The CAP Journal

RESOURCES FOR SCHOOL-BASED LEADERSHIP

Volume 14 No. 3, Fall 2006

Early Childhood Development

The Canadian Association of Principals

Canadian Association of Principals 2007 Annual Conference

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Quality Leadership in Education

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The CAP Journal
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President's Message

As this new school year is well underway in communities across Canada, it is important to reflect upon our profession and the significant role played by Principals and Vice-Principals. Not only are we charged with shepherding our students and staff through countless curricula and programs, we also must make sure that they are able to work unimpeded in safe and caring education environments. But our professional responsibilities don't lie solely within our schools; we also assume a myriad of leadership roles within our school Districts and communities. As we offer our leadership, we need to continually use the mantra "What is best for our students?" as the rallying point against which all actions will be measured. As you continue to advocate for your students, I wish you well and hope that this will be your most satisfying school year ever.

As has been pointed out in the past, the Canadian Association of Principals cadence is very similar to a school year. After a break from the previous school year, the CAP Executive meets during the summer to discuss our upcoming year and to determine the areas from our Strategic Plan that need to be addressed and to set the stage for the Board of Directors meeting later in the fall. We reflect upon what has worked well during the past year and take strides to undertake new initiatives that will meet the needs of our members.

Our strategic plan focuses our actions on those initiatives that we have identified as being important. It is not an exhaustive listing – we don't chase every car! Rather, our strategic plan provides the template against which our energies are focussed and measured. As such, it is important to continually survey the education landscape to ensure both timely and effective responses.

So, what is the Canadian Association of Principals? We know that it is not about bricks and mortar; rather, it is about relationships and partnerships. The CAP is an Association of Affiliates – fourteen in total – and represents over fourteen thousand members nationally in all ten provinces and three territories. Whether you are a Principal in Nunavut or in British Columbia or a Vice Principal in Quebec or in the Yukon, the CAP is the national voice for principals and vice-principals. Working with other educational groups, the mission of the CAP is to represent the professional perspectives of principals and vice-principals at the National level and to provide the leadership necessary to ensure quality educational opportunities for Canadian students. Our work with public and private sector partners provides invaluable services to all facets of the educational community.

Communication is a very important component of the CAP strategic plan and we work diligently to ensure that it is two way. We communicate with our members across this nation in a variety of ways.

Our **website** is available 24/7 and provides a consistent and current method through which our members can access timely and accurate information, including links to many of our affiliate and partner associations and organizations. Simply bookmark www.cdnprincipals.org for easy access! Webmaster and CAP Executive Assistant Marie Schutt works diligently to keep the information current and welcomes your input and feedback.

The re-energized **CAP Journal** has received rave reviews both on its content and enhanced look. Once again, Editor Marie Schutt works creatively to ensure that all articles and content reflect upon the positive focus of the CAP. Themes for this year's CAP Journal include: Early Child Development (fall issue); Students at Risk (winter issue); and The Legislation of Education (Spring Issue). We continue to add new sections to the CAP Journal and welcome your feedback both on articles and potential submissions. As part of our strategic plan, we have called upon the services of an outside advertising consultant, John Nijmeh, to assist us with accessing quality advertisers for the Journal. New advertisers are most welcome and should be directed to Editor Marie Schutt at cap@bellnet.ca. Advertising info can also be found at www.cdnprincipals.org/advertising.

The CAP also relies upon the Board of Directors to share information and affiliate concerns in a variety of ways. The Board meets three times a year and between meetings, the Executive uses conference calls to tend to CAP business. Following each CAP Board meeting (Nov. 8-11; Jan. 18-20; and April 9-10 as part of the annual CAP Conference), the CAP office sends out **CAP News** which provides timely updates both on Board actions and events.

Annually, affiliates provide excellent Professional Development opportunities. None is more special than the annual **Canadian Association of Principals Conference**. This school year, the British Columbia Principals and Vice-principals Association (BCPVPA) will host **Connecting Leaders** from April 11-13 at the Fairmont Hotel Vancouver with featured speakers including Stephen Lewis, Steve Donahue, Linda Kaser, Judy Halbert, Tom Hierck, Kim Schonert-Reichl, Steve Dotto, Faye Brownlie and more. Program details, pre-conference information and online registration will be available shortly at www.bcpvpa.bc.ca.

Involvement of our Provincial and Territorial Affiliates is critical to the success of the CAP as our national voice for school-based administrators. Through a variety of timely communication initia-

tives, individual affiliates are provided a national profile where information and Professional Development opportunities can be shared. A CAP presence at national education tables benefits affiliates. Being able to provide information to thousands of school leaders across Canada in a timely fashion is a huge benefit to all members.

The CAP is also able to support affiliates as they undertake initiatives to better meet the needs of their members. A case in point is the planned September 22nd launch of a new arrangement in Atlantic Canada called the **Atlantic Association of School Administrators (AASA)** which will see a new regional structure developed focussed on providing leadership and support to principals and vice-principals within Atlantic Canada. Although your receipt of this edition of the CAP Journal will be after the inaugural meeting, we wish the executive and Board of the AASA the best as they come together in this new association.

The CAP also is blessed with many sponsors who provide significant support through their awards programs in recognizing the high level of educational leadership throughout Canada:

Herff Jones Canada Ltd provides the *Distinguished Vice-Principal of the Year Award*;

McDonald's Restaurants of Canada provides the *Distinguished Principal of the Year Award*;

Premier School Agendas Ltd. provides the *Student Leadership Award*;

Premier School Agenda Ltd. provides the *Primary/Elementary School Award*

The Learning Partnership (TLP), in partnership with the Canadian Association of Principals provides *Canada's Outstanding Principals Award*

For details on each of these awards, please refer to www.cdnprincipals.org/AWARDS.

The CAP is also involved with several different National Partners in initiatives that will have a positive impact on Principals and Vice-Principals nationally. The following represents some of those strategic partnerships/networks and, in some cases, the web site from which to glean additional information. By no means should this be seen as an exhaustive listing.

The Canadian Association of Principals welcomes Ted Whiteland as CAP President 2006-2007

Ted began his teaching career as an intermediate classroom teacher in the former Leeds and Grenville County Board of Education, now the Upper Canada District School Board. After a two-year secondment to the board office as a Junior Division consultant, he began the administrative portion of his teaching career as a vice-principal. He has since served as an in-school administrator over the past 28 years in both Elementary and Secondary schools.

Ted has assumed leadership positions in many professional activities during his thirty-four year education career: leading workshops; administering and teaching Ministry of Education Courses; and curriculum development. While a member of the Ontario Public School Teachers' Federation, Ted served his colleagues as provincial chair of the Positions of Added Responsibilities Committee, representing Ontario's Elementary Principals and Vice-Principals.

He has also had many leadership roles in the Ontario Principals' Council since the organization's beginnings. Ted served as the provincial President during the 2003-04 school year. Ted led the development of the OPC's charitable arm, the Ontario Principal's Council Learning Foundation, and currently holds the position of Chair as well as being the 2006-2007 President of the Canadian Association of Principals.

Ted enjoys mentoring and coaching colleagues from across Canada and both presents workshops to aspiring school administrators for the Ontario Principals' Council's *Principals Qualification Program* as well as leading presentations on Risk Taking for experienced Principals and Vice-Principals in such locations as Gander, Newfoundland and Winnipeg, Manitoba. He also supports the OPC Protection Services Team with providing responses to concerns shared by OPC Members from around the Province.

Beyond representing the professional and personal interests of Principals and Vice-Principals, several volunteer organizations and Foundations have been able to take advantage of Ted's expertise and leadership, especially in the areas of Early Child Development, Child Welfare and Children's Mental Health. Ted also does consulting and advisory work with such diverse groups as the RCMP, Health Canada's National Drug Strategy and the Canadian Initiative for the Prevention of Bullying.

During his spare time, Ted enjoys less risky activities through officiating Fastball and Hockey. Ted says that unlike being on elementary recess duty, at least in hockey when he blows his whistle, the players stop!!

Ted holds a B.A. from the University of Waterloo and a M.Ed. from Queen's University and lives in beautiful Brockville, Ontario, the City of the 1000 Islands.

Canadian Association of Chiefs of Police (CACP) **www.cacp.ca**

Canadian Council on Learning (CCL) **www.ccl-cca.ca**

Canadian Home and School Association **www.canadianhomeandschool.com**

Canadian Library Association **www.cla.ca**

Canadian Teachers Federation (CTF) **www.ctf-fce.ca**

Canadian Education Association **www.cea-ace.ca**

Canadian Initiative for the Prevention of Bullying **www.cipb.ca**

Concerned Children's Advertisers **www.cca-kids.ca**

Council For early Child Development **www.councilecd.ca**

Council of Ministers of Education Council (CMEC) **www.cmec.ca**

Curriculum Services Canada **www.curriculum.org**

Health Canada: Be Drug Wise Website **www.drugwise-droguesoisfute.hc-sc.gc.ca**

Millennium Scholarship Foundation **www.millenniumscholarships.ca**

National Association of Secondary School Principals **www.nassp.org**

National Youth Officer Program (RCMP) **www.rcmp-grc.gc.ca**

School Youth Travel Association (SYTA) **http://www.syta.org**

You are encouraged to visit the respective websites and to determine for yourself how these partnerships benefit school leadership in the public education domain. It is also our plan to feature a variety of these partners in future editions of the CAP Journal.

I continue to be both pleased and optimistic about the Canadian Association of Principals. Over the past three years, I have witnessed both a resurgence of interest and growth in our national voice for school leadership and can personally attest to the desire of other associations and programs to align themselves with the CAP. The recognition of the crucial role that Principals and Vice-Principals play in schools, districts and communities is well documented and the national voice provided through the Canadian Association of Principals is an important tool as provincial and territorial affiliates work to meet the needs of their members.

There continues to be much to be accomplished and there is no doubt in my mind that together we continue to get stronger. I wish each and every one of you all the best for a positive and fulfilling school year.

Ted Whiteland

CAP President 2006-07

Ted.whiteland@ripnet.com

Early Child Development

An Introduction to The Fall Edition of The CAP Journal

Ted Whiteland

As we eagerly await the arrival of our first grandchild later this fall, our household is a flurry of activity making sure that all is in readiness. Our daughter has dutifully taken classes, read books, visited with friends who have youngsters and generally has assembled all that is important for the anticipated joy of the safe arrival of what will undoubtedly be the most beautiful baby ever. But, is there more to be readied both here and in our community? The short answer is yes!

I have the honour of being on the Board of Directors of the Council for Early Child Development **www.councilecd.ca** . As a member of this Board, I have the privilege to work with some of the keenest minds and most dedicated believers in the importance of early child development. As I listen, meet and read more on this topic, I have become even more convinced in the wisdom and vision of Dr. Fraser Mustard and Hon. Margaret Norrie McCain, co-authors in *Early Years Study* (1999).

Many of our readers have either read or have been aware of the recommendations outlined in this landmark publication. I can advise our readers that the concepts of early child development are alive and thriving thanks in no small part to the visionary work of Dr. Mustard and Ms. McCain and the absolute resolution of both to ensure that the values of Early Child Development becomes embraced as

an integral component of the education of every child, just as traditional schools are currently.

"…What we envision will be a first "tier" program for early child development, as important as the elementary and secondary school system and the post-secondary education system. The system should consist of community-based centres operating at the local level within a provincial framework…"

Early Years Study

McCain & Mustard, 1999. p. 20

One of the critical undertakings that is recommended by those involved with early child development is the importance of providing parents the opportunity to gather in a one-stop location where they can interact with other parents, children and professional staff from a variety of service providers. These Early Child Development and Parenting Centres are designed to support what we have learned about early brain development through the following component parts:

* **Problem Based Play**: Regular, consistent play provides rich sensory stimulation that is absorbed into core brain development.

* **Parenting**: The parent/child relationship is the most powerful influence on children's early brain development, particularly in the first two years.

* **Resources**: Centres can be linked to home visiting and home care satellites, and early identification and intervention services.

* **Prenatal and Postnatal Supports**: Access to childbirth and child development information, group discussions, work shops, and neighbourhood and community resources.

* **Nutrition**: Optimal early child development begins with adequate nutrition from conception onwards.

* **Full-Day, Full-Year Options**: Families require a range of care arrangements including part-time, full-time, occasional, and respite options.

So, why is all of this important to principals and vice-principals?

Simply put, it is to our collective advantage to promote the understanding of early brain development research. The evidence that the quality of early experiences plays a significant role in children's social, emotional, intellectual, and physical development continues to grow. So many of those critical pathways are established in the first three years of a child's life, everything from the central auditory system to language and emotional control.

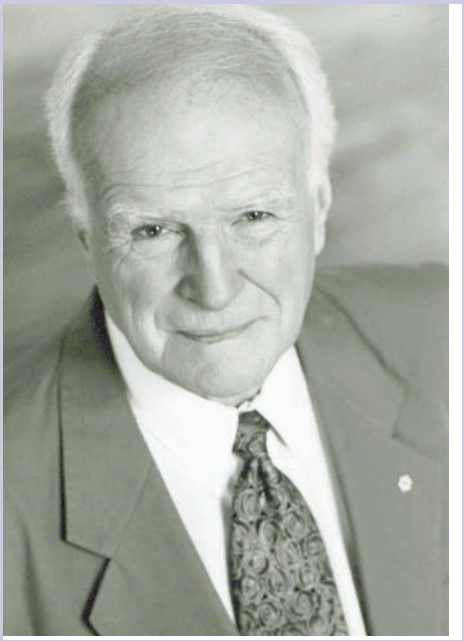
In this edition of the CAP Journal, you'll have the opportunity to read articles by leading advocates for Early Child Development. **Dr. Fraser Mustard's** article Early Child Development Sets the Foundation for Learning, Behaviour and Health will identify the economic advantages of early child development when compared to later interventions and will challenge school principals to take the lead to close the gap between what we know and what we do to improve the competence of our future adult population.

Stuart Shanker's article on *The Neuroscience of Early Child Development* will discuss the pivotal role that those emotions play in the development of core capacities including attending, engaging, communicating and thinking symbolically. **Dr. Magdalena Janus**' article on *Measuring Community Early Child Development* will describe how the Early Development Instrument (EDI) can be used to identify strengths and weaknesses in neighbourhoods, thus allowing for more focussed planning.

Janet Mort's article on *Mobilizing Schools and Communities Investing in Our Youngest, Most Vulnerable Children* exhorts principals to provide the leadership that might demonstrate to government policy makers what needs to be done to meet the needs of our youngest and most vulnerable children. **Dr. Robin Williams** and team shares lessons learned from the Niagara Region of Ontario when you line up the holes in the Swiss cheese and something magical happens with an Ontario Early Years Centre. Read what has been learned from their experiences in their article *Magic Happens If You Let It*.

In **Juleen McElgunn's** article *Opening Our Doors…for the Children*, the author provides a BC example of how to enrich the early years and actually see a payoff in children's level of increased literacy knowledge. She also outlines the key role that principals play. **Susan Colley's** article *The Importance of Integration Between Kindergarten and Child care* surveys several examples of integration across Canada. **Kerry McCuaig's** article *Integrated Early Years Model Shows promising Outcomes for Children* outlines the benefits of integrated early childhood programs as she describes the Toronto First Duty initiative.

After you read these articles and visit websites such as www.councilecd.ca and www.earlychilddevelopment.ca, you too will be convinced in the value of Early Child Development and the significant role that principals play in fostering its growth. This edition of the CAP Journal is an important link in better understanding of ECD and we welcome your feedback.



About the Author:

J. Fraser Mustard, Founding President and Institute Fellow of The Canadian Institute for Advanced Research, has had a diverse career in the health sciences, medical research, and the private sector. After earning his MD from the University of Toronto, and Ph.D. from the University of Cambridge, Dr. Mustard joined the medical faculty at the University of Toronto. In 1966 he moved to McMaster University to help establish the new school of Medicine and Health Sciences and became the Vice President, Health Sciences [Medicine and Nursing]. During his tenure at the University of Toronto and McMaster, he developed a major research career in platelets, thrombosis and cardiovascular disease. In 1982, he took on the task of creating and establishing a unique Canadian institute, The Canadian Institute for Advanced Research [CIAR]. Dr. Mustard has been a leader in Canada on the socioeconomic determinants of human development and health. A particular emphasis has been on early child development and the role of communities. He co-chaired a report for the Government of Ontario on early child development with specific community recommendations (The Early Years Study). Recognition of this has led Dr. Mustard and his colleagues to emphasize to all sectors of society the crucial nature of the early years to provide a healthy and competent population. Dr. Mustard is involved with governments in Canada, Australia, the World Bank, the Inter-American Development Bank, UNICEF and the Aga Khan University in Pakistan in emphasizing the enormous importance to society of early child development for competent quality populations. Dr. Mustard is a Companion of the Order of Canada, and is the Founder and Chairman Emeritus of the Council for Early Child Development.

Early Child Development Sets the Foundation For Learning, Behaviour and Health

J. Fraser Mustard

Head, The Founders' Network
Founding President, The Canadian Institute for Advanced Research
Founder & Chairman Emeritus, Council for Early Child Development

Humans began experiments in civilization with the Agricultural Revolution 10,000 years ago (Wright, 2004). In today's world, among the challenges societies face in our continuing experiments with civilization is how to cope with exponential population growth with the rapid increase in new knowledge and technologies over the last 250 years. During this period the socioeconomic changes associated with the Industrial Revolution improved the health, well-being, and competence of populations (McKeown, 1976; Fogel, 1994, 2000) and have been associated with a dramatic population increase. The application of the new knowledge and technologies in society today can further improve the prosperity, health, well-being and competence of populations and enhance our civilizations (Diamond, 2005; Ehrlich, 2000; Wright, 2004).

Today we know a fair amount about what determines the competence, health and well-being and behaviour of humans in developed and developing societies. Conditions influencing the survival of infants and young children (nutrition, water, sanitation, vaccinations and disease control) are now well understood and have been applied in developed and developing countries with dramatic reductions in infant mortality. Today we now recognize that stimulation in infancy and early childhood affects health (physical and mental), behaviour and learning throughout the life cycle (Mustard, 2006). Assessments of brain function such as literacy (prose, document, and quantitative), or health in relation to the early years of child development reveal significant inequities within and between countries.

The development of the brain in the early years affects health, behaviour and learning throughout the life cycle. There is evidence of continuing evolution of the brain (Balter, 2002, 2005; Mekel-Bobrov et al, 2005) which is influenced by experience in the early years of life. The increase in the IQ of populations in some regions of the world is probably an example of this evolution (Wickelgren, 1999; Flynn, 1999).

How experience in the early years of life sets neurological and biological pathways that affect health, learning, and behaviour comes from studies in animals such as mice, rats, and monkeys, and from some human studies. These studies show that there are critical and sensitive periods in the development of the brain and biological pathways that set trajectories in health, learning and behaviour that tend to last throughout the life cycle (Keating and Hertzman, 1999; Knudsen et al, 2006; Mustard, 2006). Early child development affects performance in schools.

If schools are to work with communities to implement strategies to improve early child development and the health, well-being and competence of future populations, it is important that there are robust reliable community-based population outcome measures

during early child development that assess early brain development in relation to health, learning, and behaviour throughout the life cycle. It is important that these assessments include the in utero period since it sets some structure and functions of the brain that affect later developments.

Population Based Assessments of Health, Learning, and Behaviour

Keating and Hertzman (1999) in their book, *Developmental Health and the Wealth of Nations*, make the point that when population-based measures of health, behaviour, and learning at different stages of the life cycle are plotted against the socioeconomic position of individuals, the result is a linear gradient. The data from developed countries show that there is no socioeconomic threshold (poverty versus the rest of the population) for development, health and learning (Keating and Hertzman, 1999; McCain and Mustard, 1999). In developed countries, although more individuals in the lowest socioeconomic class show poor health, behaviour and learning, the largest number of individuals affected by socioeconomic factors in respect to health, behaviour and learning are in the middle class. Studies from the National Longitudinal Survey of Children and Youth in Canada show that about 35% of children in the lowest socioeconomic class at ages four to five years, show poor development, and 10-15% in the upper social class show poor development. Clearly the cause of these socioeconomic gradients in health, learning and behaviour is more than just income and its distribution but relate to the environments affecting individuals throughout the life cycle.

