mohawk language in Kahnawake. *Canadian Journal of Native Studies*, 12(2), 269-287.
- (34) Doherty, G., Friendly, M. & Beach, J. (2003). *OECD thematic review of early childhood education and care: Canadian background report*. Ottawa, ON: Government of Canada.
- (35) Magnuson, K. A., Ruhm, C. & Waldfogel, J. (2007). The persistence of preschool effects: Do subsequent classroom experiences matter? *Early Childhood Research Quarterly*, 22(1), 18-38.
- (36) Chalmers, J., Cayen, E. & Palmier, K. (2005). *Evaluation of Aboriginal Head Start in NWT Communities 2004*. Fort McPherson, NT: Chalmers & Consulting, Ltd.
- (37) Northwest Territories Department of Education, Culture and Employment (2000). *Student support needs assessment: Territorial report*. Yellowknife, NT: Author.
- (38) Statistics Canada (2003). *Aboriginal Peoples Survey 2001: Initial findings: Well-being of the non-reserve Aboriginal population*. (Catalogue No.: 89-589-X1E). Ottawa, ON: Author. Retrieved September 30, 2003 from <http://www.statcan.ca/english/IPS/Data/89-589-X1E.htm>

- (39) Swedish National Agency for Education (Skolverket) (2004). *Pre-school in transition: A national evaluation of the Swedish preschool*. Stockholm, Sweden: Author.
- (40) McIvor, O. (2005). The contribution of indigenous heritage language immersion programs to healthy early childhood development. In J. Whitehead (Ed.), *Research Connections Canada: Supporting Children and Families, Vol. 12* (pp. 5-20). Ottawa, ON: Canadian Child Care Federation.
- (41) Wilson, W.H., Kamanā, K. & Rawlins, N. (2006). Nāwahī Hawaiian Laboratory School *Journal of American Indian Education*, 45(2), 42-44.
- (42) Miedel, W. T. & Reynolds, A. J. (1999). Parent involvement in early intervention for disadvantaged children: Does it matter? *Journal of School Psychology*, 37(4), 379–402.
- (43) Hoddinott, J., Lethbridge, L. & Phipps, S. (2002, December). *Is history destiny? Resources, transitions, and child education attainments in Canada: Final report*. (Working Paper Series. SP-551-12-02E). Ottawa, ON: Applied Research Branch, Human Resources Development Canada. Retrieved November 8, 2006 from <http://www.sdc.gc.ca/en/cs/sp/sdc/pkrf/publications/research/2002-000185/SP-551-12-02E.pdf>
- (44) da Costa, J. L. & Bell, S. (2001). *A comparison of the literacy effects of full day vs. halfday kindergarten*. Paper presented at the annual meetings of the American Education Research Association, Seattle, WA.
- (45) Pressley, M. (2002). *Reading instruction that works: The case for balanced teaching* (2nd Ed.). New York: Guilford.
- (46) O’Sullivan, J. & Howe, M. L. (1999). *Overcoming poverty: Promoting literacy in children from low-income families*. (A research report for the National Literacy Secretariat, Human Resources Development Canada.) Thunder Bay, ON: Lakehead University.
- (47) Cummins, J. (2000). Putting language proficiency in its place: Responding to critiques of the conversational/academic language distinction. In J. Cenoz & U. Jessner (Eds.), *English in Europe: The acquisition of a third language* (pp. 54-83). Clevedon, UK: Multilingual Matters.
- (48) Bougie, E., Wright, S. C. & Taylor, D. M. (2003). Early heritage-language education and the abrupt shift to a dominant-language classroom: Impact on the personal and collective esteem of Inuit in Arctic Québec. *International Journal of Bilingualism and Bilingual Education*, 6, 349-373.
- (49) Fillmore, L. W. & Snow. C. (2000). *What teachers need to know about language*. Washington, DC: Centre for Applied Linguistics.
- (50) McDonald, L. (2003). *Two trails - One vision. First Nation of Nacho N'Yak Dun School drop out study, final report*. Unpublished report.

