

# **Expanding Early Learning In British Columbia For Children Age Three to Five**

Early Childhood Learning Agency, April 2009



## **Executive Summary**

Consistent with the Great Goal of making British Columbia the best-educated, most literate jurisdiction on the continent, the Province has been exploring the feasibility of expanding early learning programs for three to five-year-olds. Currently, the public education system offers half day kindergarten for five-year-olds and full day kindergarten for certain populations, including children with special needs.

In February 2008, the government directed the Early Childhood Learning Agency – composed of people from the Ministries of Education and Children and Family Development and led by Education – to assess the feasibility and costs of full day kindergarten for five-year-olds, as well as the option of full day preschool for three and four-year-olds.

Key findings are summarized below.

### **Research**

Many jurisdictions in Canada and around the world either have, or are moving to provide, early learning programs for three and four-year-olds and many offer full day kindergarten for five-year-olds. There is also a trend towards combining early learning with programs for primary school-age children.

A growing body of research shows that quality early learning programs can have a range of benefits for children. These include improvements in reading, writing, math, creativity, social development, work habits, motor skills, and performance on standardized tests. In the long term, they have also been found to reduce costs in other social policy areas.

Quality is critical and has been linked to the following program characteristics:

- well-defined standards and curriculum;
- manageable class sizes and adequate educator to child ratios;
- sustainable, predictable funding;
- availability of ancillary social and health services, and
- effective involvement and communication with the child's family.

Additionally, specialized and well-trained educators who receive adequate pay appear to be important to programs' success. Evidence shows these characteristics contribute to the development of higher social and cognitive skills in children.

### **Consultations**

Consultations with British Columbians have found strong support for full day kindergarten for both four and five-year-olds. Some parents were concerned about the idea of full day programs for three-year-olds. However, early childhood educators

(ECEs) told the Province that developmentally appropriate, play-based programs can have positive results for three-year-olds, as well as four and five-year-olds.

Those who shared their views felt very strongly that, while full day programs should be made available, parents should have choices about whether and where they enrol their children, and some were also in favour of parent choice about whether their children attend full day or part day for younger children. Many people also emphasized the importance of quality programming, with appropriately trained and remunerated providers. Some stakeholders and respondents suggested that existing preschools and child care should be funded to offer new programs if they meet standards required.

## **Human Resources**

To expand early learning programs, British Columbia would need potentially thousands of new teachers and ECEs. Specifically:

- A move to full day kindergarten province-wide would require an estimated 1,000 additional teachers.
- Providing full day programs for three and four-year-olds would require an estimated 4,000 additional ECEs.
- Boards of education would also have to add more teacher assistants, special education teachers and others specialists who support children in the classroom.

Staffing requirements would, of course, be lower if the government chose to implement full day programs to only five-year-olds or to only five and four-year-olds. If existing preschool and child care providers become providers of pre-kindergarten, this will also reduce the number of new ECEs needed.

Regardless of the model chosen, a comprehensive human resource plan will be required – not only to ensure support for new early learning programs, but also to ensure sufficient staffing for child care programs, many of which employ ECEs.

## **Facilities and Capital Costs**

Taking into account the spaces available in public schools, expanding early learning would require the construction of new classrooms (either additions or modular learning centres). Classroom needs are directly tied to decisions about what programs are offered, and in what venues.

Similarly, capital cost requirements will vary depending on the method chosen to make space available. The lowest-cost option is to reconfigure all available elementary school classrooms in each district, including usable schools that have been closed, and to meet any further needs with modular learning centres structures. The highest cost option is to build new classroom additions in every school where space is not available currently.

Two other, mid-range options were also studied: using modular learning centres only, and combining district-wide reconfigurations with the use of modulars, as opposed to purpose-build classroom additions.

The facilities cost implications range from an estimated \$20 million for modular learning centres to accommodate full day kindergarten only, with reconfiguration of programs in districts, to more than \$1 billion for an approach that includes all new construction school by school to accommodate full day four and three-year-old programs as well.

## **Operating Costs**

As with capital costs, operating costs will depend on which model of programming government chooses and how quickly the changes are implemented.