In the OECD Stats Canada (2000) studies of adult literacy in developed countries, there are, in all the countries studied, socioeconomic gradients in literacy. Some countries perform much better than others and have higher performance for their populations and flatter gradients. Thus, some developed countries have a smaller proportion of their population at Levels One and Two (low), while others, such as the United States, have approximately 50% of their population at the low levels (One and Two) (US Department of Education, 2002; OECD, 2000). The US study shows that close to 50% of the adult Americans at Level 1 are living in poverty. The proportion of the US population in poverty decreases for each step up the levels of literacy performance (US Department of Education, 2002). Poverty, when plotted against levels of literacy, is a gradient.

In the study of the U.S. population, 50% of the population at Level One had physical and mental health problems. Those with the highest literacy skills had far fewer physical and mental health problems. In this study, health problems were a gradient when plotted against the population's literacy competence. Each step down the scale of literacy capability, the worse the health status of the population. In the OECD studies [ref] there was a strong correlation between literacy and life expectancy. An interesting question is why is there a relationship between literacy competence and health status? Is this related to experience-brain development in early childhood and its effects on brain pathways that affect health as well as literacy competence?

Since early child development affects literacy and health, this evidence is in keeping with the hypothesis that conditions in early life that affect brain development contribute to the health and literacy gradients in adult populations and is a significant contributor to populations living in poverty in developed countries..

Literacy function for populations in developed countries is a gradient when plotted against parents' education or socioeconomic status of individuals. *Figure 1* shows the socioeconomic gradient in literacy scores for youth in Canadian provinces. Four provinces have high performance and less steep gradients, while six provinces have fairly steep gradients. *Figure 2* shows the gradient for adult literacy in some of the developed and developing countries. In the comparison of population literacy gradients in developed countries, there are countries with high performance, fairly flat gradients and countries with steeper lower performance gradients.

In Willms' (2004) study of literacy, he has proposed that we can introduce programs for populations that increase literacy performance and flatten the gradient. He refers to this as "raising and leveling the bar". The within country comparisons and between country comparisons indicate that countries that have quality universal early child development programs have greater equity in literacy. The increasing evidence is that brain development in the early years has significant effects on subsequent literacy and language development (Mustard, 2006).

Studies within several countries in the developed world have shown a clear-cut gradient between socioeconomic status and mortality rates (*Figure 3*). These health socioeconomic gradients are similar in many respects to the findings for literacy (Keating and Hertzman, 1999; Mustard, 2006). A critical question is what causes these gradients in health? Case et al (2002) using data from the US National Health Interview Survey, and the Panel of Income Dynamics, and the Child Development Supplement found that gradients in health are detectable by the age of three and become steeper with age (*Figure 4*). Gradients in verbal skills can also be shown at age three (Hart and Risley, 1995).

A Swedish study of adult health and conditions of early childhood is compatible with the conclusion that childhood conditions affect adult health (Lundberg, 1993). The more adverse the conditions for early child development, the greater the risk of cardiovascular and mental health problems are in adult life. These observations are compatible with the hypothesis that the development of the brain and biological pathways in early life is contributing to the socio-economic gradients in physical and mental health in adult life (Mustard, 2006).

An important question is, what factors in the socioeconomic environment in early childhood contribute to trajectories that lead to these gradients in health, learning, and behaviour throughout the life cycle?

Evidence from animal and human studies (Knudsen et al, 2006; Gluckman and Hanson, 2004; Mustard, 2006) shows that conditions in early life set patterns of development of the brain and biological pathways that affect health, learning and behaviour throughout life contributing to inequities in health, learning, and behaviour. There is now better understanding of how the development of the neurological and biological pathways that are

influenced by experience in early life influence these gradients in health, learning, and behaviour.

Early Experience and Brain Development

In the last two decades there has been an exponential growth in knowledge about brain and biological development in the early years and the effect on health, learning, and behaviour throughout the life cycle (Mustard, 2006].

The activation of neural circuits through the effects of sensory stimulation influence how the genes in neurons are expressed (turned on or off) (Mustard, 2006). One mechanism that influences gene function is referred to as epigenetics (Weaver et al, 2004; Seckl and Meaney, 2004). These gene regulatory processes influence the differentiation of neurons and their connections for the different functions such as vision, hearing, language, behaviour, and the stress pathway. An example of the effects of early experience on gene expression and neuron differentiation is the influence of the mothering of rats in the expression of genes for the glucocorticoid (stress hormone) pathway involving the hypothalamus, the pituitary gland and the adrenal gland (Meaney, 2001; Meaney and Szyf, 2005). There is a sensitive period in early life when the function of these neural pathways is established. Rat pups that are poorly nurtured by their mothers can have important genes methylated which shuts down function of the genes. After the sensitive period has passed, it is difficult to alter the function of these pathways. These changes in neuron function influence the temperament, behaviour, and memory of the rats throughout their life course (Knudsen et al, 2006; Meaney, 2001).

A classic example of a neural circuit whose architecture is shaped by early experience is the pathway that conveys visual signals from the retina to the visual cortex (Hensch, 2004; Hubel and Wiesel, 1965; Knudsen et al, 2006; Mustard, 2006). If the visual signals from one eye are blocked in early development, the visual cortex does not develop a normal neuronal architecture and function. Restoration of the visual sensing system later in development does not lead to the development of normal architecture for the visual cortex serving the disadvantaged eye. This can be considered as a sensitive or critical period for the development of neurons and the pathways involved in vision, which, if it is missed, cannot at the present moment be restored to a normal architecture and function later on in development. Other critical periods in the development of the brain include sound and touch (Tessier et al, 1998; Klinke, 1999).

We also know that the strong shaping influence of early experience on neural circuits (Knudsen et al, 2006) during their maturation results from two factors. The first is that the molecular and cellular mechanisms that mediate neuroplasticity during a sensitive period are highly active enabling circuits to undergo substantial changes in architecture and gene expression. After a sensitive period has passed, one or more of the critical mechanisms will no longer operate or operate less effectively. A second factor is that it is far easier to form a pattern of connections in a neural circuit that does not already have an established configuration. This shaping and strengthening process engages cellular and circuit level mechanisms that stabilize the neuron connections. Early experience is particularly influential because it has the advantage of constructing patterns of brain pathways or circuits without interference from an already established pattern (Knudsen et al, 2006).

In the hierarchies of neural circuits that affect complex behaviour, sensitive periods for circuits at lower levels in the hierarchy, which perform more fundamental computations, tend to close before those for circuits at higher levels of function (Knudsen et al, 2006). For example, the sensitive period for circuits responsible for combining visual inputs from the two eyes ends long before the sensitive period for circuits responsible for recognizing important objects. This sequencing of sensitive periods is logical, because higher levels in a hierarchy depend on precise and reliable information from lower levels in order to accomplish their functions (i.e., early learning begets later learning, and skills beget skills). Thus, experience-dependent shaping of high-level circuits depends on the quality of the information provided by lower level circuits, and the shaping of high-level circuits cannot be completed until the functions carried out by lower-level circuits are stable and reliable. The sensitive periods for most lower-level circuits end relatively early in life. In contrast, sensitive periods for some high-level circuits remain open until the individual approaches adulthood and some are plastic in adult life.

The Limbic Hypothalamic Pituitary Adrenal Pathway (Stress Pathway,) which involves a number of neural circuits, starts developing in very early life. It has major effects on physical and mental health, behaviour, and to some extent cognition (Sternberg, 2000; McEwen, 2002; LeDoux, 2002). In discussing the stress response, two terms are often used – the limbic system and the hypothalamus pituitary adrenal axis or the HPA pathway. The term limbic system was originally used to relate to the centre for emotions which includes the amygdala and the HPA pathway. Since the concepts were introduced, there is evidence that two structures in the limbic system of the brain (hippocampus and amygdala) play important roles in emotion, behaviour and memory and are inseparable from the stress response. The stress pathway is considered by many to involve the limbic system, which includes the amygdala, the hypothalamus, the pituitary gland, the adrenal gland and the hippocampus (Gunnar and Vasquez, 2006; McEwen, 2002; LeDoux, 2002; Mustard, 2006). It also involves the autonomic nervous system (ANS) (McEwen, 2002; Sapolsky, 2003).

The Nature Nurture Debate

The nature nurture debate has until recently led to a strong view that the major factor in human brain development was primarily genetically driven regardless of experience (Herrnstein and Murray, 1994; Ridley, 2004). As discussed in an earlier section of this paper, today we know that although genetics are important, experience in utero through to adult life has a significant effect on gene activation and expression (Suomi, 2003; Capsi et al, 2003; Ridley, 2004; Meaney and Szyf, 2005; Jaffee et al, 2005). It is clear that in the early period of development when the biological systems for vision, sound, touch and other sensing pathways are developing, there has to be activation of genes in neurons to establish differentiation of neuron function. In terms of connections between neurons, there has to be repeated

gene activation to form more permanent synaptic connections. Kandel has described this gene story for memory as "the molecular biology of memory storage: a dialogue between genes and synapses" (Kandel, 2001). It is clear that the formation of long-term memory involves experiences and gene expression.

The transcription of genes can be altered by changes in the chromatin structure induced by phosphorylation, acetylation, methylation and polyADP-ribosylation (Martinowich et al, 2003; Cohen-Armon et al, 2004; Meaney and Szyf, 2005). These experience-based epigenetic effects influence the function of DNA (Harper, 2005; Weaver et al, 2004). The role for gene experience interaction in relation to brain function is brought out by studies of identical twins. For example, each identical twin does not have the same chance of having a major behavioural disorder as the other twin if they have different experiences in early life (Shonkoff and Phillips, 2000; Rutter, 2002; Sapolsky, 2003; Mustard, 2006).

Language and Literacy

We know that the sounds an infant is exposed to when very young influence how the auditory neurons develop and function (Kuhl et al, 1992, 1993a, 1993b). For example, infants exposed to two languages (Japanese and English) in the first seven to eight months of life will have little difficulty mastering the two languages and they will not have an accent (Mechelli, 2004; Maye et al, 2002; Kuhl, 1992, 1993a). Individuals who develop competence in two languages early in life have a larger left hemisphere of the brain than individuals with monolingual backgrounds. Proficiency in the second language is directly related to the size of this part of the brain. The increased gray matter density in the left inferior parietal region was also found to be related to the age of acquisition of the second language (Mechelli, 2004). Since acquisition of a second language is best achieved in very early life, this indicates that there is a sensitive period for brain development and function for optimum language acquisition, literacy and the associated understanding. It is interesting that the other findings from these studies are that individuals who acquire a second language very early in life find it easier to learn third and fourth languages later in life. It would appear that the neurons in the auditory cortex that respond to sound develop a sensitivity to the sounds of different languages in early life that make it easier to differentiate the sounds and develop the neurological pathways necessary for capability with multiple languages. Kuhl (1993b) has concluded that the speech system remains most plastic to experience (sound) for a short period of time in early life.

The work of Huttenlocher et al (1991) and Hart and Risley (1995, 1999) (Kuhl, 1992, 1993b; Gopnik et al, 1999) has shown the extent of language exposure to children in the early years has a significant effect on the verbal skills of children at age three. The difference in verbal skills at age three among the different socioeconomic groups in the Hart and Risley study still held in respect to language capability and understanding at age nine. This observation is compatible with the evidence that the most sensitive period for brain development in respect to language capability is in the early years. Kuhl (1993b) demonstrated that after the first 12 months of life the ability to discriminate phonemes in languages to which they are not exposed, greatly diminishes.

Knudsen (2004) in his review of critical and sensitive periods for brain development makes the point that the different neural circuits involved in language development and understanding are a hierarchy. Some may have a critical or sensitive period that must develop before the other pathways can form. He concludes that the brain circuits involved in phonetic analysis and grammar and syntax also have a sensitive period. This evidence is compatible with the concept that trajectories for language and literacy performance tend to be set in early life. The data from longitudinal studies and the few randomized early intervention programs indicate the early years are when the brain is most plastic for the development of verbal skills and language.

Both humans and songbirds learn their complex vocalizations early in life showing a strong dependence on hearing the adults (Doupe and Kuhl, 1999). Humans and songbirds have evolved a complex hierarchy of specialized forebrain areas in which motor and auditory centres interact closely. Dyslexics show a slow communication between parietal temporal region, the inferior frontal gyrus and temporal region (Broca's and Wernicke's areas) (Shaywitz et al, 1998, 2002). They also show impairments in naming pictures of subjects in addition to the difficulties with reading (McCrory et al, 2005). In recent studies, reduced activation in the left occipital temporal area was found for both word reading and picture naming.

Many studies show that children who develop poor verbal skills during the first three years of life will do poorly in language and literacy in the school system (Hart and Risley, 1995; Huttenlocher, 1991; Stattin and Klackenberg-Larsson, 1993).

It is clear that experience in the early years of life has significant effects on the differentiation of neurons for their specific functions and in the formation of the hierarchy of neural pathways that affect behaviour, learning, and the biological pathways that influence health.

Health, Well-being and Competence of Populations

In reviewing all the evidence, societies that invest in early child development have healthier and more competent populations than countries that do not invest substantially in early child development (Mustard, 2006). In the section examining the population gradients in health and inequalities in health, the concept was introduced that the development of the brain and biological pathways in the early years can affect physical and mental health in adult life. The health of populations as measured by death or sickness and socioeconomic status in developed countries is a gradient (Evans et al, 1994; Adler

and Ostrove, 1999). In Western countries the largest number of individuals affected by the social determinants of health and well-being are in the middle class.

Conditions during pregnancy and early life influence the development of the brain and biological pathways that set risks for coronary heart disease, hypertension, type II diabetes, mental health problems and other conditions in adult life such as disorders of the immune system. The findings from a Swedish longitudinal study (Lundberg, 1993) show that children brought up in poor environments (neglect and abuse) during early child development have an increased risk in adult life for poor health. In the Swedish study, the risk for cardiovascular problems for adults who had been in very adverse early child circumstances in comparison to those who were in good environments for child development was seven to one. The risk for mental health problems, such as depression was ten to one. The data concerning depression in this study is compatible with what we are beginning to understand of how poor early child development can alter gene expression in relation to serotonin transport which can influence depression. The odds ratio for mortality for those brought up in the poorest environments was two to one compared to children brought up in good circumstances. These observations are compatible with our increased understanding of how social experience and brain development in the early years can affect pathways particularly the limbic HPA pathway that affects emotions, behaviour, and vulnerability to mental health problems like depression as well as coronary artery disease (Mustard, 2006).

In reviewing all of the available evidence about early childhood and health, Sir Donald Acheson's Commission on Inequalities in Health in Great Britain (Acheson, 1998) concluded,

> *"Follow up through life of successive samples of birth has pointed to the crucial influence of early life on sub sequent mental and physical health and development."*

To continue the experiments in civilization, and establish and sustain healthy, tolerant, prosperous, democratic societies and sustainable environments requires investments to improve the health, well-being, competence and quality of populations in all sectors of society. This cannot be achieved unless we substantially improve the environment for early child development. There are examples from studies in animals and humans that demonstrate how the conditions of early development can improve the competence and coping skills of individuals. It is important to understand that early interventions for children in the preschool period have a much greater effect than later interventions.

For example, studies of children from orphanages in Romania placed into middle class homes in the UK, Canada, and the US, show that children adopted early after birth into middle class homes develop to a similar level of competence as children born of middle class parents in these countries. Those adopted later (after eight months in the Romanian orphanage study) do not develop as well and they show significant behaviour problems. Longitudinal studies in a number of countries show that children placed in centre-based programs with their parents soon after birth of the child improves outcomes (Brooks-Gunn, 2003). By the time children who had poor development enter the school system, the weight of the evidence, on a population basis, is that the school programs do not significantly change outcomes.

The U.S. Infant Health and Development Program (IHDP) study of children from birth to age three has examined cognitive and language development. The investigators found that the quality of the child's program during this period has a significant effect on outcome by age three (Brooks-Gunn et al, 2002). Brooks-Gunn concluded from their work with the IHDP data that high quality centre-based care showed excellent results on early child development (Hill et al, 2002). Brooks-Gunn has concluded that the provision of universal high quality centre-based childcare is beneficial to everyone including children solely cared for by their mothers. She concluded that these positive benefits continued into the late elementary and high school years.

In their studies of low birth-weight premature infants, Brooks-Gunn and her colleagues found sustained effects of centre-based programs (age one to three) on the WISC verbal scores at age eight (Hill et al, 2003). The centre-based programs were started at year one and carried on to year three. This program included home visits. Since the children were all premature, they had appropriate healthcare after birth. A striking finding in this study was the children who used the centre-based program for more than 400 days over the two year period had much better verbal scores at age eight than the children who spent less time in the early years centres. The children who attended these centres scored much better than the children who were not randomized to the centre-based programs. This is good evidence of a dose effect in the one to three year age group on brain development in the early years of development for premature infants. Again, these findings are congruent with what we know about adequate and frequent stimuli influencing the biology of brain development in the very early years and that there is a dose effect in how neurons and their synapses develop.

A classic study showing the effects of early child development on learning in the school system comes from the Abecedarian study (Ramey et al, 2000). Children of single parent mothers in poor socioeconomic circumstances in North Carolina were randomized at four months of age into two groups. One group was placed in a centre-based early child development program involving the parents and the other group was left to the support of the parent and whatever social programs were available. At the time of school entry, the children in both groups were again randomized. One half of each group went into the regular school system and the other into a special three-year school program. The children in the preschool program who then went into the special three year program performance in language, and mathematics was vastly superior to all the groups. The children who had the preschool program but not the special education program lost a considerable part of the benefit of the early child development program by age 21. The children given only the special education program showed a small gain in language capability that was largely lost at the age of 21. These data show that conditions of early child development have a major effect on performance in

(continued on page 39)

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The Neuroscience of Early Child Development

Stuart Shanker
Distinguished Research Professor of Philosophy and Psychology, York University
Director, The Milton and Ethel Harris Research Initiative, York University
President, Council of Early Child Development

About the Author:

Prof. Shanker and the Milton and Ethel Harris Research Initiative are involved in a number of different studies looking at the processes involved in the development of language and reflective consciousness in young infants; studies in evolutionary theory involving nonhuman primates; and clinical studies designed to significantly enhance the capacities of children with various types of impairment. The overall goal is to see how newly identified developmental processes were and are responsible for the growth of the human mind; how these same processes are compromised in developmental and mental health disorders; and how, when restored through intervention programmes that mobilize these processes, individuals are returned to a healthy developmental trajectory.

Prof. Shanker was educated at Oxford, where he obtained a B.A. in Philosophy, Politics and Economics, and a B Phil and D Phil in philosophy. He has received numerous academic distinctions, and his research is currently being funded by Cure Autism Now, The Harris Steel Foundation, The Templeton Foundation, and The Unicorn Foundation. Among his recent publications are Apes, language and the human mind (with Sue Savage-Rumbaugh and Talbot Taylor, 1998); Wittgenstein.s remarks on the foundations of AI (1998); and most recently, The First Idea (with Stanley Greenspan, 2004). In addition to serving as Co-Director of the Council of Human Development, he is also the Chair for Canada of the Interdisciplinary Council of Learning and Developmental Disorders.

Neuroscience is finally beginning to shed important light on a basic fact about school performance that principals have long understood: namely, that fundamental competences at school entry, such as language, reading, or math ability, strongly predict a child's ultimate level of education and academic success. It has also long been understood that it is extremely difficult to alter the outcome of a child who has entered the system with a developmental, psychological, or social challenge. What we are learning from recent advances in neuroscience is that it is not the early educators, nor the educational system itself, that are to blame for our failure to alter these trajectories significantly, but rather, that much greater emphasis has to be placed on early child development programs.