- (51) Human Rights and Equal Opportunity Commission (2000). *“Education access”*: National inquiry into rural and remote education. Sydney, Australia: Author.
- (52) Mullis, I.V.S., Martin, M.O., Gonzalez, E.J. & Kennedy, A.M. (2003). *PIRLS 2001 International report: IEAs study of reading literacy achievement in primary schools*. Chestnut Hill, MA: Boston College.
- (53) Literacy Task Force (1999). *Report of the Literacy Taskforce*. Wellington, New Zealand: Ministry of Education.
- (54) Taylor, D.M. & Wright, S.C. (2003). Do Aboriginal students benefit from education in their heritage language? Results from a ten-year program of research in Nunavik. *Canadian Journal of Native Studies*, 23, 1-24.
- (55) First Nations Schools Association (2006). *The First Nations Schools Association School Measures and Data Collection Project-2006 Results*. West Vancouver, BC: Author.
- (56) Northwest Territories Department of Education, Culture and Employment (1999). *Towards excellence '99: A report on education in the Northwest Territories*. Yellowknife, NT: Author.
- (57) Ontario Ministry of Education (2001). *The Ontario Curriculum, Grades 1–8: English as a second language and English literacy development – A resource guide*. Toronto, ON: Author.
- (58) Martin, I. (2000). *Aajiiqatigiingniq: Language of instruction research paper: A report to the Government of Nunavut*. Iqaluit, NU: Department of Education.
- (59) Spada, N. & Lightbown, P. M. (2002). L1 and L2 in the education of Inuit children in Northern Quebec: Students’ abilities and teachers’ perceptions. *Language and Education*, 16(3), 212-241.
- (60) Bournot-Trites, M. & Tellowitz, U. (2002). *Report of current research on the effects of second language learning on first language literacy skills*. Halifax, NS: Atlantic Provinces Educational Foundation.
- (61) Statistics Canada (2004). *Study: Student reading performance in minority-language schools*. The Daily. Released March 22, 2004. (Catalogue no. 11-001-XIE). Retrieved November 21, 2005 from <http://www.statcan.ca/Daily/English/040322/td040322.htm>
- (62) Johnson, F.T. & Legatz, J. (2006). Tséhootsoóí Diné Bi’ólta’. *Journal of American Indian Education*, 45(2), 25-33.
- (63) Holobow, N.K., Genesee, F. & Lambert, W.E. (1987). *Summary of Kahnawake test results, Spring 1987*. Unpublished manuscript: McGill University.
- (64) Canadian Parents for French (CPF) (2003). *CPF: Canadian Parents for French: The state of French second language education in Canada 2003*. Ottawa, ON: Author. Retrieved August 7, 2004 from <http://www.cpf.ca/english/index.html>

- (65) Wilkinson, I.A.G. (1998). Dealing with diversity: Achievement gaps in reading literacy among New Zealand students. *Reading Research Quarterly*, 33(2), 144-167.
- (66) Thomas, W. & Collier, V. (2002). *A national study of school effectiveness for language minority students' long-term academic achievement*. Santa Cruz, CA: Center for Research on Education, Diversity & Excellence. (ERIC Document Reproduction No. ED475048).
- (67) MCEETYA Taskforce on Indigenous Education (2001). *Education of teachers of Indigenous students in early childhood services and schools - Discussion paper*. Retrieved July 16, 2005 from http://www.mceetya.edu.au/verve/_resources/educationofteachersinecs_file.pdf
- (68) Early Reading Expert Panel (2003). *Early reading strategy: The report of the Expert Panel on Early Reading in Ontario*. Toronto, ON: Ontario Ministry of Education.
- (69) Tunmer, W.E., Chapman, J.W. & Prochnow, J.E. (2003). Preventing negative Matthew effects in at-risk readers: A retrospective study. In B. Foorman (Ed.), *Preventing and remediating reading difficulties: Bringing science to scale* (pp. 121-163). Timonium, MD: York Press.
- (70) Fulford, G., Moore Daigle, J., Stevenson, B., Tolley, C. & Wade, T. (2007). *Sharing our success: More case studies in Aboriginal schooling*. Kelowna, BC: Society for the Advancement of Excellence in Education.
- (71) Demmert, W. G. (2005). The influences of culture on learning and assessment among Native American students. *Learning Disabilities Research & Practice*, 20(1), 16-23.
- (72) Ungerleider, C. (2006). Reflections on the use of large-scale student assessment for improving student success. *Canadian Journal of Education*, 29(3), 873-883.
- (73) Cartwright, F., Lalancette, D., Mussio, J. & Xing, D. (2003). *Linking provincial student assessments with national and international assessments* (Catalogue no. 81-595-MIE2003005). Ottawa, ON: Statistics Canada. Retrieved December 12, 2003 from <http://www.statcan.ca/cgi-bin/downpub/listpub.cgi?catno=81-595-MIE>
- (74) Bell, D. (2004). *Sharing our success: Ten case studies in Aboriginal schooling*. Kelowna, BC: Society for the Advancement of Excellence in Education.
- (75) Northwest Territories Department of Education, Culture and Employment (2005). *Towards excellence: A report on education in the Northwest Territories*. Yellowknife, NT: Author.
- (76) Rau, C. (2001). *He ara angitu: A pathway to success*. Paper presented at Assessment Hui for the Ministry of Education, Wellington, September 2001. Retrieved September 26, 2005 from <http://www.kiaatamai.org.nz/research.htm>
- (77) Pugh, K.R., Sandak, R., Frost, S.J., Moore, D. & Mencl, W.E. (2006). Examining reading development and reading disability in diverse languages and cultures: Potential contributions from functional neuroimaging. *Journal of American Indian Education*, 45(3), 60-76.