Assuming current funding models for boards of education and independent schools (with funding for other providers such as preschools/child care centers following the independent schools model) are maintained, the total operating cost would range from an estimated \$130 million a year once fully implemented (full day kindergarten for five-year-olds only) to over \$600 million a year once fully implemented (for full day programs available to all three, four, and five-year-olds, provided in schools only).

## **Implementation**

As noted above, there is a range of options for government to consider in expanding early learning. Implementation planning will be based on those decisions, as well as the findings of further research and consultation as this initiative moves forward.

Regardless of which options are chosen, the following principles should guide implementation:

- **Choice:** Parents should be able to choose whether and where (public schools or private providers) their children attend early learning programs. Parents should also have the choice of combining early learning with “wraparound” child care services, providing care (ideally at the same site) before and after the early learning program.
- **Quality:** Any new programs should incorporate the quality characteristics identified through research; these address issues such as qualifications of educators, class size, and curriculum standards.
- **Implementation:** Any new programs should be introduced in stages, allowing time for all participants and stakeholders to address the challenges inherent in a change of such magnitude. Government should develop a detailed implementation plan that includes a human resource strategy, detailed facilities analysis, and development of accountability and evaluation measures for new programs. An action plan for 2009/2010 is included in this report to begin this implementation.

## **Introduction**

In February 2008 the British Columbia government made a commitment in the Throne Speech to:

“...assess the feasibility and costs of full school day kindergarten for five-year-olds [and] undertake a feasibility study of providing parents with the choice of day long kindergarten for four-year-olds by 2010, and for three-year-olds by 2012.”

The Early Childhood Learning Agency (ECLA) carried out this feasibility work. This report summarizes key information gathered by the Agency.

The ECLA planned and carried out a number of activities as part of this feasibility work. For example the ECLA did the following:

- reviewed the literature on full day kindergarten and pre-kindergarten for three, four and five-year-olds, including pre-school (the work did not encompass children from birth to age three);
- examined kindergarten and pre-kindergarten models in Canada and other countries;
- consulted with a range of individuals, groups, and the public to gain knowledge and understand the range of views of stakeholders and experts;
- gathered information and analyzed the potential fiscal, capital and human resource implications for a range of options;
- considered various models of service delivery;
- examined relevant legislation, regulation, policy, and curriculum; and
- considered the impact on other services for young children; for example child care and special needs services

## **Background**

British Columbia has set a great goal of becoming the best-educated, most literate jurisdiction on the continent. One way to accomplish this is to give British Columbia's young children access to rich early learning experiences. Early learning is vital to life-long success and provides a foundation on which to build individual, social, and economic wellbeing.

Children between birth and five are at critical stages of development. Their brains at this age have the most “plasticity” – the potential to be shaped in permanent ways. Research suggests that, during this time, there are windows of opportunity when children are especially receptive to experiences that can shape their whole lives.

Most children's early learning takes place through relationships and play and, while these can be informal, there is also strong evidence that quality early childhood programs have positive impacts on children's future success. Programs that best guide children's learning are:

- developmentally appropriate to their stage of learning;

- play-based, and
- designed to holistically address all areas of child development: physical, social/emotional, language, and cognitive.

Evidence suggests that highly structured, academic programs that use primary school curriculum for children age three and four do not have the desired results.

Research has also found economic benefits to quality programs in the early years. Where children have access to these programs, there are significant savings in other social program areas. Research also shows that expanding choice for parents can have a positive effect on the workforce.

In terms of children’s development, significant research findings indicate that children who have participated in preschool and full day kindergarten experience positive outcomes in their academic and social-emotional development. This is true both for children who are considered vulnerable, and for those who are not – but only when programs are well-designed, well-implemented, and followed by quality primary and kindergarten programs. The positive effect of preschool programming needs to be maintained.

Other evidence indicates that sustained benefits and significant savings are highest for vulnerable, at-risk children, particularly when the programs include a parent support component.

In terms of defining “well-designed and well-implemented,” three factors appear to play a role:

- duration (how long the child has attended);
- frequency (how often the child attends), and
- intentionality (the program’s coherence and clarity of purpose, and how the learning activities are carried out).