The ability to learn is in large part determined by certain core capacities that affect a child's ability to attend to a lesson; process the auditory or visual information that is being delivered; recognize the significance of patterns, whether temporal, visual, auditory or social; respond to challenges or new information with curiosity and interest; or simply, to grasp and conform to the norms of classroom behavior. If a child enters school without having acquired these and related core capacities, this will significantly impair his or her ability to rise to the cognitive challenges they will be exposed to in school. Thus, if we truly wish to provide our children with equal opportunities in life, and to create an adequately educated population, it is vital that we build up these core capacities or respond to impairments when the brain is at its most plastic, in the early years of life. For by the time that a child enters school even the most intensive of programs, let alone the standard schoolroom curriculum, are limited in what they can accomplish.

This point is subtle and extremely important when discussing the purpose and implementation of early child development programs. The typically developing child who has been fortunate enough to be exposed to an enriched caregiving environment in the first years of life is ready, when he or she enters school, to acquire significant amounts of new information. But in order to arrive at this point she has had to master a number of 'functional/emotional' developmental milestones.[1] At birth the child's brain is approximately only ¼ its adult size and the great bulk of neurobiological growth occurs in the first year of life. This growth does not consist in the production of new neurons but rather, in the production of myelin fibre, which is critical for the speed and efficiency of information-processing, and in the growth of dendrites and axons and the synaptic connections that they form between neurons. This process of synaptogenesis peaks at around 8 months and is followed by a period of synaptic pruning, during which the connections that have been most used become entrenched while underused connections wither away and are reabsorbed.

When we refer to the *plasticity* of the brain in these early months we mean that the connections that are formed in the sensory systems, between the sensory and motor systems, and in the social-communicative systems, are highly dependent on the kinds of experiences that the child undergoes. But unlike the connections that occur in learning proper – what neuroscientists refer to as *experience-dependent* – these so-called *experience expectant* connections do not remain plastic. That is, once formed they are highly difficult to alter. Herein is one of the main reasons (alongside socio-economic factors) why educators find it so difficult to alter a child's trajectory once he or she enters the school system.

This distinction between experience-expectant and experience-dependent processes[2] is highly relevant for our understanding of the purpose and design of early child development programs; for we are not concerned with the acquisition of *information* in these early years, but rather, in the development of the core capacities that will enable the child to acquire information. That is, we are concerned with such basic capacities as:

* the infant's ability to attend to the world, which is a function of both her physical and her emotional state; e.g., it is difficult for a child with severe

cholic, or in the midst of a tantrum, to attend to anything

* her ability to engage with and relate warmly to her caregiver: i.e., the security of the child's attachment and the absence of prolonged stress. These factors have important implications for the secretion of cortisol, which, if too high or too low, can severely disrupt the process of synpatogenesis, with marked consequences for the infant's later physical and mental health[3]
* the infant's ability to engage in chains of communication with her care givers, using vocalizations, gestures, facial expressions, body movements, etc.; it is through these affective interactions, which begin with brief exchanges and gradually develop into sustained, co-regulated chains, that the child acquires the ability to engage in purposeful behaviors of her own, such as taking her mother by the hand, leading her to the kitchen cup board and gesturing and vocalizing to get the cookie that she wants
* the infant's growing ability to think symbolically, which emerges as a result of attending to and mastering her caregiver's meaningful use of sounds or gestures in increasingly complex problem-solving interactions.[4]

One of the most exciting advances we have made in recent years has been in our understanding of the pivotal role that emotions play in the development of these core capacities. Just as emotions will later serve as a key component in the child's ability to retain the information she is being taught in long-term memory[5], so too, at the earliest stages of development, emotions serve as the critical element linking sensory processing with motor responses. It is a process that begins at birth. For example, the infant will only turn towards the sound of his mother's voice if she finds the experience pleasant or interesting; a child who finds the sound of the human voice aversive may respond by shrinking away from the painful stimulus. Similarly, a child who feels insecure about the location or movement of her body, or who has trouble processing her caregiver's vocalizations, may respond by shunning interactions. Unfortunately, such defensive mechanisms not only impair the formation of the core capacities sketched above, by constraining the nurturing interactions that are so critical for their development, but may also serve to entrench primitive neural response patterns – e.g., the flight-or-fight response to what are perceived as threatening social overtures – that, as remarked above, can become difficult to regulate by the age of school-entry.

Here are the areas where an early child development program can have a profound impact. For in recent years we have begun to make significant advances in our techniques for identifying early signs of developmental, psychological and social challenges and implementing intervention strategies that are effective in helping the child to return to a healthy developmental trajectory. But it is not simply in regards to such problems that early child development programs are so important; for children who are developing typically vary enormously in their mastery of these core capacities, and they too, with similar kinds of stimulation, are helped considerably in their mastery of these abilities.

If our goal as a society is to enable all our children to become, not simply minimally, but highly literate and mathematically numerate, it is clear that we should be focusing our energies on the early years of development. And just as school principals have long understood the importance of this point, so too the local school offers us the perfect vehicle to implement community-based programs that integrate caregiving, health, and early education. Such programs should also be designed to provide parents with the opportunities, resources, and skills necessary to help their children fully master these core capacities. Now that the neuroscience of development is clarifying just why the early years are so important for later school performance, all that remains is to foster the social and political will to provide our children – all our children – with the skills they will need to cope with the daunting challenges they will face in the 21st century.

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[4] For a much fuller account of this developmental scenario, see Greenspan, S. & Shanker, S. (2004) *The First Idea*, Da Capo Press, Perseus Books.

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Measuring Community Early Child Development

Dr. Magdalena Janus
Offord Centre, McMaster University

The Early Development Instrument (EDI) was developed in response to the growing need to monitor status of child development at the cusp between the early years and school entry. The EDI is a teacher-completed checklist, containing just over 100 core items grouped into five developmental domains:

* **Physical health/well-being** - includes gross and fine motor skills - e.g., holding a pencil, running on the playground, motor coordination, and adequate energy levels for classroom activities.
* **Social knowledge and competence** - includes curiosity about the world, eagerness to try new experiences, knowledge of standards of acceptable behaviour in a public place, ability to control own behaviour, cooperation with others, following rules, and ability to play and work with other children.
* **Emotional health/maturity** - includes ability to reflect before acting, a balance between too fearful and too impulsive, and ability to deal with feelings at the age-appropriate level, and empathic response to other people's feelings.
* **Language and cognitive development** - includes reading awareness, age-appropriate reading, writing and numeracy skills, board games, and ability to understand similarities and differences, and to recite back specific pieces of information from memory.
* **Communication skills and general knowledge** - includes skills to communicate needs and wants in socially appropriate ways, symbolic use of language, story telling, and age-appropriate knowledge about the life and world around.

Additional questions collect information on children's demographics (gender and date of birth), type of class attended, special needs and Aboriginal status. The final set of questions is dedicated to the child's history prior to school entry, including participation in any intervention programs, child care, preschool etc. There is space for up to five questions customized by a community.

School Readiness and Ready to Learn

For the purpose of the monitoring function, school readiness is conceptualized in the EDI as a proxy for a holistic view of outcomes of the child's early years, within the context of family and neighbourhood. Therefore, at a population level, it is intended to capture the status of children's early development in the context of that child's community.

Children are born ready to learn; their neurosystem has plenty of opportunity within the first stages of life, starting from utero, to develop the connections – or lose them. Without costly brain scans, it is not possible to assess the extent to which their brain has been developing. However, when operationalised as child readiness for school, the outcomes of early development are measurable.

Readiness for school differs from readiness to learn in that it is a much narrower concept, focused on the child's ability to meet the task demands of school, such as:

- being comfortable exploring and asking questions,
- being able to hold a pencil, and run on the playground,
- listening to the teacher,
- playing and working with other children,
- remembering and following rules.

About the Author

Dr. Magdalena Janus holds a Ph.D. in behavioural sciences from Cambridge University. Her doctoral research involved studying the nature of relationships among young human and non-human primates. Subsequently, she was a post-doctoral fellow and research associate at the Hospital for Sick Children in Toronto. Currently, she is an assistant professor and Chair in Early Child Development at McMaster University in Hamilton, Ontario.

Since joining the Offord Centre for Child Studies at McMaster University in 1997, Dr. Janus has been involved in a community-linked project (School Readiness to Learn Project) developing a measure of children's readiness to learn at school entry, called the Early Development Instrument (EDI). The focus of this research is to provide communities with the information that will inform them about the state of early childhood development and provide a tool for mobilization of resources.

Dr. Janus has taught undergraduate students at Cambridge University (UK), York University and University of Guelph (Canada). She holds academic appointments at the Department of Psychiatry and Behavioural Neurosciences and at the Department of Family Medicine at McMaster University. She takes an active role in undergraduate education of future physicians, and teaches in the Bachelor of Health Sciences and Psychology programs.

These and other similar abilities makes it possible for children to benefit from the educational activities that are provided by the school.

School readiness, understood as the child's ability to meet school tasks, can be used as an indicator of children's health in a community, because it: 1) reflects a broad concept of developmental health, 2) provides a population-level indicator, and 3) is useful at many levels. Unlike the commonly used "school readiness" screens, the EDI covers all the relevant aspects of child development, not just cognitive skills.

More targeted approaches address the needs of children at particular risk of having educational problems, but recent data suggest that about half of children with difficulties in kindergarten could not be easily identified prior to school entry based on the most common risk factors (e.g., low socioeconomic status or health problems). A population-level database includes all children, regardless of their known risk factors (or lack of them) in painting a picture of a community's well-being as reflected in the developmental status of children. The EDI's usefulness stems from both the wide coverage, and population-level implementation. Therefore, its results can be used to highlight areas of strength and weakness in neighbourhoods, thus allowing for planning for resources, as well as for analyzing patterns of outcomes in relation to other data available for the community.

Development and Use of EDI in Canada

The EDI was first piloted in 1998 in three sites in Southern Ontario. In the subsequent two years, it was modified and used for over 40,000 children across Canada. The EDI items were finalized in 2000. Since then, the EDI has been a part of the federal Understanding the Early Years initiative, as well as several provincial initiatives. The EDI has been used in all Canadian provinces; currently, British Columbia, Manitoba and Ontario have full coverage. The Canadian EDI database includes over 400,000 senior-kindergarten level children, and about 50,000 junior-kindergarten children. The EDI has been translated into three languages in addition to English and French (Spanish, Albanian, and Dutch), and used in seven other countries, including Australia. The first Australian implementation happened in 2002. Since then, the project had encompassed more than 60 communities in a three-year federally-funded rollout.

The EDI's reliability and validity is monitored on an ongoing basis. Analyses demonstrate that its structure is robust and that the validity is acceptable (Janus & Offord in press). The EDI is collected for individual children, and it correlates reliably with other similar measures of child development, as well as predicts outcomes. However, it is not designed to be a clinical or diagnostic tool. The EDI's strength is in aggregation of individual data to the group level, reported in association with other sources of data related to children, families and communities.

Some of the most consistent results using the EDI demonstrate that, on average, boys have poorer outcomes than girls, older children have higher scores than younger children, and children for whom the language of instruction is not their first language are not doing as well as those for whom it is not. Moreover, if the EDI data are collected for groups of children on whom additional information is available, it is possible to demonstrate differences between neighbourhoods and between children who attended programs prior to school entry.

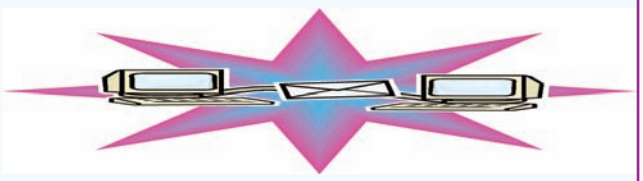
Community Early Child Development Reporting

Communities in Canada and elsewhere are finding value in the EDI beyond its information on early child development. It is proving to be a mobilization tool, a means of starting or continuing a dialogue among partners and agencies with interests vested in healthy child development. Schools are obvious partners in such conversations. Yet, historically it had not always been straightforward to engage providers of early childhood services and schools in meaningful dialogues. There is evidence to suggest that transition to school is often difficult for all sides: children, families, and kindergarten teachers due to the differences in approaches. One of the additional aspects of the EDI is that it brings into relief the needs of children and allows the different partners to focus on their similarities.

In particular, it is crucial for schools to have a picture of the developmental status of children who come in. Certain patterns can be predicted simply by knowing the demographics of the population from which the school draws its students, like a high proportion of children with an ESL status in areas where there are large numbers of immigrant families. Nevertheless, these children do not necessarily follow the stereotypes. Children who grow up in a home where the language of instruction (English or French) may not be spoken, but reading and literacy are part of a child's upbringing, will fare better – after perhaps an initial transition difficulties – than children who spoke English or French, but did not grow up in an environment promoting literacy and healthy socio-emotional development. Having an indicator of children's developmental health at school entry is equally relevant as an awareness of the risk factors – in fact, it is the two together that make the most meaningful picture. For example, an area rich in immigrant families may contribute to school children who will struggle with the language of instruction, but have strong social and emotional skills. On the other hand, an area that appears to have high socioeconomic advantage, and thus, on average, likely to have a low proportion of children with problems, may contribute disproportionately high numbers of children with difficulties. These somewhat unexpected patterns are powerful for schools in terms of future planning. A comprehensive indicator of child development status for the population of children who are beginning grade one is useful both in taking stock of the status of the population that feeds into the school, and in looking towards the future in planning for further grades. Moreover, in view of the common academic testing in later grades, it is important to know how far – or how close – a cohort of children went during their first three or four years of life to get to that point.

There is evidence that most children learn at school at the same pace, regardless of where they started from. This suggests that gaps that may exist between groups of children at kindergarten, will be there for the rest of the children's school career. With the currently increasing knowledge of children's developmental trajec-

tories, it is not an overstatement to say that the roots of the high school dropout rates lie in kindergarten – or perhaps even earlier than that. A robust, holistic indicator of children's developmental health status at the entry to formal education may provide one crucial step towards lowering that rate, and thus ensuring that more children have a chance to grow up to become healthy and productive adults.



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Janet Mort has been an award winning innovator and school administrator most of her career.

She was a principal at age 23 and a Superintendent of Schools at age 40. She was appointed Superintendent of Educational Innovation for the Province of BC in 1990, leading the implementation of a 10 year plan of province-wide educational reform.

She has been the recipient of numerous awards including the BCTF's Innovation Award in 1969; the American Public Schools Public Relations Association award of honor in 1989; the Queen's Golden Jubilee Medal in 2004 in recognition of her service to schools and, in the same year the recipient of a SSHRC (Social Sciences and Humanities Research Council} award for her doctoral research.

She has been a frequent speaker on all aspects of educational change internationally and has published two books: Teaching with The Winning Touch (1983) and A Passion for our Grandchildren (2001). Articles about her innovative work have been published in many professional journals. Dr. Tom Sergiovanni of University of Texas wrote about her district's public relations program in his book Value Added Leadership: How to get Extraordinary Performance in Schools (1990).

She is presently completing the Doctoral program in Language and Literacy with a specialty in early learning at the University of Victoria. She has committed the next stage of her career toward enhancing literacy opportunities for young children through the implementation of research-based promising practice.

Mobilizing Schools and Communities Investing in Our Youngest, Most Vulnerable Children

Janet N. Mort
Doctoral Candidate, University of Victoria

Canadian Schools: A New Mandate?

Could Canada's principals be in the most pivotal position to change the future for its most vulnerable young children? Principals know that as many as 25% of children begin school fundamentally challenged in many aspects of cognitive, language, social, physical and emotional development. Research reveals that early childhood experiences have a significant impact on learning, behaviour, health and well-being throughout life.

Principals are pivotal in establishing and implementing school vision. Fullan and Hargreaves (1998) describe principals as "the gatekeepers and gate openers of schools. Connecting with what is out there in ways that really matter for students is almost impossible without their leadership, intervention and support" (p. 105). Fullan, Hargreaves and other researchers recently challenged schools to play a greater role in creating a learning society that is life-shaping and world-changing in its social mission (Hargreaves, 2003).

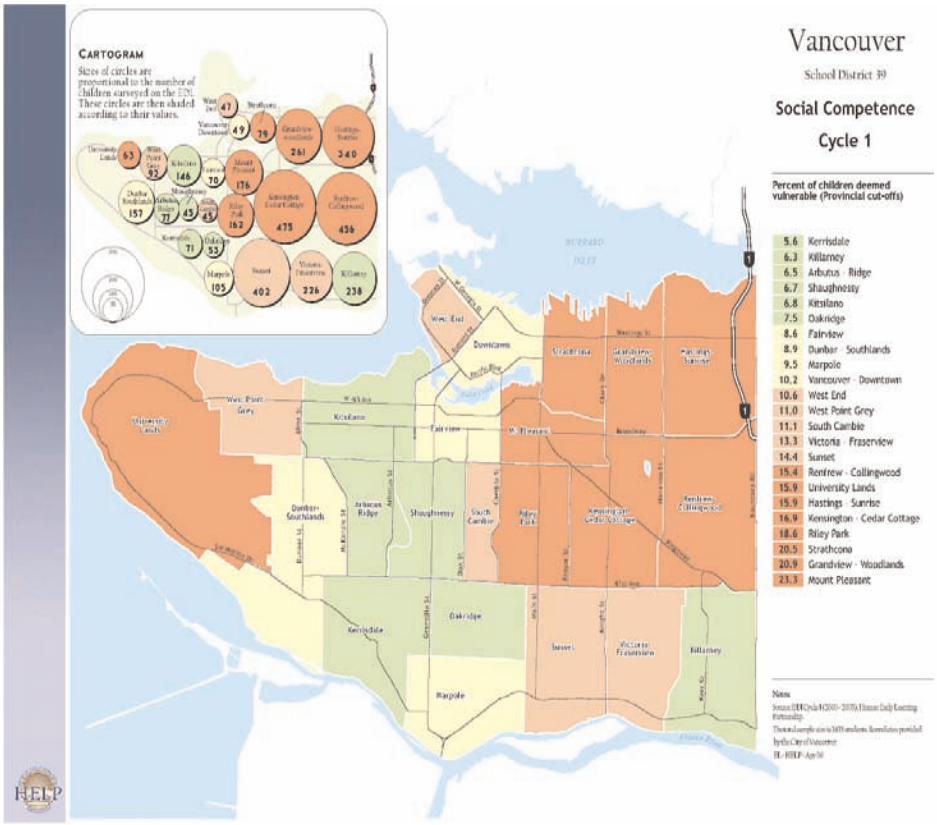
Many renowned publications stress the need for schools to build communities, rather than merely strengthen families. In this model, school systems regard parents, families, and children as both resources and partners in the planning of school services.

Myers (2002) describes organizations essential to the promotion of effective ECD programs. These include schools, the private sector, social organizations, government and non-governmental agencies, and voluntary, philanthropic organizations. Her reasons for promoting effective ECD programs include issues of human rights, moral and social values, economic productivity, program efficacy, cost saving, and social equity (p. 257). Using five case studies, Kirpal (2002) highlights the essential role played by local community members both to generate and promote successful, cost effective, and sustainable ECD programs (p. 13).