- (78) McRae, D. et al. (2000). *Education and training for Indigenous students: What works: Explorations in improving outcomes for Indigenous students*. Canberra, Australian Capital Territory: Australian Curriculum Studies Association & National Curriculum Services.
- (79) Bowd, A. (2004). *Otitis media: Its health, social and educational consequences particularly for Canadian Inuit, Metis and First Nations children and adolescents*. Thunder Bay, ON: Centre of Excellence for Children and Adolescents with Special Needs, Lakehead University.
- (80) International Reading Association (2003). *The role of reading instruction in addressing the overrepresentation of minority children in special education in the United States*. (Position statement). Newark, DE: Author. Retrieved August 17, 2003 from <http://www.reading.org/positions/overrepresentation.html>
- (81) Pervin, B. (2005). Turning around student achievement in literacy (Ontario's new Literacy and Numeracy Strategy). *Orbit*, 35(3), 39-41.
- (82) Coish, D. (2005). *Canadian school libraries and teacher-librarians: Results from the 2003-2004 Information and Communications Technologies in Schools Survey*. (Catalogue no. 81-595-MIE2005028). Ottawa, ON: Statistics Canada.
- (83) People for Education (2003). *Report on Ontario's northern schools: People for Education, April 2003*. Toronto, ON: Author. Retrieved July 7, 2003 from www.peopleforeducation.com
- (84) Lance, K. C. (2002). *Proof of the power: Recent research on the impact of school library media programs on the academic achievement of U.S. public school students*. Syracuse, NY: ERIC Clearinghouse on Information and Technology. (ERIC Document Reproduction Service No. ED 456 861).
- (85) Ertl, H. & Plante, J. (2004). *Connectivity and learning in Canada's schools*. (Catalogue no. 56F0004MIE, No. 11). Ottawa, ON: Statistics Canada.
- (86) International Reading Association (2002). *Integrating literacy and technology in the curriculum*. (Position statement). Newark, DE: Author. Retrieved September 8, 2005 from http://www.reading.org/resources/issues/positions_technology.html
- (87) Auditor General of Canada (2004). *Report of the Auditor General of Canada to the House of Commons: Chapter 5: Indian and Northern Affairs Canada - Education program and post-secondary student report*. Ottawa, ON: Minister of Public Works and Government Services Canada.
- (88) Dibbon, D. C. (2001). Teacher supply and demand: An analysis of current developments in Newfoundland and Labrador. Paper presented at the 2001 Pan-Canadian Education Research Agenda Symposium, Teacher Education/Educator Training: Current Trends and Future Directions, May 22–23, Université Laval (Québec). Retrieved December 28, 2004 from <http://www.cmec.ca/stats/pcera/symposium2001/dibbon.o.en.pdf>
- (89) Canadian Teachers' Federation (March 30, 2001). *Teacher shortage more acute in Francophone communities outside Quebec, survey*. Canadian Teachers' Federation Press Release. Retrieved May 18, 2004 from <http://www.ctf-fce.ca/en>

- (90) International Reading Association (1998). *Standards for reading professionals (Rev. ed.)*. Newark, DE: Author. Retrieved June 12, 2005 from http://www.reading.org/resources/issues/reports/professional_standards.html
- (91) International Reading Association (2003). *Investment in teacher preparation in the United States*. (Position statement). Newark, DE: Author. Retrieved July 16, 2004 from http://www.reading.org/resources/issues/positions_preparation.html
- (92) Association of Canadian Deans of Education (2006). *Accord on initial teacher training*. Ottawa, ON: Canadian Society for the Study of Education (CSSE).
- (93) Phillips, G. McNaughton, S. & McDonald, S. (2002). *Picking up the pace: Effective literacy interventions for accelerated progress over the transition into decile one schools*. Wellington, New Zealand: Ministry of Education.
- (94) Hawkins, B.D. (2006). The impact of the Reading First Teacher Education Network on increasing the reading proficiency of American Indian children - How a Summer Reading Institute brought together educators, parents, and a community. *Journal of American Indian Education*, 45(2), 72-76.