## **Kindergarten and Preschool in British Columbia Today**

Currently, half day kindergarten is universally available in British Columbia public schools to children who turn five before January 1 of a school year. Boards of education are also funded when they provide full day kindergarten to certain populations: English as a Second Language students, Aboriginal students, and designated categories of students with special needs.

The Province also funds kindergarten programs at independent schools. Some First Nations band schools, funded by the federal government, offer both four and five-year-old kindergarten.

Throughout British Columbia, preschool and child care programs for three and four-year-olds are offered for a fee by multiple providers, with subsidies available for families below a certain income threshold.

A range of other publicly funded early childhood programs form a network of community services designed to influence children's healthy development. Two examples are Family Resource Programs that support early childhood development and parenting and StrongStart BC early learning centres that offer free school-based programs for children from birth to five-years-old accompanied by their parents/caregivers. The ECLA did not focus on these programs as part of this study.

Recognizing the critical importance of early learning to children, families and society as a whole, the Province published the *British Columbia Early Learning Framework* ([http://www.bced.gov.bc.ca/early\\_learning/early\\_learning\\_framework.htm](http://www.bced.gov.bc.ca/early_learning/early_learning_framework.htm)) in 2008 to guide and support the provision of rich early learning experiences for children from birth to kindergarten. The ideas in the Framework have been met with considerable enthusiasm in the early childhood sector. During the consultation, expert advisors and other stakeholders frequently mentioned that the Framework should form the basis of the curriculum for any future pre-kindergarten programs.

Another foundational document that would guide development of any new early learning programs is *The Primary Program: A Framework for Teachers* ([http://www.bced.gov.bc.ca/primary\\_program/](http://www.bced.gov.bc.ca/primary_program/)). Revised and published by the Ministry of Education in 2000; it provides an overview of primary education, reflecting current knowledge about children's development, learning and developmentally appropriate practice for kindergarten. The ideas in this guide are fundamental to kindergarten practice in the province, along with the outcomes of the prescribed curriculum.

## **Kindergarten and Pre-kindergarten in Other Canadian Jurisdictions**

Across Canada, most jurisdictions are working to improve both the quality and availability of formal early learning opportunities. This work has accelerated since 2001, when the federal government began providing dedicated funding to the provinces and territories for early childhood development. Across the country, free early learning programs in the form of kindergarten are mandated from the age of five or six. About 95 percent of five-year-olds are enrolled in publicly funded kindergarten, and in Ontario, almost all four-year-olds have access to a pre-kindergarten program.

Most of the kindergarten programs across the country are part day programs, delivering a similar number of hours, with schedules differing by district. These programs are delivered through the public education system at no cost to families, while preschool and child care programs are delivered through a combination of private and not-for-profit providers. In some provinces, full day kindergarten is offered only in certain districts, while in others (including British Columbia) it is offered to special populations.

Examples of jurisdictions offering a different range of programs include:

- New Brunswick, Nova Scotia and Quebec (in English and French) offer full day kindergarten programs for five-year-olds;
- Alberta, Manitoba, Saskatchewan and Quebec offer some programs for four-year-olds;

- Ontario provides part day kindergarten for four-year-olds and is currently planning for implementation of full day kindergarten for both four and five-year-olds.

## **The International Context**

A recent review of early learning in 20 countries worldwide, conducted by the Organization for Economic Co-operation and Development (OECD), found growing levels of interest in increasing access to quality early learning for all children age three to six. The OECD review described the following as significant developments:

- a trend towards combining early childhood programs with programs for primary school-age children;
- a growing understanding that care and education are not separate concepts, and that quality programs for young children provide both;
- an emerging consensus that early learning programs should be led by educators with appropriate post-secondary training; and
- a trend towards full coverage by the education system for children age three to six. Many countries are working towards offering two years of free (publicly funded) early learning before Grade 1.

In terms of service delivery, the UK, Australia, New Zealand and the United States have similar systems to Canada's, featuring a mix of non-profit and private providers. By contrast, Nordic and other European systems are delivered entirely through local governments, public or not-for-profit organizations.

The United Kingdom provides guaranteed access to free part day preschool beginning at age three. The services are provided in a range of settings, including schools and stand-alone preschools and child care centres. It already offers full day kindergarten.