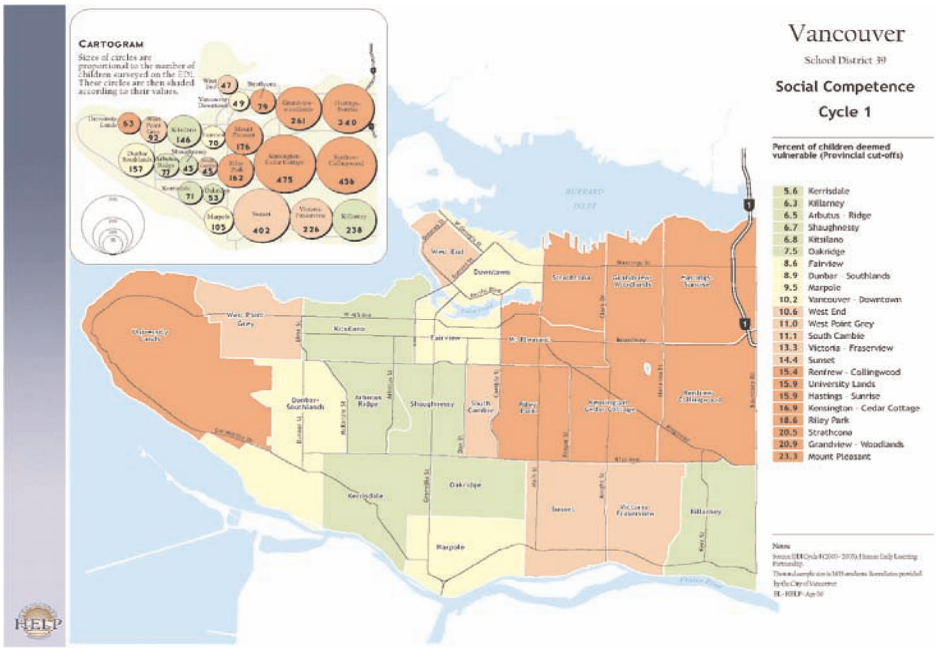
Schorr (1997) challenges society to play a more active part in schooling by "establishing new partnerships in which entire systems are the focus of change: schools, families, neighborhoods, and cities in concert" (p. 6). Canadian researchers Hargreaves and Fullan (1998) concur: "In turning schools into stronger communities, school reforms should not be separated from wider urban reform. They depend on each other. The full solution lies outside the schools as well as within" (p. 13).

Schools and communities across Canada are responding by implementing early learning initiatives. Significant progress has been made in British Columbia through the Human Early Learning Partnership (HELP) Mapping Project, under the direction of Dr. Clyde Hertzman of the University of British Columbia. Kindergarten teachers in all sixty BC school districts, as well as many independent and band schools, have assessed the developmental characteristics of their students at school entry in five domains using the Early Development Instrument (EDI): physical health and well-being; social competence; emotional maturity; language and cognitive development; and communication skills. HELP provided funding for release time for kindergarten teachers, training in the use of the EDI instrument, and administration costs. The EDI assessment is administered every three years to collect longitudinal data and establish developmental trajectories.

Subsequently HELP maps neighbourhood EDI results, in order to gain a greater understanding of the role that community factors play in supporting early childhood development. Results are discussed in public forums, in order to provide communities with information regarding the school readiness of preschool populations. Results also assist communities not only to assess local ECD programs and other assets, but also to plan new programs that address the needs of vulnerable populations.



Provincial maps are developed for each of the five domains to demonstrate the % of vulnerable children in various school districts and communities in the province.



In cycle 1, administered in 2000, this map identified the % of vulnerable children in various neighbourhoods in Vancouver. Schools and communities used this information to determine how to apply resources to address these identified needs. Maps such as this are produced for each community in each of the five domains.

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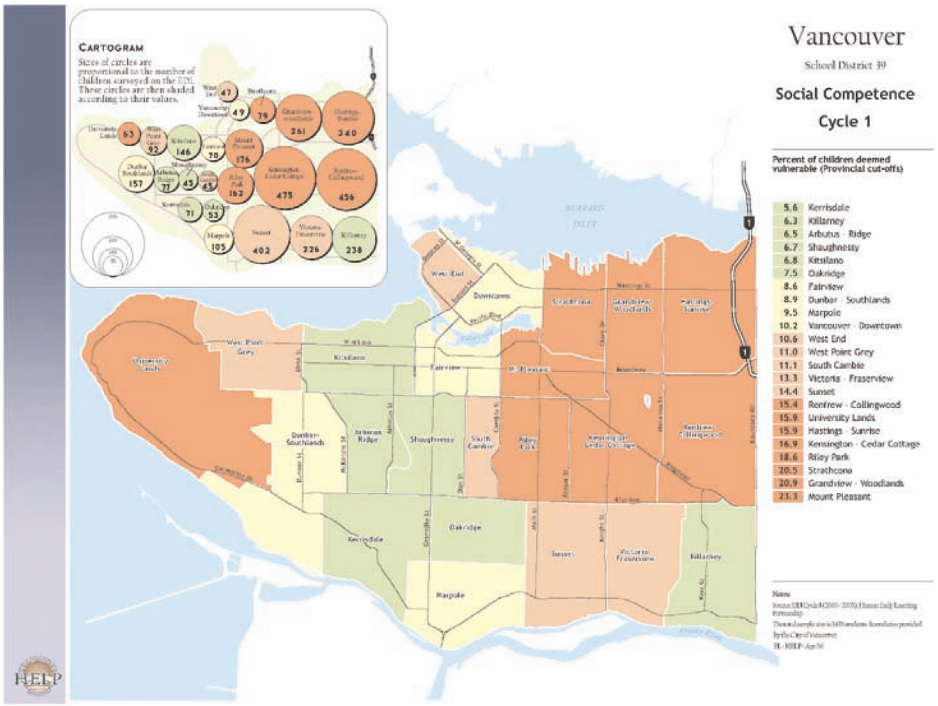


In cycle 2, administered three years after cycle 1, there are obvious changes in vulnerabilities in different neighbourhoods. Schools and communities use these results to determine how newly-applied resources are making a difference and where to apply further programs and resources.

In 2004, the independent EDI Impact Study was conducted to examine the following: processes used by school districts to disseminate the results; the value placed on the data by communities; issues or problems that arose; and initiatives or projects that resulted from the data. The resulting report was published and presented to participating school districts, members of BC's Legislative Assembly, and federal government agencies. It was also posted on the HELP web site. In 2006 a further, similar study of the EDI process and impact was conducted. Results from both studies are reflected in this article.

School Districts Unanimously Value the EDI Data

All districts surveyed valued the EDI data for various reasons. Districts are enthusiastic about their involvement in employing the data, and in linking the data to other currently employed measurement instruments. A small number of districts reported that although there had been initial resistance from some kindergarten teachers, most felt validated by the process.

Almost all communities have created intersectoral coalitions involving multiple agencies, that include not only ECD communities, but also education, health, social services, library, and recreational agencies. Each coalition meets unique community needs. These intersectoral agencies collaborate on the use of the data, by identifying vulnerable young children in their communities, assessing their pre-kindergarten needs, tracking the resources families have access to, and creating new, more effective offerings. Schools are playing a significant role in most communities. A positive and significant result of the project has been the coalescing and strengthening of these intersectoral community coalitions.

Many school districts reported that this was their first exposure to hard data indicating why they should become involved in addressing the preschool agenda, and that they now felt confident to apply findings to the reallocation of funding.

School districts surveyed have unanimously endorsed the EDI process. EDI District Contacts (persons responsible for supervising the process) have been established in all school districts. The following comments reflect their view of the value of EDI:

Our school district has used the information to plan collaboratively with preschool agencies and service providers. There has been a concerted effort made to reduce the number of children who arrive not yet ready to learn (SD 6, Rocky Mountain).

There has been more buy-in during the second round as we use the data to determine program/resource needs in particular areas of our community (SD 23, Central Okanagan).

The data highlights the diverse nature of the district and is useful in identifying schools and communities where additional supports need to be in place (SD 36, Surrey).

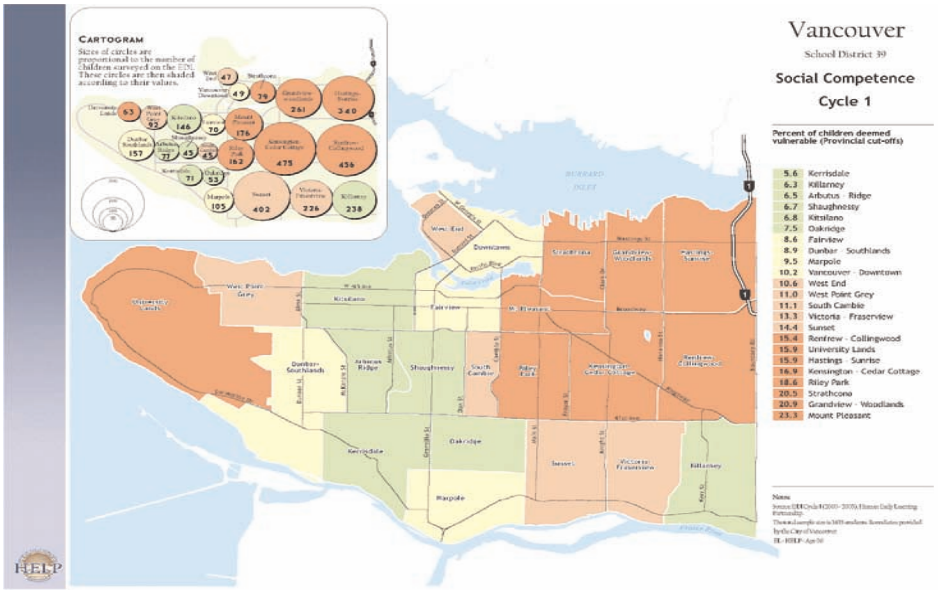
It has helped us focus our in-service for kindergarten teachers (SD 38, Richmond).

We can now speak with the authority of research data for building capacity in early childhood programs (SD 50, Haida Gwaii).

It has helped our schools formulate their school goals. It has also helped in conversations with our early learning community as we assist them to put programs in place in the needy areas of our community (SD 73, Kamloops/Thompson).

We have used the data in our applications for grants and to justify the need for a process of working together with other community organizations (SD 85, Vancouver Island North).

Recently HELP was able to establish a connection between the Kindergarten EDI data and the Grade 4 provincial *Foundation Skills Assessment* program (FSA). A significant, although not surprising, correlation was found between those five year olds who demonstrated vulnerabilities in the five domains of EDI and their subsequent failure to meet FSA-assessment expectations four years later. Discussion has yet to be initiated regarding the ramifications of generating school programming that addresses the needs of children who have been shown to be vulnerable in kindergarten, with a view to affecting their performance in the FSA results.



There is a high correlation between children who were identified as vulnerable on the EDI assessment and their performance four years later on the Foundation Skills Assessment measurement.

Hundreds of Projects!

The result is that hundreds of new community-driven, early childhood projects now focus on strengthening social capital and family capacity. Many schools are playing a significant role. Hundreds of projects have been documented throughout the province.

Some are pilot projects in schools, but the expectation is that many projects will expand across districts, especially where intrinsic value of a specific project is well documented. Projects are focussed in family centres that allow families to access library resources, experience creative play, become familiar with community resources, and meet other families in their neighbourhoods. Parenting centres offer instruction on literacy activities, nutrition, and behaviour management. Babies and younger children enjoy play and literacy activities with their parents. Special programs for aboriginal children include activities specific to cultural needs. Recreation programs are designed to address physical vulnerabilities. Health related programs include immunization and nutrition programs; dental, hearing and sight screening are also provided on-site. Programs such as *Roots of Empathy* address the social and emotional needs of children and are flourishing in many districts. The BC Ministry of Education has funded a province-wide *Ready, Set Learn* program, that has resulted in many initiatives including the promotion of books for babies, parent literacy fairs, and community awareness programs.

Principal R. (Ray) Clayton from SD 46, Sunshine Coast (personal communication, July 12, 2006) described a partnership between his elementary school and a neighbouring preschool, which focuses on a kindergarten readiness program with intensive parental involvement. Comprehensive preschool assessments are employed to yield IEP's (Individual Educational Plans) that are in place for vulnerable children at the beginning of their kindergarten experience. No time is lost in providing immediate intervention. Clayton comments: "If there are environmental systems that can be influenced when kids have potential, then we should be influencing them. That's our new circle of influence!"

Principal P. (Pat) McInnes from SD 5, Cranbrook (personal communication, July 13, 2006) describes how she funded two literacy play centres "on a shoestring". She established a trailer beside the school, and with donated furniture, resources and minimal grant funding, she was able to pay the wages of two facilitators. The facilitators created low-cost centres using inexpensive resources such as water, rice, paint, big toys, dress up, and library books to work with parents and children on child management, language development, scaffolding learning, creative play, and song and movement skills. Guest speakers supplement the curriculum. An average of 45 parents and children attend per day; the demand is strong for replication of the program, but resources are scarce. "Wouldn't it be nice if everyone had a neighbourhood place to go to....it's premature unless someone is willing to step in with the funding especially for the facilitators….why can't someone have a vision that this might work.…in **every** elementary school?" (McInnes' school board recently agreed to provide further funding because of the program's popularity and success.)

Other projects have become part of school district and community infrastructures. In North Vancouver and Kelowna, preschools are now systematically incorporated into public schools. In Burnaby, Parenting and Family Literacy Centres now operate in seven schools, with further expansion planned. Abbotsford school district, in partnership with other agencies, is establishing Neighbourhood Places (sites for family development) in areas where EDI results identified children as vulnerable. In Grand Forks, integrated-services centres have been established in schools across the district, with on-site offices offering health, social services, and early learning initiatives. In Qualicum, over 50 community partners have created a community and school-district driven series of creative satellite services for young children that include a literacy bus; a community play centre named *Munchkinland*; and a cadre of 250 senior-citizen volunteers who drive the bus, read to children, and support parents. Numerous other sites throughout the geographical area provide integrated services.

Schools: A Pivotal Part of "The Village"

Hargreaves and Fullan (1998) have long been advocates of the importance of the village in the raising of a child:

> … a solid system of early childhood education is one of the most consistent preventors of later school failure (and all the costs of dealing with it as a society)….Early childhood education is a powerful antidote to

these inequities. We are the first to agree that healthy societies make healthy schools. But it is not in the moral or self-interest of teachers to wait for society to respond. They can begin by making partnering with parents and community a priority. (p. 69)

Why might schools be expected to play a pivotal role in creating and sponsoring early-childhood development in concert with community activity? Enrolment is currently declining in Canada's schools. The neighbourhood elementary school is a logical site for the establishment of local child development community centres. Schools are already home to highly trained professionals, such as speech and language pathologists, librarians, counsellors, and literacy specialists. Extended use of schools by partner groups such as preschools, health organizations, and social services might well financially sustain and maintain neighbourhood centres as well as prevent school closures.

Canadian principals are well positioned to provide the leadership that may demonstrate to government policy makers both what needs to be done, and what should be done, to meet the needs of our youngest and most vulnerable children. This will entail the establishment of community coalitions and pilot projects, the development of ongoing partnerships, and the advocacy of public schools in generating lifelong opportunities for all our children, especially the most vulnerable.

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For further information on the EDI results, for detailed EDI maps of all districts in British Columbia, and to order copies of the BC Child Development Atlas that can show at a glance the relationships between child vulnerability patterns and socio-economic conditions for every neighbourhood and school district visit http://ecdportal.help.ubc.ca/atlas/BCAtlasofChildDevelopment_CD_22-01-06.pdf.

About the Author:

A paediatrician and public health physician, Dr. Robin Williams has been Medical Officer of Health for Niagara Region since 1995. She has been a member of the Faulty of Medicine, Department of Paediatrics, McMaster University, recently as Clinical Professor. She participated on the Advisory Group of the Early Years Study (McCain Mustard Report 1999) as well as a number of other advisory and expert panels related to early years initiatives both locally and provincially. Dr Williams recently chaired the 18 month Expert Panel as part of the Best Start Strategy for Ontario. Her energy and enthusiasm for all issues related to children and youth, and especially our youngest, has been evident throughout her professional and personal career.

Magic Happens If You Let It

Dr. Robin Williams

Every now and then, when working in public health, we've learned that the "holes line up in the Swiss cheese" and some catastrophe happens. For example, a series of poor food practices simultaneously occur and a food borne outbreak occurs. But, on the other side of the coin, every now and then the holes line up and MAGIC happens! Like what's transpired at one of our local schools where an Ontario Early Years Centre opened on April 2, 2002.

As you read in the opening article from Dr. Fraser Mustard, over the past decade in Ontario (and other provinces), there has been increasing attention to the importance of the quality of the experiences of the first few years of life in setting the life-long paths for our littlest people's health, learning, and behaviour. There are critical windows of opportunity for early learning (literacy, numeracy) and emotional development. Increasing and hardening of the scientific evidence is occurring which emphasizes the need for these quality experiences of sufficient duration and dose to ensure that all our children will eventually reach their potentials. Much of this depends on the establishment of healthy family foundations such as successful prenatal and delivery experiences; sound, healthy, functioning family units; breastfeeding/good nutrition; maternal health and well-being; freedom from poverty; freedom from abuse; positive nurturing/parenting and healthy supportive communities.

So a piece of magic occurred in Niagara, when the Province of Ontario decided to offer one early learning and parenting centre (Ontario Early Years Centre) per political riding. The Region of Niagara already had an active community planning group (Early Years Niagara) which had been established by the former Regional Chair as an advisory group to her on issues related to Niagara's youngest. This community action group was made up of senior representatives from various groups/sectors including education, child welfare, health, parents, childcare, police, speech and language, mental health, special needs, business and others. A process was quickly established to select interested sites for the centres and one of the four was awarded to Mary Ward Catholic School, in Niagara Falls.

The magic continued based on the creativity and combined energy and commitment of the principal, superintendent, Director of Education and the coordinator of the centre that was hired. They overhauled rooms, moved walls, and mountains, and even built an indoor tree in the main play space that reflects appropriate seasonal garb—to teach about the changing seasons. Realizing the tremendous opportunity that was ready to unfold, the staff of Mary Ward Catholic School reached out to bring together the local community, the on-site daycare centre, the neighbouring public school, the local Boys and Girls Club, and the entire school community to share in the vision of making this a very special early learning centre for children 0-6 years and their parents/caregivers.

However, the holes in the cheese didn't just naturally align themselves. It was more like a maze that required a magician to shift the holes ever so slightly in order to balance the new vision into an existing commitment of doing what was right for kids. The school community was faced with unexpected challenges which required on-going dialogue and communication in order to address their very real concerns. Increased use of precious parking spaces, "strangers" in the school building and a brigade of buggies in the front hallway were just some of the challenges which required administrative support both at the school and Board level. Priority parking was given to parents and caregivers of our youngest clientele so that they didn't have far to trek to access the OEYC. The magic continued to

unfold as the City of Niagara Falls donated adjacent land for more school parking and the School Board committed to maintenance and snow removal of the newly acquired parking spaces. Security cameras and a night access system were installed to provide safety and assurance to the Mary Ward school community. And the buggy brigade continues to be a testament to the fact that we embrace our youngest and their families, but now the buggies can be found out on the front porch!

The lessons learned continued. As the school population increased and the OEYC was using precious school space, the school community was faced with the dreaded addition of a portable for students attending Mary Ward. The commitment of the Niagara Catholic District School to the vision of quality early childhood experiences provided the support necessary for all. The portable was installed and the community continues to flourish.

The story continues. It requires time, patience and lots of open and honest communication in order that an entire village can appreciate what has been created. Our experience has been magical, one just has to feel the energy and see the sparkle in the eyes of all stakeholders to know we are supporting the hope of tomorrow.

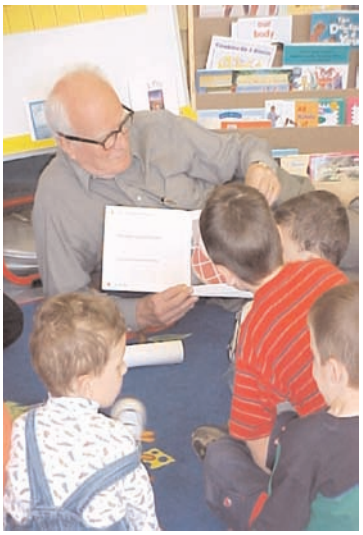
So four years later, with many children, families, staff, community volunteers, the garden club, politicians, principals, visitors from out of province and out of country, having been through the centre, there are many lessons learned.