In Australia, about 80 percent of children age four to five access early childhood learning programs. Parents pay fees for the portion of the program considered to be child care. There is a strong focus in Australia on improving early education for indigenous populations in particular.

In New Zealand, families have free, universal access to early education programs for three to five-year-olds, 20 hours a week. Working parents requiring additional child care can access more service (typically at the same site) for a fee, with subsidies available for low income parents.

Finland, which has a history of excellent international performance on measures of education achievement, provides every child from age one to school entry at age seven with free programs. The services for children one to five are provided in a variety of settings, including child care centres. Norway and the Netherlands begin full day preschool access at age four. In Norway, 88 percent of children age three to six

participate in preschool programs. In the Netherlands, publicly funded primary education includes children from age four to six for half days or full days during the school year.

In Sweden, children are entitled to a place in a free half day preschool program from the age of four. Over 90 percent of three to five-year-olds access the early childhood education services. There are a variety of types, including preschools and child care programs.

In Italy, there are a variety of approaches, although the programs for children age three to six must conform to their Ministry of Education guidelines. In most cases, the programs are available to families from 8:30 to 4:30 with a ceiling on fees. Children may attend either full or part day. Called “early education” programs, about half are operated by state governments. The rest are a mix of municipal and private.

In Ireland, children are legally entitled to a free education from the age of four. About 50 percent of four-year-olds and 100 percent of five-year-olds attend. In Germany, over 90 percent of children over the age of three have access to preschools. In France, almost all three, four and five-year-olds attend the free *ecoles maternelles* schools, which are part of the primary school system. France has a national preschool curriculum that helps to coordinate children’s learning in preschool and primary school. In Austria, 80 percent of three to five-year olds access programs, including preschools and mixed age daycare.

Kindergarten and preschool programs in the United States vary broadly, based on state government priorities. Georgia and Oklahoma offer kindergarten to all children age four and five. Many other states are expanding programs to include four-year-olds, but few have achieved universal access. In 2006, about 20 percent of four-year-olds in the United States were attending publicly funded preschool or pre-kindergarten programs, some full day and some half day. These include the federally funded Head Start program, which targets three and four-year-olds from low-income families.

There has been great interest in increasing access to preschool programming in the United States, supported by favourable economic theories about the importance of investing when children are young. The issue came up in recent elections with support from candidates across the political spectrum. Given this activity, it appears likely that publicly funded programs for three and four-year-olds will continue to increase in the United States.

### **The Literature/Research on Kindergarten and Pre-kindergarten**

The feasibility of expanding early learning programs in British Columbia is informed by research in two important areas:

- the features of effective programs, and
- the evidence of benefits of various pre-kindergarten and kindergarten programs in Canada, the United States, and the world.

It also draws from research showing children between the ages of three and five are at critical stages of development. Experiences in these early years “provide a foundation for

language, reasoning, problem-solving, social skills, and behavioural and emotional health” (Coleman, Buyse & Neitzel, 2006). Many quality early learning programs have been shown to benefit all children, regardless of socio-economic status, and potentially for many years.

In the literature, one of the main intended outcomes of most early learning programs is to improve children’s readiness for school. To maximize this outcome, the literature indicates that programs must occur frequently and have a significant duration, with the longer the duration, the better the outcome. Although some benefit will occur with infrequent attendance, the research suggests that daily programming over an extended period of time is preferable.

The literature also addresses both targeted services and those available to all children. Most studies in the United States have evaluated programs created to serve only certain populations (often based in low-income neighbourhoods), and most have found significant and long-term advantages for children who attend. Children who participated in targeted programs experience long-term improvements in academic outcomes compared to children who did not participate, including higher standardized test scores (including cognition, reading, and math).

Other positive outcomes include less grade repetition, fewer referrals to special education, higher graduation rates, and an increased likelihood of attending a four-year college. The children attending the programs also experienced later health and social gains including lower rates of teen pregnancy and smoking, a smaller likelihood of receiving welfare as adults, and a greater likelihood of being homeowners with higher income and lower rates of unemployment. However, the evidence in these studies of targeted programs cannot necessarily be applied to broad populations of children.

Other economic studies indicate that universally available programs would result in more positive outcomes for children and the economy. If all programs were of equally high quality, well-respected scholars predict the results would be even more positive and effects would last longer. Additionally, studies indicate that children from middle-income families account for the majority of school failure and dropping out, outcomes that can be positively influenced by attendance in a quality preschool program.

An important study of pre-kindergarten programs for all four-year-olds in Georgia showed that universally available programs enhance all children’s skills, regardless of their socio-economic status. All children who participated in these programs were above the national average for math skills, phonetic awareness, and language.

Studies following the universal pre-kindergarten program in Oklahoma show important benefits to providing programs to all children: those from lower to middle income families actually benefit more than children from either extreme end of the socio-economic spectrum.

A common thread through the literature is a caution that measuring the effect of any kindergarten or pre-kindergarten program without regard for the presence of quality characteristics will skew the results downward. So, it appears there is consensus among

scholars that if all programs studied were of equally high quality, the results would be more positive and effects would last longer.

Whether a program is targeted or universally available, the age groups served are also important. Some studies have examined full day kindergarten, while others have looked specifically at pre-kindergarten programs. Evidence shows positive outcomes in both; however, pre-kindergarten programs for four-year-olds appear to show stronger results.

Children who have participated in quality pre-kindergarten often do better when they reach school. However, this is somewhat dependent on their classroom experience in elementary programs (Magnuson, Ruhm & Waldfogel, 2006). This means that if the pre-kindergarten programs are followed by low quality kindergarten and elementary education, the effects can be lost. .

A study by Wylie et al. (2004) followed children who took part in pre-kindergarten and found there were still significant associations when the children were 12 years old. These outcomes include academic, social, and health benefits, as listed above when discussing targeted programs.

Research on full day kindergarten programs also suggests there are positive benefits, giving children a good start in Grade 1. Cryan et al (1992) found that full school day kindergarten resulted in higher standardized test scores, more positive classroom behaviours, and fewer problem behaviours. Other studies show that after one year, children who participated in full day kindergarten have advantages in reading, writing, math, creative, social development, work habits, motor skills, and, once again, on standardized tests.

The benefits of these programs are often attributed to the fact that full day programs give children more time to play with language, more chances for smaller group work, more individualized attention to their learning needs, and more flexibility in the learning environment. A widely cited research review by Brewster and Railback (2002) showed that full day kindergarten results in higher scores on achievement tests, with better results for children with lower socio-economic status. However, these effects did not last beyond Grade 1. Once again, the importance of high quality primary education is indicated as critical to sustaining gains from early learning.

So what factors make a high quality program? The following characteristics emerge in the literature:

- well-defined standards and curriculum;
- manageable class sizes and adequate teacher to child ratios;
- sustainable, predictable funding;
- availability of ancillary social and health services, and
- effective involvement and communication with the child's family.

Additionally, specialized and well-trained educators who receive adequate pay appear to be important to programs' success. Evidence shows these characteristics contribute to the development of higher social and cognitive skills in children. Other key features include

more frequent physical and motor activities; more art, music and reading; and nurturing, meaningful exchanges between children and staff.

## **Consultation with Stakeholders on Full Day Kindergarten and Optional Pre-kindergarten**

Between May and August 2008, the ECLA consulted with stakeholders and members of the public to explore the feasibility of providing full day kindergarten for five-year-olds and pre-kindergarten programs for children age three and four.

The consultation process was conducted in two parts. A discussion paper was posted online, inviting public comment. Stakeholders, including school districts and early learning partners, were notified by letter and encouraged to participate. This part of the process generated over 2,700 written responses. Staff from the ECLA also met in person with 22 stakeholder groups – including researchers, educators, and early learning/child care providers – to discuss their views.

The consultations (both online and face-to-face) addressed four general areas:

1. Full day kindergarten for five-year-olds;
2. Pre-kindergarten for four-year-olds;
3. Pre-kindergarten for three-year-olds, and
4. Factors to consider in expanding early learning.