1. If you have an early years vision that makes sense and believe that the health of a community is renewed through its children, talented people will do all they can to translate the vision into something spectacular that works in the best interests of young children and families. The OEYC at Mary Ward Catholic School grew from this vision and is now a vibrant hub, a gateway to the community that offers parents a place where everyone knows their name. Parents and caregivers can drop in to get answers to questions they may have, as well as information on available programs and services in the community area that is specific to their interests and to their child. The centre models how to read a killer story, how to engage children in dramatic play, how to celebrate, redirect, set limits, wonder at the magic of children, fill parents up with confidence and new learnings, guide, listen, discuss why rhyming in a story matters, and to discover how to build the best relationship with your child that you can. It offers parent/caregiver and child interaction opportunities, time to meet and talk with other parents, time to rhyme, and hear stories. It encourages understanding of ages and stages of children, art and music activities, numeracy development, and offers dramatic play equipment which fosters language, imagination and social interaction between young children. The coordinator, principal and Board here think outside the box, insist on quality, build successes on strong relationships, and remain committed to a principle that is not complicated, but oh so important—is that good for children and families?

2. Parents are critical in the lives of their children, and passionate about their school community. If they are engaged, and the programming is responsive to them, they will come. The centre has to be relevant to them and visibly making a difference in their lives and in those of their children. Having the centre available and accessible in the school, especially if an older sibling is attending, and with hours that are accommodating to the needs of the family is important. The success as measured both by attendance and feedback from parents has been excellent, showing growth year over year and use from parents, grandparents and caregivers.

3. Communities are generous and want the best for their children and those in the community. They are willing to give of their fiscal resources and time to build dreams. A barren courtyard at the school was transformed into an outdoor classroom through the vision of the coordinator, and calling upon a few friends with a green thumb and horticultural expertise didn't hurt

either. This outdoor classroom is complete with outdoor curriculum of course—a pond to teach about science (tadpoles and all that), a track for riding three-wheelers really fast but safely (teach about road safety), a lovely bench for teaching…well, sitting on a bench and enjoying nature. The courtyard is an extension of the school, and of the magical learning that can happen if you let it. The courtyard has been part of the official Garden Tour for Niagara Falls. Local Rotaries have supported the work at Mary Ward, as well as the Niagara Falls Horticultural Club which has donated much time and expertise.



4. Community leaders and politicians increasingly understand the importance of the early years from a policy perspective, and will lend their support from coming to read a story at circle time, to ensuring resources are in place to sustain the centre. Inviting high profile people like Dr. Fraser Mustard to the school for a story time in the courtyard is always a good idea. A savvy coordinator that designs a pattern book about the City of

Niagara Falls, complete with pictures of major landmarks is sure to get a positive response when inviting the Mayor of Niagara Falls to come and read that story at the Centre, all captured by the local media.

5. A cluster of services with the right kind of relationship and mutual trust, although provided through the auspices of different service providers, can work, even though they are not formally "integrated". As opposed to the story of "First Duty" (see Kerry McCuaig article) where the delivery of parenting, early learning, childcare and kindergarten is integrated, much can be done with the commitment of passionate people. Partnerships among school, the daycare and the OEYC, public health, and other community agencies ensure a smooth array of experiences that enwrap children and families and equip them with a knapsack full of not just diapers and wipes but the confidence, comfort and caring that grows great kids.

6. Ensuring that this "knapsack" of accoutrements meets the spectrum of needs from 0 – 6 across different SES strata, different cultural and literacy backgrounds, and leaves lots of room for creativity and usefulness is critical to the difference between "OK" and "MAGIC". Engagement of the parents in the wants/needs, the timing, the format, and content are well documented ingredients to a successful outcome.

7. Using 'tricks' (and sometimes you need to pull something magical out of your knapsack when you are parenting) to build the community connections is important: holding one prenatal class of each series at the OEYC, so parents are comfortable and familiar with the centre has helped to ensure the understanding and uptake by parents postpartum. Bringing physicians and practice staff to the centre for drop-in coffee tours has similarly built the bridges between primary care practices and the community.

The collaboration and a place for all those interested in the well-being of young children to put their "energy" is a wonderful opportunity, as the OEYC embodies a lot of the magic that we feel and know works for young children and families. It's a place to come together and celebrate our progress, problem solve our challenges and translate the latest in ideas into programming and evaluation. The school has been a fabulous partner and has helped us to realize that the better we get the early years experience right, the better off will be the little people who join the school world starting in kindergarten, and the better off will be the graduates at grade 12 on their way to further learning and employment, and good health and well-being.

So this is an example of where the holes in the Swiss cheese lined up perfectly, rather like the finale of a wonderful magic trick. Make no mistake, the MAGIC at Mary Ward was built on intentional desire and careful planning, science, evidence—all that stuff, but sometimes, if you let it, magic happens!

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About the Author:

Juleen McElgunn
Superintendent - Okanagan Similkameen School District #53

As a long time educator, Juleen McElgunn worked with communities and partner groups in both the Fraser Valley and Central Okanagan of BC to facilitate early childhood support and learning continuums for children from 0 to 12. Juleen is passionate about using their readily accessible, neighbourhood-based public schools for early learning opportunities.

Juleen believes educators need to play a key role in ECD by reaching out to their respective communities to build partnerships which foster rich and diverse early childhood settings. It is through these combined efforts that we will enhance and increase the life outcomes for children.

Opening our doors… for the children

Juleen McElgunn

"We must see that every child has the equal opportunity not to become equal, but to become different – to realize the unique potential he or she possesses."

John Fischer

No one would argue with providing every child with the best possible start in life. Indeed, varied supports exist for children and families at all stages of life, however, many families are unable to access those resources due to financial or other constraints. As well, children and families have need of some resources (i.e. daycare, before and after school care) which are in limited or short supply and therefore unavailable to them.

Research, from around the world and closer to home from Fraser Mustard and Clyde Hertzman, indicates the early years are where we can best affect lifelong outcomes for children. However, we focus on and spend considerable provincial and federal monies on remedial and supportive programming for the teen and adult years while the latest OECD (Organization for Economic Co-operation and Development) report has pointed out the need for increased early years and particularly preschool opportunities across Canada. Early Childhood Education support coalitions and the Canadian Integration Network have lobbied for years to increase funding for the early years. No one wants to take funding away from already established and much needed programs, but we know the early years need is just as critical - perhaps more so - knowing the highly positive long term outcomes which can accrue for both children, their families and society. So as someone said to me not long ago, why does it take us so long to implement the obvious?

One option gaining ground over the past few years is to open our school doors to support early learning for children. Including younger children in our schools has, with some exceptions, not been common in many provinces and territories as historically we've educated and supported students aged 5 to 18. What might opening school doors to younger children look like? I'd like to share one BC example I've been privileged to be a part of and support.

BC, like many jurisdictions throughout Canada, is experiencing unprecedented declining enrollment K to 12. In fact, kindergarten enrollment is often 50% of Grade 12 enrollment – a startling and often not well know statistic. For example; the third largest school district in BC enrolls 33,000 students. Over the past 6 years, enrollment has declined provincially from just over 609,000 students to approximately 576,000 – a drop

of 33,000 – the size of that aforementioned school district! Although this is alarming and work is being done to increase enrollment, long range forecasts show a steady decline in enrollment until 2015 when it begins to level out. An ongoing result of declining enrollment is increased space availability in schools. This opens the door to offering opportunities which previously might not have existed. In addition, political changes at the provincial level have now placed the responsibility for early learning into the Ministry of Education (MOE). Knowing the declining enrollment and research statistics has the MOE encouraging school districts to review one of the most logical options for utilizing unused classroom space – inclusion of early learning programs in schools. What a golden opportunity to enrich preschool and children's early years by linking learning
0 to 5 seamlessly with K to 12.

Many school districts in BC have developed and are working on partnership connections with early childhood. Over the past 4 years, and perhaps some would say a bit ahead of its time, the Central Okanagan School District has done just that by fostering 'Preschool Partnerships' through a school/community committee comprised of teachers, early childhood educators, principals, and others directly connected to the ECE field. With Board support, empty classroom space has been identified at schools where both space and preschool need is greatest. (... and this after already closing 11 schools district wide!)

The process works like this. The school district invites applications to run a preschool in an identified school. With criteria established by the Preschool Partnership committee, early childhood educators (both private and not for profit) make application to offer preschool at the school. Two key criteria areas for becoming a successful applicant are to provide subsidized space over the course of the year and facilitate learning and transition connections with the school, especially for kindergarten. In exchange, the school district offers a nominal rental cost to the operator. Once an operator is selected, the school district facilitates the process of 'moving in' by working with licensing to ensure the selected room meets ECE requirements and that outdoor fencing and other requirements can also be met. A needs assessment survey is also completed for the surrounding area to determine the number of potential children who may attend preschool. Once established in the school, the partnership and connections begin to support seamless options for children and their families. Throughout, the principal plays a key lead role in the selection of the operator/educator and in the development of the connections. Both the preschool operators and principals speak highly of the partnership benefits to children and families. With 13 preschools in 29 elementary schools, many principals are now working to expand options into the next phase of inclusion – that of adding before and after-school care as well as kindercare.

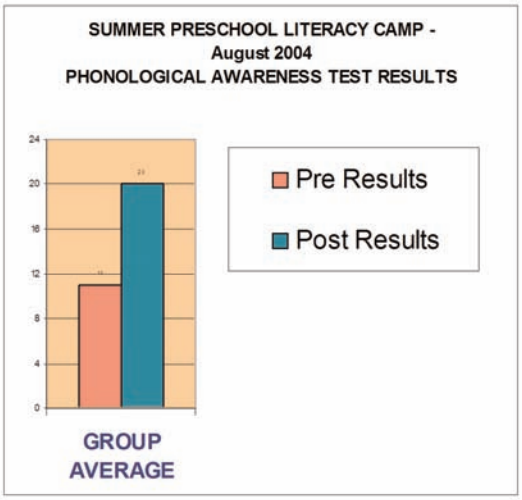
A secondary facet of the Preschool Partnership Project has been the development of a preschool pre-literacy pilot. In early summer 2004, sixty preschool partnership children entering kindergarten that fall were screened utilizing an early literacy instrument. Fifteen children were identified as being at risk for future reading/learning difficulties. In a two week summer pilot August 2004, the parents were offered the opportunity to have their child participate in a play-based program. Interwoven into the fabric of the preschoolers activities were pre-literacy skills such as:

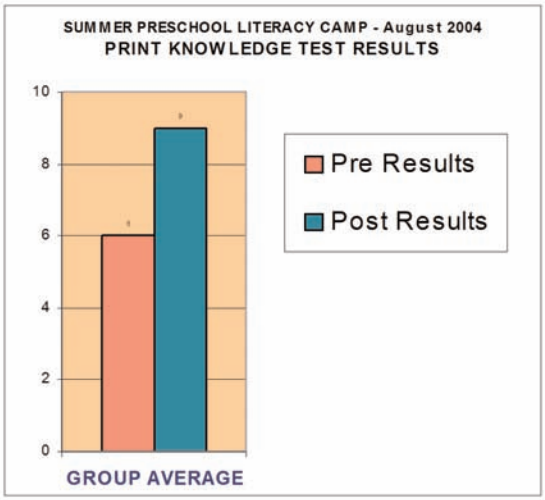
* initial phoneme awareness
* concepts of print and words
* alphabet matching
* segmenting and blending
* singing letter & sound awareness

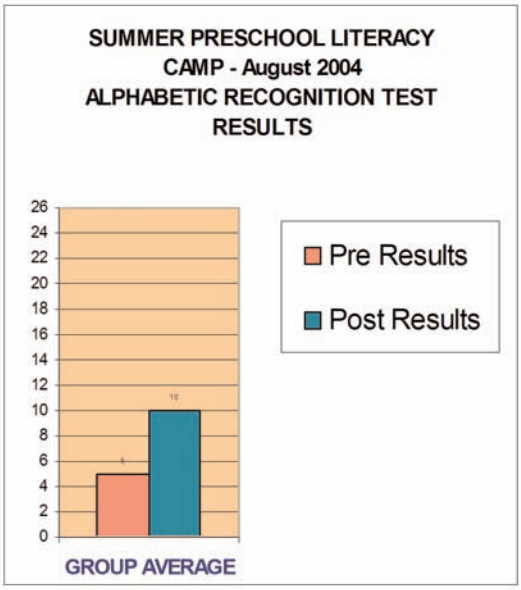
All this was also supported with a home reading program which we discovered helped mom/dad learn a bit more about helping their preschooler learn as well!

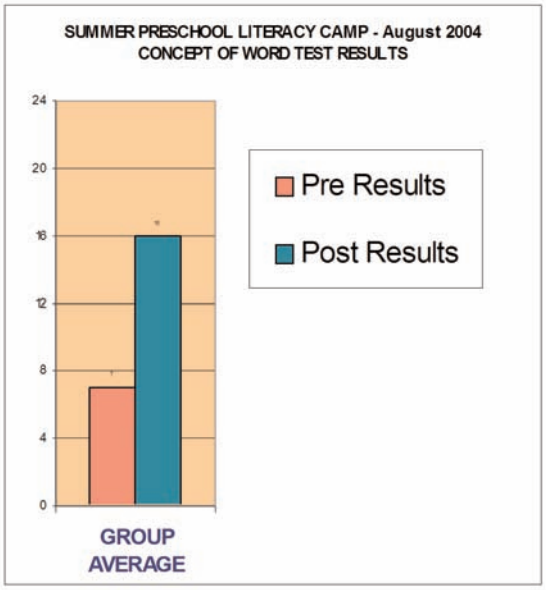
It's important to note though, that no one expects these little ones to be able to read or sit in a desk! By providing a language rich environment connected to play, preschoolers early literacy skills are enhanced, especially for the children we know might otherwise not have had that opportunity.

Below are the pre and post results for phonological awareness and print knowledge from the summer camp. As you can see, overall, the children's level of literacy knowledge increased as a result of participation in the camp. Did the results hold through kindergarten and into Grade 1? The answer is yes. Follow-up with the school district screener and anecdotal information from teachers in K and Grade 1 show the learning was retained.







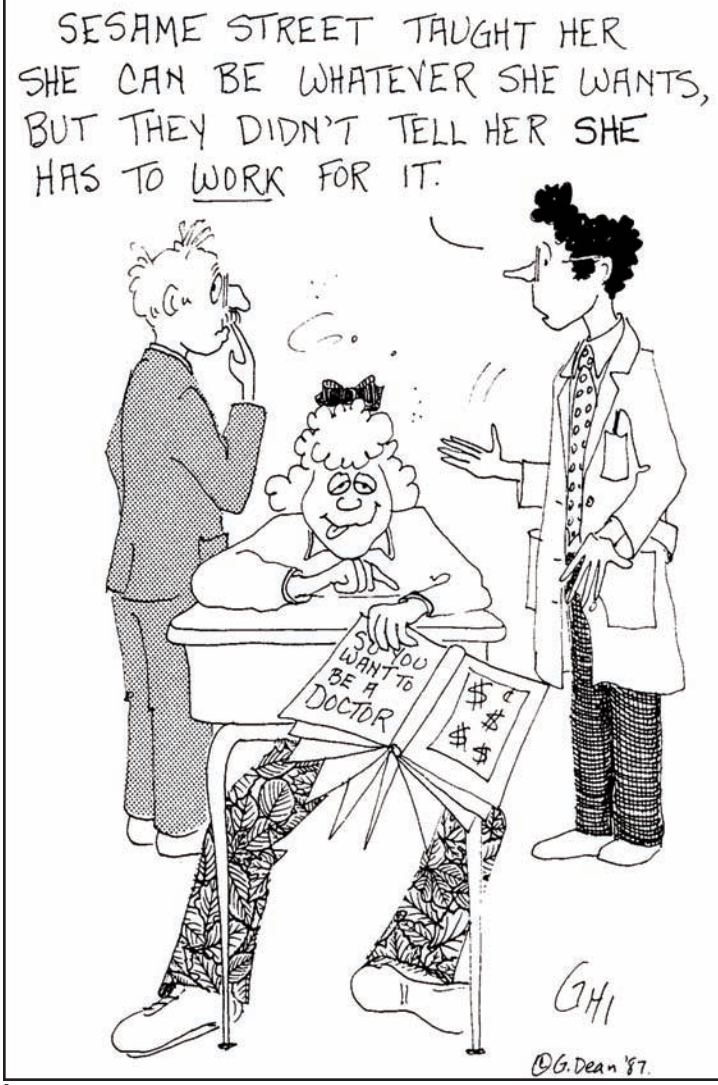


As a result of the summer literacy camp, a further pilot was implemented this past school year with 4 preschool partners. It included professional development related to engaging children in pre-literacy skills through play and a variety of engaging interactive activities. The preschool educators also received periodic year long mentorship with in-classroom team teaching. Results are just coming in, with preschool teachers and K-12 staff feeling the pilot has been highly beneficial. More importantly, children and their families are directly benefiting from being involved in the pilot.

A further initiative for School District #23 (Central Okanagan) has been the creation of the 'Early Learning Development Framework for 3 – 5 year Olds'. This document has come to fruition as a result of a sub-committee (comprised of kindergarten teachers, ECE and other early childhood experts) of the larger Preschool Partnership Committee and the community. Reviewing curriculum and framework documents from around the world, the sub-committee, over the past two years and with considerable local and provincial input on many levels, have produced this framework for educators utilizing the five key areas of childhood development – social, emotional, physical creative and intellectual. As far as we know, it is the first of its kind in BC… perhaps in Canada! The framework will be used by preschool partners and primary teachers to blend and potentially make seamless the connections between the early years and the first years of school.

I believe it's important to reach out to early childhood educators and service providers to find mutual ways to meet the needs of children and families in the early years. By connecting with the community and opening our doors to extend learning, school districts in partnership with ECE can expand early learning opportunities. The most important outcome, however, will be increasing the life chances for every child – because they are all our children.

On the Lighter side.....



The Importance of Integration between Kindergarten and Child Care

Susan Colley

Working parents of young children in Canada first struggle to secure child care for their young children, then when their children reach kindergarten-age, they encounter additional difficulties. The typical experience for working parents who want to register their children in local kindergarten programs is to register them for 2-1/2 hours per day (or 5-6 hours in Quebec, Nova Scotia and New Brunswick) and then juggle arrangements for the remainder of their working day in ad hoc, often precarious, situations. Take the example of Pablo whose parents immigrated to Canada from Chile when Pablo was three years old. His parents were able to enroll him in a child care centre in Winnipeg but when he turned four, they wanted him to attend the local nursery class (pre-kindergarten in the school) for half a day. Because the child care centre didn't have a close relationship with Pablo's school, his parents had to rely on his 9 year old brother to take him to school for a 9 a.m. start. At 11:30 a.m., a neighbour agreed to collect him and take him to an unlicensed babysitter where he remained until one of his parents collected him at about 5:00 p.m. Pablo was lucky to live in a supportive Chilean community where his parents had helpful friends and neighbours. Others are not so lucky and sometimes the logistical challenges of dealing with the shift between kindergarten and child care in term time, professional development days, school holidays and bouts of sickness mean that parents opt to postpone their child's experience in early learning programs until the arrangements are more stable.

Stories about these experiences prompted the establishment of the *Integration Network Project: Bridging Caring and Learning for Young Children* with the goal of advocating and organizing for the integration of child care and kindergarten into a seamless program oriented to all aspects of children's developmental needs. The vision of a seamless experience means that children would no longer attend public kindergarten for a few hours to get "education" and then be shuffled back to a different program to be cared for while their parents work. Extended hours programs would accommodate parents' work schedules (at either end of the day or during school holidays) as an integral addition to the core program, or as a wrap-around service offered in, or close to, the same physical location. The seamless program would be designed to accommodate parents' needs for flexibility and children could attend part-time without sacrificing developmental opportunities.

Boosted by the ground-breaking study authored by the Honourable Margaret McCain and Dr. Fraser Mustard and the 2004 federal government initiative to create a national child care system starting with an infusion of $1 billion per year, governments, school boards and advocates across Canada began to launch and encourage new initiatives to improve early learning programs for young children and heal the rift between education and care.