### ***1. Full day kindergarten for five-year-olds***

This idea generated strong support from respondents. A number of groups, including those from Aboriginal organizations, noted that First Nations students have had access to full day kindergarten for years and that it was beneficial and adaptable for them and their families. Others felt that the current system with full day for only some children was unfair and offering full day kindergarten for everyone would be more equitable.

Teachers and other stakeholders emphasized that expanding kindergarten to full day should not mean that Grade 1 curriculum would be “pushed down” to younger children; rather that the additional program time should be used to allow more play-based learning and creative activities. Fully funding expanded kindergarten was also frequently mentioned. Respondents in the education system commented that boards of education would need time to plan for successful implementation.

Stakeholders recommended that certified teachers should staff full day kindergarten, but also suggested that kindergarten teachers should have professional development that specifically addresses early childhood learning. Many individuals and groups also said it would be critical to complement this choice with access to before and after school care to create a “seamless” continuum of care and early learning for five-year-olds.

## ***2. Full day pre-kindergarten for four-year-olds***

The consultation found a high degree of support for this idea. Many noted the life long benefits for children who have access to quality early learning services. Several stakeholder organizations expressed the view that any program should be universally accessible, stating that there must be a “commitment to universal access for all families.” Parents noted that expansion of programs for four-year-olds would be helpful for working families. As one parent/teacher noted, “Double-income families are necessary to meet today’s demanding costs of living; therefore, having quality early learning programs available to families would have positive spin-off effects for working parents as well.”

A large number of respondents said programs for four-year-olds should be play-based and developmentally appropriate; for example, including rest time for children who need it and outdoor play. Many responded that the programs should be staffed with qualified early childhood educators and the facilities in schools must be safe and secure for younger children. Many recommended that class size and child to staff ratios for new programs should follow the existing child care regulations in British Columbia.

Several respondents mentioned a choice of half and full day programming for four-year-olds would provide parents with a broader range of options. Organizations representing preschool and child care programs recommended that programs in that sector be funded to offer any new pre-kindergarten programs if they were willing and able to meet the standards and accountability measures required for early learning.

## ***3. Full day pre-kindergarten for three-year-olds***

This idea generated mixed support with many respondents saying three-year-olds are too young for full day programs and school-like settings.

To some extent, this may reflect a lack of understanding of what the Province is studying. For example, although the discussion paper clearly stated pre-kindergarten programs would be play-based, holistic and developmentally appropriate, a significant number of online respondents said the program would be too “academic,” “structured,” and “similar to school-based programs.” Others questioned the value of creating new programs and suggested the Province might be better served by increasing its investments in existing early childhood education and care programs.

By contrast, most stakeholder groups whose representatives participated in face-to-face meetings with staff from the ECLA supported the idea of providing the choice of full day pre-kindergarten for three-year-olds, often providing the same comments made about full day pre-kindergarten for four-year-olds. Many were interested in a multiple provider approach to new programs whereby schools, preschools, and child care centres that could meet the standards would be funded to provide pre-kindergarten programming.

## ***4. Factors to consider in expanding early learning***

The key theme found in a majority of responses on this question was “choice.” This included allowing families to choose whether to enrol their children, and to choose the

preferred provider of programs. Throughout the consultation process, parents, educators, and stakeholder organizations were clear that, if full day programs are offered, they should be available to all British Columbian families, but optional based on parent choice.

Additional comments regarding the expansion of early learning programs included the following:

- programs should be play-based, holistic and developmentally appropriate;
- access to before and after-school care should be available as part of a seamless, integrated system of early learning and support;
- programs for Aboriginal children, including First Nations and Métis children, should be culturally relevant and appropriate; Aboriginal stakeholder organizations also said that new programs should complement, rather than compete with, existing programs such as Aboriginal Head Start;
- quality of programs is critical; for example, many respondents said it would be very important to have pre-kindergarten programs led by qualified early childhood educators, and
- programs should be adequately funded.

Representatives of professional and advocacy organizations communicated strong interest in any new programs for children age three and four being grounded in the *British Columbia Early Learning Framework*.

Several stakeholder organizations also noted that extensive planning would be needed to support an expansion of early learning, particularly to avoid any unintended negative effects. For example, child care providers and advocates expressed concerns about viability of child care programs and the need for a well-planned human resource strategy to address the shortage of trained early childhood educators needed for their programs and for any new pre-kindergarten programming.