About the Author:

Susan Colley is the Project Director of the Integration Network Project at the Institute of Child Study, OISE/University of Toronto, a Canada-wide effort to develop and implement strategies aimed at solving the problems created by splitting care and education services for 4-5 year old children. Susan is an active social policy consultant and dedicated women's equality and children's rights advocate.

At about the same time, the Organization for Economic and Community Development (OECD), tabled its Report reviewing Canada's ECEC systems as part of an OECD-wide review. The Report recommended reconciling the differences between kindergarten and child care as a prerequisite to achieving a coherent system of early childhood education and care in Canada.[1]

Very little research is available to guide new initiatives. A 1998 study by the Caledon Institute of Social Policy study, comparing kindergarten and child care programs in New Brunswick, Quebec, Ontario and Alberta, concluded that a majority of both kindergarten and child care programs received acceptable to good ratings, that the presence of trained staff was the most important predictor of quality in both child care and kindergarten; and that social features (cooperating and sharing with others) and language activities were the most important aspects of early childhood education. Parents interviewed in the study favoured a integrated model of care and education for their children in the school system. [2]

Educators in Canada were also taking stock of international experiences. Nine European countries had already unified their ECEC systems under one ministry, either education or social welfare. In virtually all of these countries, the public commitment to Early Childhood Education and Care is considerably greater than in Canada (with the exception of Quebec). Canada spends 0.23% of its annual GDP on pre-primary education; most other countries spend 0.4% to 0.6%.[3]

Canada has taken some major administrative steps towards integration. Quebec

was the first province to create administrative integration of the education and child care systems. In 1996 the Quebec government announced a number of early years initiatives, one of which made jurisdiction for all children 5 and over the responsibility of the Ministère de l'Education and those under five the responsibility of the Ministère de l'emploi, de la Solidarité sociale et de la famille. Schools were mandated to offer full-day kindergarten for all five year olds and to organize and manage child care programs for kindergarten and school-aged children after school and during holidays where parents needed it.

In 2000, PEI launched its kindergarten program with integration in mind. The Department of Education and the Department of Social Services were given joint responsibility to offer kindergarten in child care centres using qualified early childhood educators with a minimum of a two-year early childhood education diploma.. Half the day is paid for by the Department of Education and if the children stay for the balance of the day, the parents pay a fee to cover costs for the remainder of the day.

Five years ago, Manitoba recognized the need to build relationships between child care and education. They established an "Educaring Committee" with membership from the Manitoba Association of School Trustees, the Manitoba Child Care Association, Healthy Child Manitoba, school divisions and child care programs. Today, those partnerships between school programs and child care programs are flourishing and 30% of elementary schools now have child care in schools and the government has introduced a capital funding program for renovations and construction in new schools.

The Saskatchewan Government has also made Early Learning and Care a priority and recently expanded Pre-Kindergarten in the schools. Individual school districts, such as the Saskatoon School Board, have taken an initiative to introduce early years centres with a blended approach in Saskatoon schools. They are currently working on their first model for an integrated kindergarten and child care program in Saskatoon schools.

In 2005, Nova Scotia introduced a two-year pre-primary pilot project in 19 schools offering full-time pre-primary (junior kindergarten) programs on a full-school-day basis for children who are 4 on or before October 1st of the school year. The programs are staffed by educators with early childhood degrees or 2-year diplomas; the maximum class size is 18 with two early childhood educators per group. Provision has not yet been made for out-of-school programs for children of working parents, but officials anticipate that after the pilot period, this will become the next challenge.

In British Columbia, the government has encouraged the integration of early learning and child care programs and some school districts have launched pilot projects. For example, in School District 23, four pilot pre-literacy through play projects were launched in 2005 and efforts are continuing to expand these models across the province.

Ontario's Ministry of Children and Youth Services announced the introduction of its Best Start Program in 2004. Across the province, municipalities (which have responsibility for child care) and local school boards established Best Start Committees to plan the expansion of integrated kindergarten programs in the schools. The cancellation of the federal/provincial/territorial child care agreements has resulted in many communities proceeding at a slower pace, but the community efforts have resulted in the development of continuing cooperative relationships across the province.

By far the most ambitious project is that of *Toronto First Duty,* a pilot project operating in five sites in Toronto, bringing together and integrating early years services to children and families in their communities. This three-year project is designed to demonstrate how existing early childhood and family programs can be transformed into a system for children 0-6 years and to explore possible options for integration of kindergarten and other ECEC services.

Discussion and dialogue preceded many of these initiatives. In the Spring of 2005, the Canadian Education Association sponsored a symposium on the early years attended by teachers, education officials and early childhood educators from across the country. In the Spring of 2006, British Columbia organized an ambitious province-wide conference highlighting the similarities between education and child care and the importance of developing partnerships and new initiatives.

In the Fall of 2005, the Integration Network Project sponsored a policy development symposium with valuable input from international experts, including Europe and New Zealand. The discussion focused on five challenges: funding and access; governance; program framework (curriculum); reorganization of the workforce; program design and delivery.

Discussion focussed on the need for all early learning and care programs to develop a child-centred curriculum focusing on cognitive, social, emotional and physical development, and advocating developmentally appropriate practices within an activity-based/play-based approach to learning and care, and linked to the Grade 1 curriculum. Drawing from international curriculum experts who argue that programs must be oriented to broad developmental goals rather than cognitive goals, such as literacy and numeracy,[4] participants argued that guidelines, addressed to parents and local administrators, as well as to educators, would be preferable to a detailed cognitive curriculum.

Perhaps the most controversial issue facing integration involves the reorganization of the workforce. The success of integrated early learning and care programs will depend

primarily on the excellence of the human resources employed. The OECD recommended reviewing professional profiles, improving recruitment levels and strengthening the initial and in-service training of staff. It also raised questions about the suitability of both teacher training and training for child care staff. Although teachers are required to complete a university degree, the Report suggested that:

> *obtaining a university degree tends to hide the fact that the degree in question may not carry a significant module of early childhood theory or training. It is problematic to have teachers working in kindergarten who have not been trained for the role – even if they receive a top up or in-service training course – particularly if that role is likely to expand downwards to junior kindergarten, as already in several provinces*

It was even more critical of levels of training in child care settings:

> *[K]indergarten classes are generally well-invested with trained teachers, good pedagogical materials and suitable (indoor) furnishings. In contrast, child care centres and family daycare homes may not work to a curriculum at all, even a developmental one. Training of child care staff, where it has occurred, does not tend to focus on learning, pedagogy and curricular activities. Moreover, child care centres are usually small and there is no immediate wider professional reference group for staff or a tradition of professional development, as in a school.*[5]

Clearly, there is much work to be done, but without reform to ensure adequate core funding, Canada's ability to provide proper remuneration, training, and development for a substantially underpaid and undervalued workforce will be severely compromised.

The Integration Network Project will continue to monitor developments across Canada, actively report on new developments and actively encourage ongoing discussion and dialogue – especially at the regional level. The Network's Action Plan includes:

* a National Dialogue on Education and Lifelong Learning
* Active support of campaigns for additional public/direct funding for early learning and child care programs
* Monitoring curriculum initiatives to ensure they are consistent with program goals focused on the child's needs
* Advocating for an overhaul of training and education for both early childhood educators and school teachers;
* Actions to break down silos between "child care" and "education" ministries.

Initiatives to provide greater integration of child care, kindergarten and family support services come at a time when the promised national child care funding has been cancelled and non-profit child care programs across Canada are facing serious financial and staffing problems. Thirty-five years of advocacy for a high quality child care system in an independent non-profit sector have failed to deliver developmental benefits for Canada's young children. Perhaps it is time for our public schools to meet the challenge of providing comprehensive, developmental and integrated early learning and family support programs, for children and parents in their communities.

For more information, visit: www.inproject.ca.

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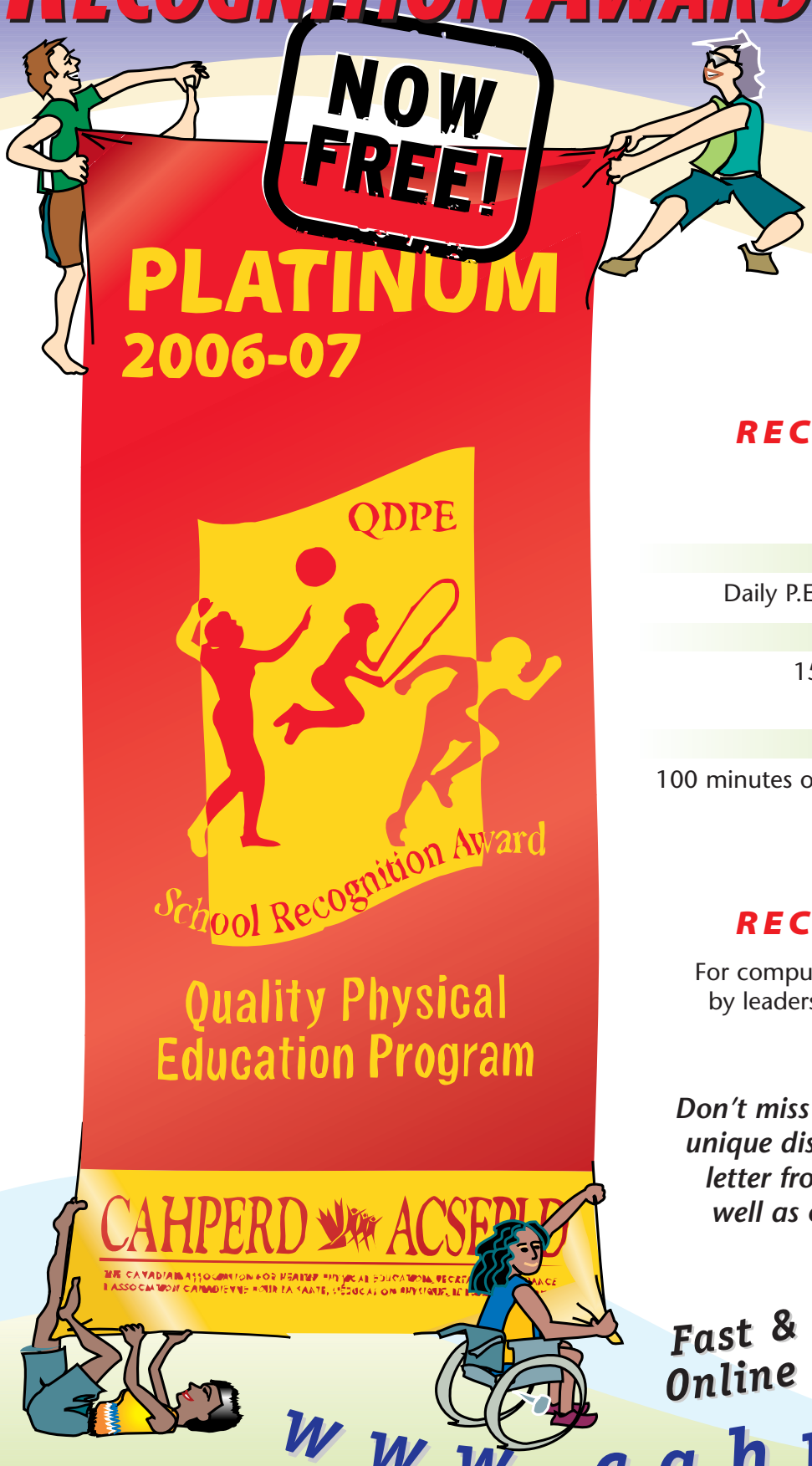

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Français au verso

Integrated early years model shows promising outcomes for children

Kerry McCuaig

About the Author:

Kerry McCuaig is communications manager for Toronto First Duty and the author of several publications and articles including 'From Patchwork to Framework: A Child Care Strategy for Canada.' Among her other studies are an examination of provincial policy initiatives on child care service delivery; the impact of welfare policies on family child care; an overview of workplace child care initiatives; the challenges of providing child care services outside of non-traditional hours; and effective tax policies for families. She is an advisor to the Ontario Government's Best Start initiative and the Atkinson Charitable Foundation's early year's panel. **kmccuaig@rogers.com.**

In 2002, five schools partnered with community organizations to become Toronto First Duty (TFD) sites. They undertook to combine the three early childhood streams of kindergarten, child care, and family supports into a single-stop service.

The TFD design draws on kindergarten teachers, early childhood educators, and family support workers, who form a professional team that plans and delivers the program, sharing space, resources, and expertise. In combining the assets of the separate entities, the sponsors anticipated that the new program would better respond to two pressing social needs—giving children the smart start they need for school and for life, and encouraging parents to participate in their children's early learning as they pursue work, training, or the care of other family members.

The limitations of current service design were identified by Margaret McCain during consultations for the *Early Years Study: "Most communities could name a long list of early childhood programs but overlapping mandates, disjointed service hours and eligibility barriers left many parents unaware of what services were available or what they offered."* The YWCA's audit[1] of early childhood programs in four diverse communities—rural, urban, suburban and a mid-size town—reached similar conclusions.

Affordable fees, flexible enrolment

Cathy Laing and her two daughters attend one of the five TFD sites, the Bruce/WoodGreen Early Learning Centre at Bruce Public School. Together they participate in the child/parent drop-in. The girls, aged three and five, are also enrolled in the early learning program, attending part- or full–time, depending on Laing's work schedule. Flexible enrolment is one of the pluses for the busy home-based consultant. *"Unlike a traditional child care program, the girls do not need to stop their activities or lose touch with friends when my work situation changes."* Cost is also a factor. Laing pays nothing for the parent/child group and between $7 and $14 a day for the children's program, depending on how much time they attend.

The TFD model recognizes that the well-being of children is directly linked to how their families and communities are doing. The school site provides the core learning, care, and parenting supports. If a child has health or developmental challenges, the TFD team draws on the resources of all its partners—the school, the school board, the community agency, the city's children's services department, and Public Health—to provide the appropriate supports. If more assistance is needed staff link the family to specialized resources. Partnerships also bring the community into the school to conduct health screening and speech and language and health programs on-site.

The school has many advantages as the location of the hub for early childhood services. Schools are established community institutions serving children 4- to 12-years-old. With a few modifications, they can become the hub for families with children from birth to secondary school. A single site takes the guesswork out of where parents go for services, keeps siblings together, and avoids the dash between school and caregiver that is common for many working parents.

The model also works for parents who are not in the paid workforce. Entesar Adulwahed, the mother of five boys under nine-years-old, says having the parenting program in the school makes it possible for her to participate. *"I couldn't imagine taking the older boys to school and then travelling with an infant and a toddler to attend a playgroup elsewhere."*

International trend toward integration

TFD is applying the lessons learned by other countries with successful child development systems by breaking down the barriers between child care, education, and family supports. Internationally, the trend is towards service integration. Nine Organisation for Economic Co-operation and Development (OECD) countries have now combined their early education and child care systems for children under one government department. Healing the rift between child care and early education was advised in the OECD review of Canadian early childhood services.

Universal access to integrated early childhood programs is also the main recommendation of the *Early Years Study,* which outlined a plan to capture a community's early childhood assets and blend them into a single program with a common mandate to provide early learning, care, and parenting supports.

The inspiration for the *Study*'s recommendation was a rural program in south-western Ontario. The founders of South-East Grey Community Organization listened to what parents wanted and knew they would never find the resources to set up separate, stand-alone services. *"We had to take what we had; consolidate and build on it,"* recalls its founder and first director, Carol Gott.

Toronto First Duty was established to demonstrate Gott's model was doable and beneficial in an urban context. The hope is that all three levels of government will expand the model across Canada.

Ontario's children's ministry has taken up the challenge by initiating three new demonstration sites, modeled on TFD outside Toronto. They are part of the province's Best Start strategy, which sees schools as community hubs for child and family services. Expert panellists from education, child care, and family resource programs are ready to report their recommendations for an integrated early childhood curriculum and staffing model. Participants view the integrated approach as an economical and more pedagogically beneficial way of addressing kindergarten class sizes.

The project has attracted national and even international attention, hosting regular tours for provincial children's and education ministry officials. The sites serve as 'living models' for other early childhood projects, including initiatives in Saskatoon and Nova Scotia. It is also a resource for the Integration Network Project, a child care/education partnership designed to develop and disseminate information on service design, for the YWCA's project, and for the Council for Early Childhood Development, which advocates for community-based child development and parenting centres linked to the school system.

Measuring Progress

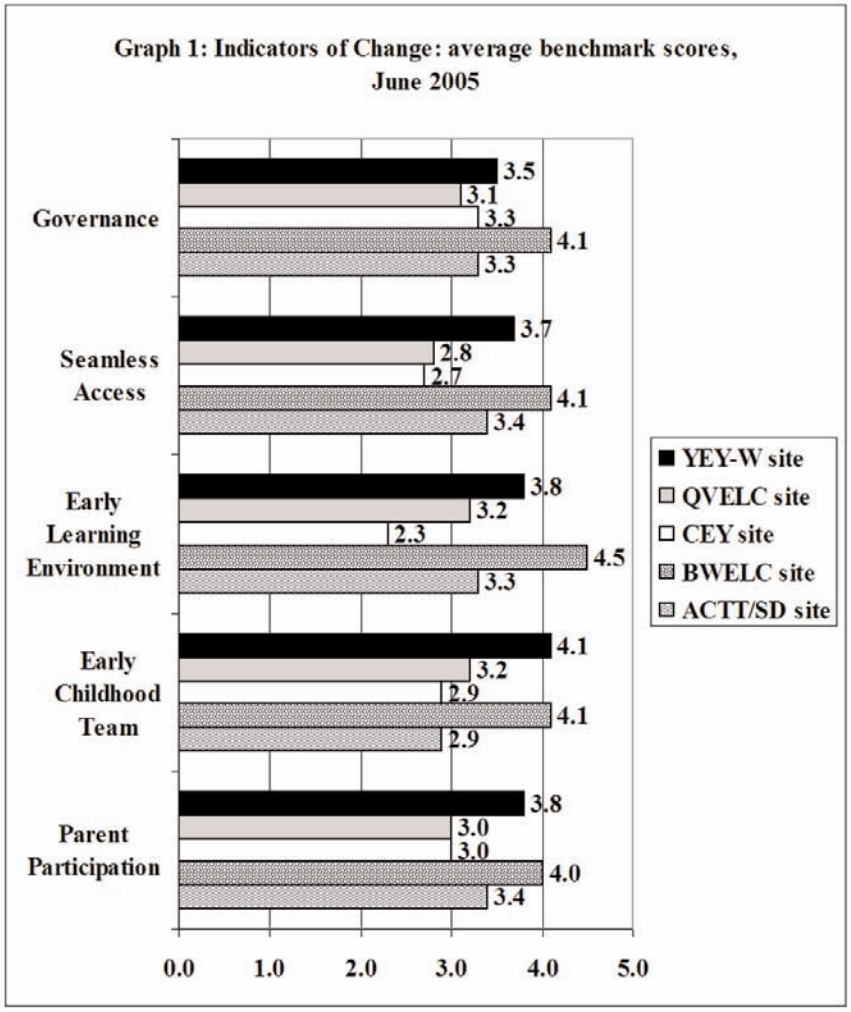
Academics from the Ontario Institute for Studies in Education have followed TFD's development, demonstrating its cost-effectiveness, increased opportunities for parent involvement, and improvements in program quality and child outcomes that can be attributed to integration.

Service integration was new territory for the TFD participants. The Indicators of Change tool was developed in response to demands for clear expectations. The tool lists five elements of integration: governance; seamless access; staff team; early childhood environment; and parent participation. Each element has a number of indicators linked to benchmarks, ranging from co-existence to integration. The Indicators of Change is a transferable assessment, planning, and evaluation tool allowing a site to evaluate its starting point, target what it wants to accomplish, and to periodically assess its progress.

Whatever their progress the five TFD sites shared similar assessments of the barriers to integration. For instance, the rigidity of child care subsidy funding was identified, along with differences between the funding, training, labour affiliations, compensation, and work environments of kindergarten teachers and other early childhood professionals.