## **Human Resources**

In order to offer full day kindergarten and new pre-kindergarten programs, appropriately trained personnel would be needed.

### ***Kindergarten***

After consulting with stakeholders and considering current legislation, there is clarity with respect to the teachers who would staff full day kindergarten classes. The *School Act* states that a board of education

“must not employ a person as a teacher...unless that person

- (a) holds a certificate of qualification as a teacher, or
- (b) holds a letter of permission to teach issued under section 25 (2) of the *Teaching Professions Act*. Section 19

A certificate of qualification means that kindergarten teachers employed by boards of education must hold a current certificate or letter of permission issued by the British

Columbia College of Teachers. For independent schools, this would also include teachers meeting the requirements set by the independent school teacher certification committee.

Based on demographic forecasts and the best information available regarding teachers, an estimated 1,000 more teachers would be needed to offer full day kindergarten province-wide. Those currently teaching half time for half day programs could be recruited to work full school day in some instances and, in communities where enrolment is declining, some of the new positions could be filled gradually by teachers no longer needed for other grades. Teachers currently doing on-call assignments in hopes of becoming employed full time are another source of kindergarten teachers.

Whatever the sources, the school system would need time to recruit new teachers in order to implement full day kindergarten. Greater labour mobility will soon be occurring across Canada, and may make it possible to recruit teachers from other jurisdictions. Phased implementation would also give boards and independent schools more time to address staffing issues.

### ***Pre-kindergarten programs***

Early childhood educators (ECEs) currently meet British Columbia regulations to provide preschool programming for children age three to four. In the consultations, most experts and respondents favoured the idea of extending this practice to include any new pre-kindergarten programs offered in British Columbia. Preschools are regulated through the Child Care Licensing Regulation under the *Community Care and Assisted Living Act* and must meet requirements for ratios of staff to children. For four-year-olds in preschools, the ratio is one early childhood educator (ECE) or certified assistant for every ten children. For three-year-olds, the ratio is one to eight.

Keeping the spirit of these regulations and considering estimated uptake, creating new full school day pre-kindergarten for both four and three-year-olds would require an additional 4,000 ECEs and a comparable number of qualified assistants. About 1,500 fewer ECEs would be needed if the Province chose to offer pre-kindergarten for four-year-olds only. It is also important to note that any increase in child care spaces would also have implications for labour supply of ECEs. Implications vary for half day programs as well.

According to the ECE registry, about 10,000 people in British Columbia at this time are licensed early childhood educators. They estimate that about 5,000 of these work in licensed child care now, while many others work in some other capacity, including private unlicensed child care services. Some of these would be interested in working in new pre-kindergarten programs, but it is not possible for this feasibility study to determine the extent of that interest. Each year in British Columbia, about 900 ECEs complete their education and become eligible to be certified; however, there is high turnover and poor retention in the profession.

### ***Additional staffing needs***

In addition to teachers and ECEs, boards of education and other providers would also need the services of teacher's assistants to support programming for pre-kindergarten children with special needs, special education teachers, speech therapists, and other employee groups who serve children in the school system.

Aggressive recruiting and expansion of training programs in post-secondary institutions would be important strategies for boards of education and other employers if government introduces new programs.

### **Facilities**

Implementation of full day kindergarten and pre-k programming requires consideration of facilities and appropriate space. Some boards of education have available surplus space, while others may need to adapt existing space or establish modular facilities.

While it is true that there has been a significant decline in student enrolment, the demographic forecast from BC Stats predicts increases in numbers of young children poised to enter the system. Overall enrolment is still decreasing, but by 2012, enrolment at the elementary level is predicted to be on the increase. For example, there were 39,192 kindergarten-age children in British Columbia schools in 2007/2008. By 2015, that is expected to rise to 43,155. The following table is based on data from BC Stats.

#### **Estimated number of 5, 4, and 3 year old children in British Columbia**

<b>Age cohorts</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>2010/11</b>	<b>2011/12</b>
5 year olds	39,192	39,704	39,459	40,013	40,329
4 year olds	39,291	39,041	39,573	39,882	40,873
3 year olds	38,591	39,119	39,407	40,388	40,775

Although British Columbia has lost 50,000 students, introducing full day kindergarten and pre-kindergarten for four and three-year-olds would result in an increase far exceeding that loss.