Despite the hurdles, some sites made significant progress towards integration. Leadership, particularly from the school's principal, was seen as a 'make-or-break' variable. Leadership leveraged many supports, including innovative approaches to expanding child care capacity, maximizing the use of school space, and finding resources for staff release time. The latter was repeatedly identified as essential if the staff team was to plan for and implement joint activities or programs.

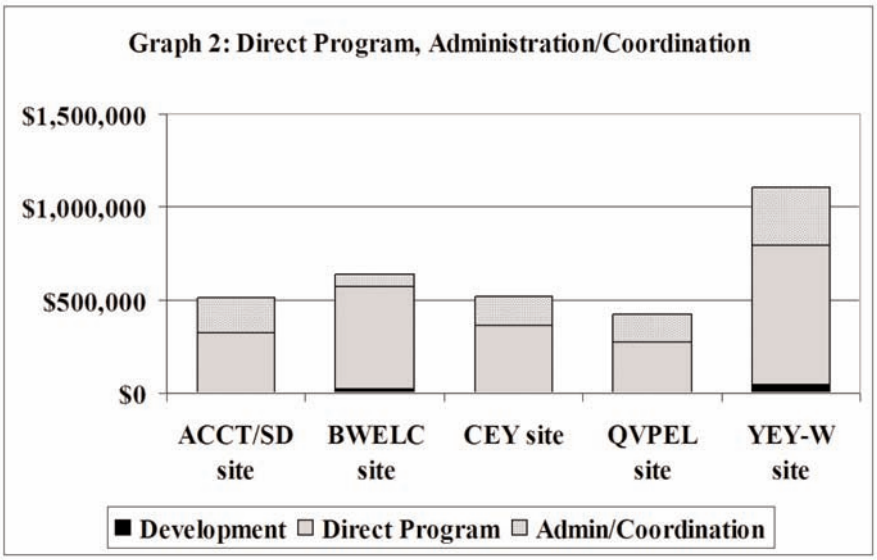
The following table shows the progress towards integration made by each of the sites for each element. Level 1 indicates co-existence (programs operating separately) to Level 5 (the consolidation of separate programs into a single entity). No site reached full integration; this would require legislative and funding changes that were outside the abilities of the project.

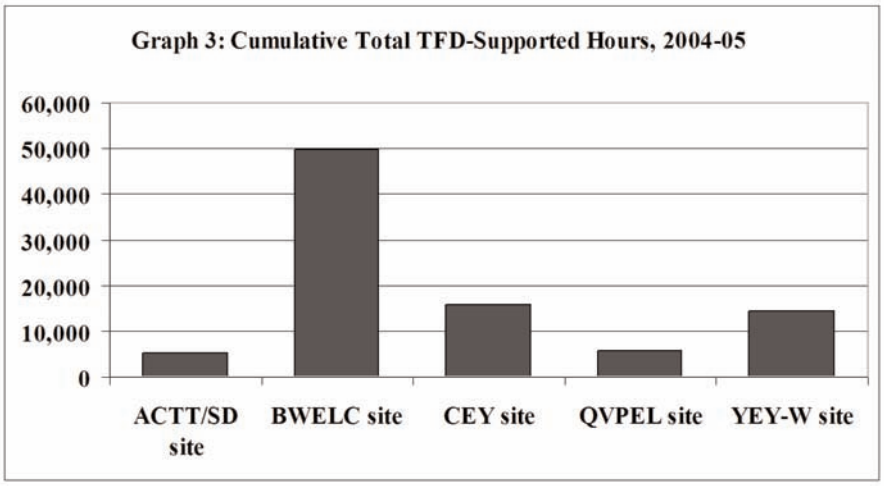


Cost-effective Program Expansion

The Bruce/WoodGreen Early Learning Centre, the site that moved closest to integration, will be of interest to policy makers. Bruce/WoodGreen had the lowest administration costs of the five sites (Graph 2). Unlike the others, it did not hire additional project staff, but shared supervisory responsibilities between the staff lead for the ECEs and the school principal. While Bruce/WoodGreen did not receive the most project funds (Graph 2), it produced the most program hours. (Graph 3). If the policy goal is more, as well as better, programming, it appears that integration is the most cost-effective option.

The direct cost of integrated programming for kindergarten-aged children was found to be only slightly less than traditional program delivery but it did deliver more benefits. The option of the flexible enrollment in the integrated model serves 40 families per 24 spaces, compared to 24 families in 24 spaces in traditional programming. The integrated four- and five-year-old program typically maintains a 1:10 staff/child ratio throughout the entire day, which is half the proposed cap for traditional kindergarten programs in the province.





Parent Engagement

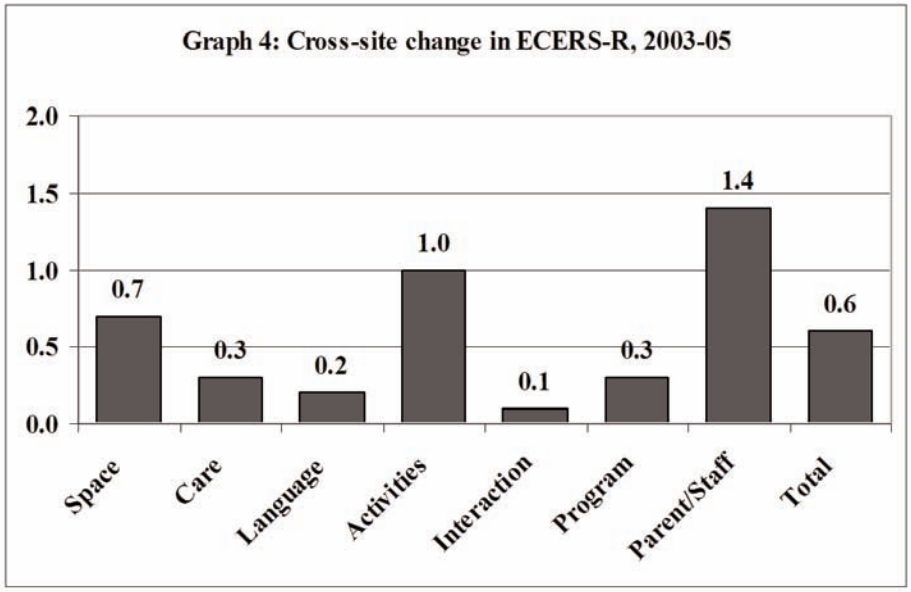
There is a significant body of evidence indicating that parent involvement in their child's education—reading to the child, overseeing school assignments, and meeting with staff to assess student progress—influences school success (e.g., Willms, 2002; Shonkoff & Phillips, 2000). To assess parent participation in TFD, researchers surveyed parents of kindergarten-aged children in TFD sites and compared their responses to those of parents at nearby schools. Both groups of parents wanted meaningful input into their children's program, but parents at the TFD sites were more actively engaged in their children's early learning and were more likely to participate in school activities and communicate with staff.

TFD programs are open to all families and strives to reach families who do not traditionally use early childhood services. At the same time, here was an effort made to avoid the stigma that can be associated with targeting at-risk families. Researchers tracked enrolment to help determine whether the TFD programs engaged families who are representative of the communities they serve. Using maternal education as an indicator, researchers found the same rate of participation for families whose mothers had not completed high school as for those who mothers were university graduates. This suggests the TFD model has universal appeal. Similar patterns for diversity in language were found across sites. *"The fear that open access in the absence of sufficient supply would see the clever middle classes squeeze out more disadvantaged families did not materialize,"* notes Dr. Corter Corter, principal researcher for the project.

Quality Improvements

Integrating early childhood services also enhanced quality. Researchers used the Early Childhood Environment Rating Scale Revised (ECERS-R) to assess the sites at two time points. In 2003 the kindergarten, child care, and parenting programs showed relatively good quality with room for improvement. Graph 4 shows that by 2005, quality improvements were found in all seven areas on ECERS-R. It is assumed that the increased staffing, expertise, and resources enriched the program.

Staff are the most important determinant



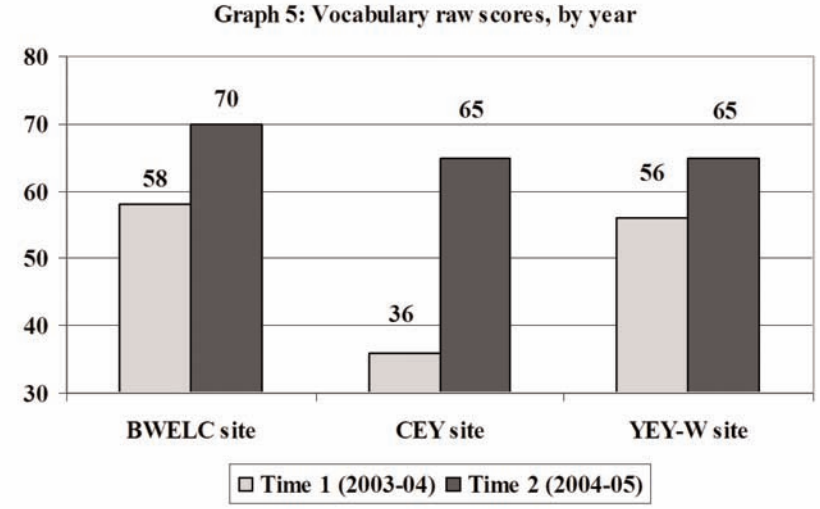
of program quality. Key informant interviews and anonymous staff surveys captured the barriers and benefits to team building. In its earliest stages, integration was a new concept for both professionals and administrators. The absences of clear direction and supports lead to fears over the loss of professional integrity. In addition, the differences in compensation and working conditions among the team members contributed to an internal hierarchy. Improved leadership and support, including the development of protocols, joint professional development opportunities, designated program planning time, and collective problem solving, helped build the teams.

By Year 4 of the project, every kindergarten teacher, early childhood educator, and family support worker responded that they *"would like to see the TFD project continued at my school"*. Team members also cited professional benefits from integration, including increased support from administrators, more access to program resources, better communication with families, enhanced professional development opportunities, and peer learning and support.

Improved child outcomes

Reports from staff and parents suggest that the TFD model shines when it comes to early intervention. Graduates once earmarked for special education are now participating in mainstream classrooms at the TFD sites. Principals report that the advantages of the integrated program for children played a major role in overcoming staff reservations. The program's benefits for children were assessed using the Early Development Instrument (EDI). EDI scores can indicate changes in child development outcomes in a specific neighbourhood. For all 5 TFD sites combined, significant improvements were seen in three of the five EDI dimensions: social, emotional, and language. Changes were not seen in physical development or communication/general knowledge. Physical development was generally not a target in programming at the sites. Communication/general knowledge is strongly and negatively associated with minority language status and nearly 60% of the children in TFD programs have English as a second language, which may have moderated improvements in this area.

Direct child measures were also collected at two time periods on a sample of children at three of the TFD sites. The measures included the Vocabulary-Peabody Picture Vocabulary Test (PPVT-III), Test of Early Reading Ability (TERA-III), Number Sense, and Social Understanding. Graph 5 shows the improvements in vocabulary scores.



Is integration worth the effort?

Answering whether the integration of programs for young children is worthwhile helps determine whether it should direct future policy development. There is insufficient data to do a benefit-cost analysis of TFD. However, while a dollar value cannot be assigned, there is good evidence of improvements in program quality over the course of the project. There is also evidence of benefits for most children who participated.

The direct costs of providing integrated services are no higher than non-integrated delivery. It is also worth noting that there are more expensive ways of improving quality and experiences for kindergarten-aged children, such as extending the kindergarten day or hiring more teachers to improve child-staff ratios. Integration provides an alternative by breaking down institutional barriers to quality enhancement and providing a means for staff to rethink and rework the nature of the early learning experience for young children. In this sense, the economic advantage is quite positive. Done right, integrated early childhood programs deliver more quality

for children, more service for families, and professional benefits at a similar level of direct cost.

For more information about Toronto First Duty visit:
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(continued from page 10)

the school system. All of the evidence from a number of studies looking at the quality of early child development and performance in the school system showed that early child development programs improved performance in the school system.

It could be argued that because Canada and the United States have a mixed immigrant population in contrast to the more homogeneous Scandinavian population, the difference in literacy performance is due to the heterogeneity of populations in Canada and the United States. The UNESCO studies of Latin American countries (Casassus, 1998), however, show that heterogeneity of populations is not a barrier to a country having a high literacy performance. Cuba's performance in the literacy assessment for children is better than the other Latin American countries (Willms, 2002a; Carnoy and Marshall, 2004). The government of Cuba introduced health and other programs for mothers and young children more than 30 years ago. They focused on health and child development. Today Cuba's performance on the literacy assessments is better than the other Latin American countries and the life expectancy is better than almost all other Latin American countries. In the grade three tests in language and mathematics, the mean value for the Cubans was two standard deviations better than the mean value for other Latin American countries (Casassus, 1998). Another interesting feature of the Cuban data is that they had only one-quarter the number of fights in the school system in contrast to the data from the schools in the other Latin American countries (Carnoy and Marshall, 2004). The Cuban data is compatible with the concept that a good early child development program can improve outcomes for a mixed population (African, Spanish, and Indian). Cuba's early child development initiatives begin with pregnancy and continue until the children enter the school system. There are two components to the program:
A centre-based full day program; and,
A home visiting program which does include a part time centre-based initiative.
The staff are well educated and these programs are universal (Coe and McConnell, 2004; Gasperini, 1999).

There has been some criticism that the data from Cuba may not accurately reflect the characteristics of the population because of biased tests and sampling errors. However, one of my colleagues involved in the study has no reservation that the data reflects the characteristics of the Cuban population studied (Willms, personal communication, 2005). Health (life expectancy - United Nations Human Development Report, 2005) in Cuba is better than that for other Latin American countries and this correlates with the high literacy performance of Cubans.

There are now a number of studies in humans that show that early intervention produces better gains in brain and child development than later interventions (Mustard, 2006; Ludwig and Sawhill, 2006). It is difficult for schools to initiate programs to improve the performance of children in many functions such as literacy and mathematics who have not had a high quality early child development and are ready for further development when they enter the school system.

In their proposal "Success by Ten", Ludwig and Sawhill (2006) at the Brookings Institution outline three important principles to improve early child development: 1) intervene early; 2) intervene often; 3) intervene effectively. This policy proposal is in agreement with all the evidence we now have about early child development and experience-based brain development (Mustard, 2006). Studies from the neurosciences and biological sciences, health, and the social sciences indicate that experience in early life including in utero period has significant effects. Ludwig and Sawhill also make the point that programs to improve development in the early years should also feed into quality elementary school programs. It is logical to integrate early child development programs with the elementary school system. Finally, to intervene effectively in early child development will cost more money than most developed societies spend. It is important that the money allocated for early child development be spent on quality programs with well-qualified staff. Many so-called day care initiatives are not high quality early child development programs involving parents. The McCain Mustard Reports (1999 and 2002) set out the structure and function of early child development and parenting centres.

Heckman, in his assessment of early child development and the quality of adult populations (Knudsen et al, 2006; Heckman, 2006), has concluded, on reviewing all the United States data, that programs that support early child development promote better schooling, raise the quality of the workforce, enhance the quality of schools, enhance the productivity of schools and reduce crime, teenage pregnancy, and welfare dependency. He concludes that the large body of evidence from research in the social sciences, psychology, health sciences and neurosciences shows that skill begets skill, learning begets learning. He points out that remediation for impoverished early environments becomes progressively more costly and less effective the later it is implemented also that the track record for criminal rehabilitation, adult literacy, and late teenage public job training programs is remarkably poor. He also makes the point that early interven-

tions have much higher returns than later interventions such as reduced pupil teacher ratios, public job training, convict rehabilitation programs, tuition subsidies, or expenditures on police.

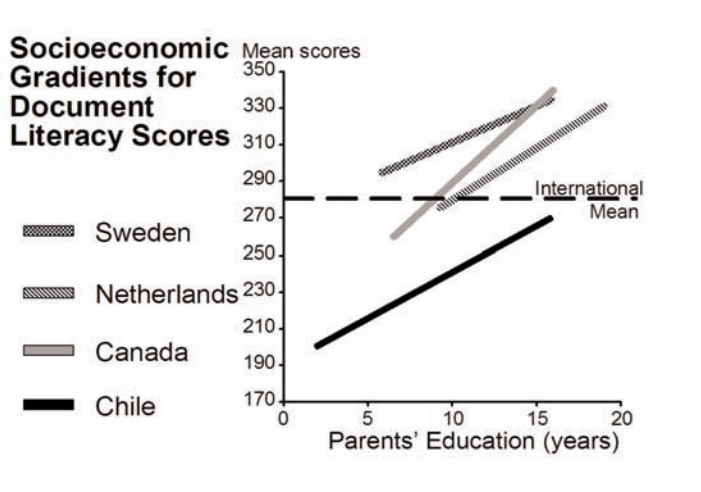
In his presentations, Heckman has emphasized that the problems facing many societies are rooted in poor early child development. He makes the point that there is a slowdown in the growth of labour force quality in the US and also that the percentage of each cohort of Americans who attend college has stalled in recent decades after a spectacular early growth in the first half of the 20th century. The dropout rate for children in the US school system is occurring among native-born Americans and is not due solely to immigration. In his work, he makes the point that the economic returns to early child development are high. The returns to later interventions are low. Remedial programs in the adolescent and young adult years are much more costly in enhancing skill attainment in adulthood. He makes the point that in the US a major source of concern are the changes in the socioeconomic and family environments that have had a negative effect on early child development. Thus, he concludes that investment in early child development is important and gives a higher rate of return in respect to human development than investment in the school system. It does not make sense to expect the school system to significantly overcome poor early child development.

Closing the Gap between What We Know and What We Do

Among the factors influencing the gap between what we know and what we do include lack of understanding among different parts of our society, (business, health care, education, social services), and the heavy immediate demands for investment in service and treatment programs for individuals with health, learning and behavioural problems (Perry, 2002). There are also political, social and cultural factors that influence what a society is prepared to do to enhance early child development. There are substantial professional silos in health, education, social sciences, economics and political science that are barriers to integrating the knowledge about early child development in respect to the health and well-being and competence of populations. A substantial issue is the cost of quality early child development programs involving parents. A rough estimate of the cost for effective early child development programs beginning with pregnancy is that the cost will be at least twice that for children in public education programs (McCain and Mustard, 2002; Mustard, 2006). All these and other points create a great barrier in most societies from implementing good early child development programs involving parents because the benefits to a population in terms of health, learning, and behaviour will not be manifest for 20-25 years. Thus, it takes strong political leaders with vision and courage to establish cultures for early child development and parenting centres and allocate the resources to improve early child development for all families with young children. With aging populations and a shrinking young labour force, it is crucial for all societies to improve the competence of the next generation in their society.

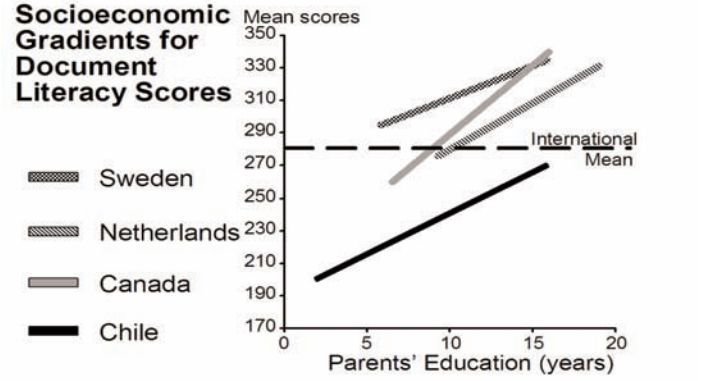
School principals, primary school teachers, boards of education and communities are well positioned to be leaders who can work together to close the gap between what we know and what we do and improve the competence of our future adult population.

Figure 1



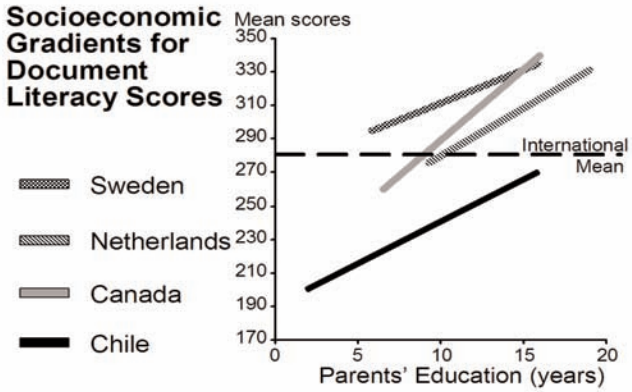
This shows Willms' assessment of the literacy competence of Canadian youth by province. These results are plotted against the socioeconomic status of each individual. It is clear that some provinces have more equity in literacy skill than other provinces. Youth in the highest socioeconomic status, on the basis of this assessment, have equal performance but youth further down the socioeconomic scale show decreased competence in literacy.

Figure 2



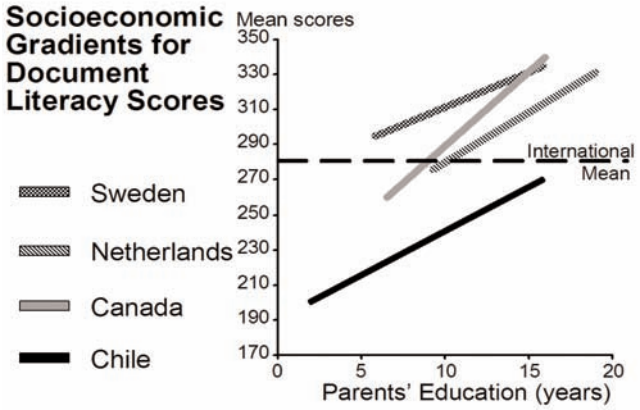
This shows the socioeconomic gradients for document literacy scores from the OECD study, *Literacy in the Information Age.* These data are for the population in the age group 16 to 65 years. Parents' education is used as a proxy for socioeconomic status. In this assessment, all children in Sweden and Holland are above the international mean for developed countries, while Chile, representing a middle stage developing country, falls below the international mean. The other striking thing about these data is that the socioeconomic gradient for Canada is steeper than for Sweden and Holland and a proportion of the adult population is below the international mean.

Figure 3



The plotting of health data (mortality) against social class also shows a gradient. This illustration from the work of Michael Marmot shows the standardized mortality rate for individuals from the lowest social class (V) is higher than for individuals in the top social class (1). Again, as for the literacy assessment, the standardized mortality rate plotted against social class is essentially a linear gradient.

Figure 4



Health gradients begin to appear early in life and tend to become steeper as individuals age. In this study, income was used as a measure of socioeconomic status. These data are congruent with the evidence that early child development sets the risk for health problems in adult life. The stresses of everyday living in adult life affect the biological pathways that have been set in early life (PSID – Panel Study of Income Dynamics). Thus, the gradient becomes steeper with age, particularly for those in the social environment with the lowest income.

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Canada's first National Media Education Week:

promoting media literacy as a key skill for young people

Media are a powerful force in the lives of students. In particular, digital media have dramatically changed the way they communicate, play and learn. In the new digital landscape young people move beyond geographic and regulatory boundaries as they access, absorb, communicate, create and repurpose media content – and they do this largely without guidance and reflection.

To be media literate in this environment young people need to develop a range of critical thinking, communication and information management skills – and media education is the essential role in helping them acquire these skills.

In order to highlight the importance of media and Web literacy as key learning areas, the Canadian Teachers' Federation (CTF) has partnered with Media Awareness Network (MNet) to create ***Canada's first National Media Education Week, November 19-24, 2006.*** *These partners are working with teacher organizations and media education and community groups to develop programs and activities and PD opportunities in recognition of the week.*

Media education has been called the perfect curriculum: it's timely, it's multidisciplinary, it's easily assimilated into the classroom, and it promotes critical thinking skills. The following list outlines the benefits of integrating a media education approach into today's classrooms.

Ten Good Reasons for Teaching Media Education

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1. Media education encourages children and young people to question, evaluate, understand and appreciate their multimedia culture. It teaches them to become active, discriminating media consumers and users.

2. Media education brings the world into the classroom, giving immediacy and relevance to traditional subjects such as History, English, Health, Civics and the Creative Arts. It serves as a perfect bridge for subject integration and interdisciplinary studies.

3. Media education embodies and furthers current pedagogy, which emphasizes student-centred learning, the recognition of multiple intelligences, and the analysis and management—rather than just the simple storing—of information.

4. Media education is grounded in the sound pedagogical approach of starting learning *where kids are at*. The media—music, comics, television, video games, the Internet and even ads—are a part of life that all kids enjoy. Media create a shared environment and are, therefore, catalysts for learning.

5. Media education encourages young people to use multimedia tools creatively, a strategy that contributes to "understanding by doing" and prepares them for a workforce that increasingly demands the use of sophisticated forms of communication.

6. In a society concerned about growing youth apathy to the political process, media education engages young people in "real-world" issues. It helps young people to see themselves as active citizens and potential contributors to public debate.

7. In a diverse and pluralistic society, the study of media helps youth understand how media portrayals can influence how we view different groups in society: it deepens young people's understanding of diversity, identity and difference.

8. Media education helps young people's personal growth and social development by exploring the connections between popular culture—music, fashion, television programming, movies and advertising—and their attitudes, lifestyle choices and self-image.

9. Media education helps children critique media representation, teaching them to distinguish between reality and fantasy as they compare media violence and real-life violence, media heroes and real-life heroes, and media role models and real-life roles and expectations.

10. With the majority of Canadian students turning first to the Internet for research, media education is an essential component of Information Communications Technology education, assisting young people in: developing critical thinking skills and strategies for optimizing searches; evaluating and authenticating information; and examining issues of plagiarism and copyright.

Make media education part of your school or classroom by bookmarking the National Media Education Web site <http://www.ctf-fce.ca/nationalmediaeducationweek/default.htm>and visiting often throughout the year.

(Ten Good Reasons for Teaching Media Education is from the booklet *Media Education: Make it Happen*. Copyright Media Awareness Network, 2005)

Canada Millennium Scholarship Foundation supports AVID students

This is the third in a series of articles prepared by or on behalf of the Canada Millennium Scholarship Foundation for the ***CAP Journal****. This series is part of a new partnership between CAP and the Foundation aimed at providing principals and vice-principals across the country with information about the Foundation's Millennium Research Program and, in particular, the Foundation's work around overcoming barriers to post-secondary studies that begin at the high school level.*

The Canada Millennium Scholarship Foundation is a private, independent organization created by an act of Parliament in 1998. The Foundation works to improve access to post-secondary education for Canadians from all backgrounds, it encourages a high level of achievement and engagement in Canadian society, and it brings people and organizations together to understand barriers and improve access to post-secondary education. For more information on the Canada Millennium Scholarship Foundation and the Millennium Research Program, visit the Foundation's Web site at ***www.millenniumscholarships.ca***

An innovative US program that gets average students to work hard and prepare for post-secondary education by putting an emphasis on being organized and asking good questions has made a significant entry into British Columbia.

The Canada Millennium Scholarship Foundation (CMSF) and the BC Ministry of Education have helped set up the AVID program in 20 of the province's high schools through a research pilot project involving 1,522 students. The five-year project will try to gauge the benefits of the popular program that aims to convert students from "passive learners" into active classroom contributors and critical thinkers. The Social Research and Demonstration Corporation (SRDC), a Canadian non-profit social policy research organization that specializes in social policy research and experimentation is responsible for evaluating the effectiveness of the program.

AVID, which stands for Advancement Via Individual Determination, was created in a San Diego school in 1980 by a teacher who began to see that a change in her student demographic called for an adjustment in teaching methods. Mary Catherine Swanson wanted her school to continue to offer the rigour it takes to get to college but knew that the increasing number of low-income students wouldn't possess the same learning tools as the previous upper-income students.

Swanson's school principal let her develop a program that would support these students. That program evolved into a full-blown acceleration system for students and teachers and entire school districts. It is currently being taught in more than 2,500 schools in 16 countries, Canada now among them.

AVID places academically average middle school and high school students in rigorous academic classes and provides them with the skills and supports to achieve success, using a curriculum based on writing, inquiry, collaboration and reading. The AVID classes, which are taken as electives by the students, seek to level the playing field for minority, rural and low-income students, including those students whose families have no pattern of post-secondary attendance.

For teachers, the program seems to provide what many of them crave: focused time with their students.

"To have an actual block of time over a series of years with a group of kids to mentor is an amazing gift," said Andrea Reyes, an AVID teacher at Sands Secondary School in North Delta, BC. *"This is a chance for a teacher who cares about kids to have the time to actually teach the kids the processes that they need, teach them the skills they need, the strategies, the attitudes that every teacher wants to give their kids, but doesn't have time to do while you're doing all the other curricular stuff."*

Reyes' school is one of the 21 in the joint project between the Foundation and BC that grew out of the success of a two-school AVID program in Chilliwack that started in 2001. About 550 students who began participating in the AVID elective class in September 2005 will be among the research subjects, with 270 students in a comparison group and another 150 students assigned to a wait-list. The students were assigned to the various groups through a random selection procedure.

A synergy seems to be taking place in this project. AVID provides a developed program for Canadian schools and districts, which are looking to help students with potential and desire but who need some support academically and organizationally. The Canadian schools and the Foundation are providing AVID, a non-profit organization, with some needed data, which will measure the effectiveness of the AVID program in a Canadian setting. Robert Gira, Vice-President for National Programs at the AVID Center in San Diego is excited by that prospect. He says he is happy that the Foundation approached AVID from a research basis. "They studied a number of programs and systems, and after meeting with us and looking carefully at the AVID program, I think that the team felt that AVID fit well as a pilot project for Canada."

Anecdotally, the program seems very effective, even at this early stage. Grade 9 Delta student Tessa Jensen says having a dedicated teacher giving her that extra push, while also explaining things clearly, has really helped her. Before the program, her grades were dropping, assignments went missing and she often found herself just not caring. That situation has turned

around, she says, and in one course there's been an improvement of 30 to 40 per cent. Among the rest of her courses, there has not been one failure.

"*School's a lot easier now,"* she says, adding that she no longer needs to make excuses for those missing assignments. *"I just feel a lot better about myself. When I come to school, I'm not like, 'Oh, my God, what am I going to tell my teacher today?'"*

AVID provides a support structure for youth to learn the skills needed to get into post-secondary education and to be a successful student. It uses some very specific tools like binders that the students learn to keep organized, making sure various materials from different courses don't get mixed up. Proper note-taking and Socratic questioning are also taught, with students working mostly in small study groups.

As part of the preparation for AVID coming to his schools, Stan Watchorn, Director of Instruction for the Chilliwack School District, helped put together a selection criteria that would determine which students would be eligible for AVID. He sums up who AVID is meant for: *"It's designed to serve students who have academic potential but are not meeting that potential, who have a desire to go to college and are prepared to work hard but may not have had parents or relatives who have gone to college and know the ropes of how to get into college."*

Teacher Reyes likes the idea of helping this group because they have not always had the support needed for them to excel. *"These are not the scholastic stars of the school; these are kids that need work. And it's extremely challenging to try and motivate them, because they oftentimes don't have that background from home that says, 'You must do this. You can do this. Just let me sit down and help you with this. Let me teach you. Let me show you how.' So we get a chance to do that."*

AVID seems to adapt to a range of demographics. Caroline Becir, the principal at Sands, had been aware that the US program was first designed for those in a lower socio-economic bracket. She knew her students did not always fit that bill, but were rather students simply not applying themselves. *"We have enough kids who are reluctant learners and who don't do enough with the skills they have."*

Watchorn elaborates on that idea of reluctant learners and how they can be readied for post-secondary education: *"Often the cycle that I see with students is that they want to be successful but they don't know how. They want to go on to college, but they don't know what they don't know. And so what happens in AVID is that they're taught the skills and the strategies of how to do school, how to be a successful student, how to be organized, how to learn how to study and how to learn how to use inquiry and collaboration to reinforce their learning. And it's by learning those skills and those strategies that it all of a sudden clicks,"* he says, adding that one of the essentials of AVID is that it's voluntary for both staff and students. *"A student who is pressured into it and is resistant is not going to be successful."*

When a student does agree to AVID, both the students and the parents sign a letter of intent that they're prepared to work hard towards the goals of the program; the student is prepared to do homework every night and make a commitment to being academically successful.

There is also quite a commitment needed from the schools, with teachers having to sign up for training at one of five summer institutes that AVID runs. The AVID Center's Gira says the summer institute, with its intensive training, is a must for properly implementing the program. He says AVID founder Swanson recognized teachers needed to have specific training in their disciplines but to also work together in interdisciplinary teams. *"(That's) where they help identify the barriers to success for students and to put corrective measures in place to open access to rigorous curriculum."*

Participating schools agree to have a site team trained, which is typically eight or more people from the school, including the AVID elective teacher/coordinator, a site administrator, a counsellor and then five core academic teachers from each of the major subject areas: English, math, science, history and social studies, and world languages. The team receives training in AVID methodologies to both implement into their classrooms and support the students who are selected for the AVID elective class.

That big group trip to summer institute seemed daunting to the principal who had been appointed last July, a couple of months before her school was to begin the program.

"The first thing I was told after I'd accepted the job was, 'Oh, by the way, you're going to San Diego for a summer institute for a weekend in the middle of the summer, and you're going with the former principal and a team of 10 teachers,'" said Becir, who found herself pleasantly surprised by the capability and knowledge of the AVID instructors.

But one of the main challenges in implementing a new program is winning over teachers. *"If you don't get the teachers on board, it's really going to be hard to spread it to the wider population,"* said Tish Sladden, a teacher librarian, also at Sands, who was sceptical at first. She wondered if this was going to be a tool her school needed. *"At the start, AVID was just another thing that was put on my plate, and I just didn't want to deal with it. Now that I see the turnaround in the students, which is why we're here – and we are seeing changes – I'm starting to feel like, yes, it's exciting, it's good to be a part of it."*

"There are so many competing agendas for a teacher and that always has to be considered," says Sladden, who offers some good advice on how to get teachers on side, emphasizing sensitivity to their workload. *"AVID needs to be explained on professional development days. There has to be money set aside for it. This isn't something that a teacher can just take on in the 20-minute bedtime reading before they go to sleep at night."*

She also says it's the potential to change the students that offers one of the best ways to win the teachers over. *"Kids that were difficult to handle before become like lambs after being AVIDized for a year. And that's a good way to sell the program."*

Reyes has seen those changes, with some of that success Sladden talks about being very evident to her. *"I think the most important thing is the kids now expect to work. Whereas before it was, 'Oh, the class is boring. I don't care.' And now they're beginning to care. One young man came running in after a science test and he had to stop himself from throwing his arms around me and hugging me. 'I aced the science test!' He was so excited. Whereas, last year, he really didn't care."*

Reyes says she is very grateful for the program. *"I think the vast majority of these kids would have fallen through the cracks and would not have had the opportunity to meet their potential."*

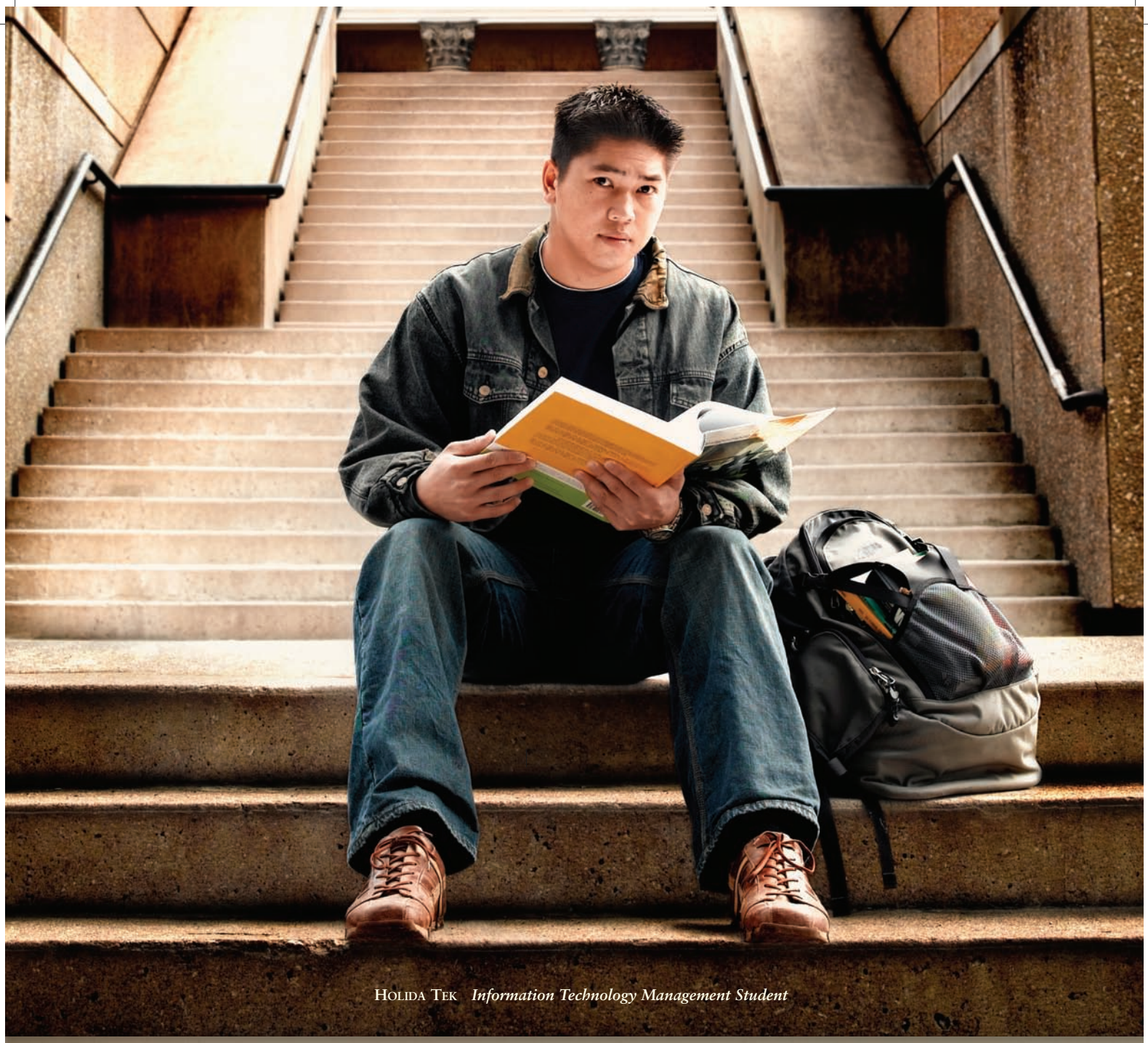
Stan Watchorn appreciates that some schools in his district are part of the research that will take AVID beyond the testimonial stage. *"My hopes and expectations are that, out of the research, the schools and the districts that have implemented AVID will find a way to maintain AVID within their districts. And that it will grow and make a difference to students and the schools themselves."* He hopes the research will show that AVID does make a difference in student outcomes.

As for the AVID Center's Gira, he is confident that a program born in the US inner city will translate well across Canada, despite differing demographics or national measures. *"Good instruction crosses international boundaries."*

PHILIP FINE *IS AN EDUCATION REPORTER WRITING ON BEHALF OF THE CANADA MILLENNIUM SCHOLARSHIP FOUNDATION.*

More information about the AVID Project may be found on the following Web sites or by contacting Stan Watchorn, Project Manager

http://www.srdc.org/en_what_we_do.asp
http://www.avidonline.org/
http://www.avidbc.com/



HOLIDA TEK *Information Technology Management Student*

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