As part of the feasibility work, a number of approaches to facilities analysis were considered. Each elementary school currently offering kindergarten was assessed to determine how many surplus classrooms it has. The calculations were based on Ministry of Education space allocation standards, 2007/2008 enrolment figures, long range enrolment forecasts, and area standards for schools.

Surplus classrooms in open elementary schools and closed elementary schools that could be re-opened were assumed to be available. Caution should be taken in considering these data as the Ministry of Education's information about surplus classrooms does not represent current use of these spaces, with the exception of StrongStart BC early learning centres and child care programs in schools. Estimated start-up for minor capital

(furniture and supplies) and age appropriate playground equipment were also included in facilities costing analysis.

Four approaches and their implications were studied:

1. Constructing new permanent classrooms school by school, using temporary modular classrooms in the transition to full implementation, without reorganizing programs and affecting other schools in the district;
2. Purchasing and installing modular learning centres school by school, without reorganizing programs and affecting other schools in the district;
3. Constructing classrooms needed when reconfiguring all available elementary school classrooms in each district, including usable schools that have been closed, and
4. Reconfiguring as for number 3, and adding modular learning centres only.

These approaches each included consideration of space for maintaining and expanding StrongStart BC early learning program spaces in schools and space in schools for existing child care and preschool programs. A multitude of other options could be studied with respect to classrooms needed, but for the purposes of this study, these four approaches and the five options for full day programs associated with each were considered.

The need for capital is also affected by government's decisions with respect to which providers might be funded for new pre-kindergarten programs in addition to public boards of education and independent schools. Program providers for kindergarten are assumed to be schools, public and independent. To expand parents' choices, preschools and child care centres might also be funded to offer pre-kindergarten as is current practice in other jurisdictions. If a range of providers is funded to operate pre-kindergarten programs, impacts of capital costs will be decreased.

## **Operating costs**

The Ministry of Education currently funds education programs provided by boards of education and independent school authorities based on student enrolment. Enrolment of students in kindergarten is funded at the same rate as for students in every other grade. The estimated operating costs in this report assume similar funding mechanisms for any new early learning programs; that is, per pupil funding at the same rate for full day kindergarten and pre-kindergarten as any other grade.

Other assumptions that underpin the operating costs analysis undertaken here include the following:

- Expanded kindergarten and new pre-kindergarten programs would follow the entitlement principle of the K-12 system and be free in public schools and funded in independent schools and/or other settings, similar to current independent school funding;

- For programs in independent schools, and for other qualified pre-kindergarten providers, funding would be similar, with parent fees as set by the independent school authority or program operator;
- The estimates in this report assume full day, as that is the mandate assigned to the feasibility study. Where choice of half or full day programs is offered there is usually a trend of increasing uptake the first few years as the reputation of the program is solidified;
- Between 95 and 100 percent of parents of five-year-olds would likely choose full day kindergarten;
- About 90 percent of parents of four-year-olds would likely choose pre-kindergarten staged over time. This is an estimate based on analysis of similar programming in Ontario and the responses from parents during consultation. Such programs are often introduced and then expanded over a number of years;
- About 50 percent of parents of three-year-olds would likely choose pre-kindergarten if it was offered only in schools. Over 60 percent would enrol their children if providers included centre-based child care programs as well as schools. These assumptions are in part based on parent responses during the consultation;
- Because of the planning cycle for boards of education and lead time needed to re-organize or acquire new classroom space and kindergarten teaches, implementation for full day kindergarten would need to be phased in rather than starting simultaneously;
- Programs would occur in accordance with the current school calendar; estimates have not included summer learning. Providers of child care could use the same program staff and space for programs to fill in summer and holiday times;

The operating costs estimated for this study do not include costs for training of additional early childhood educators.

The estimates do include supplementary funding for special needs, English as a second language services, and Aboriginal education programs at the same rate as for kindergarten currently.

### *Estimated Operating Funding required for various options*

**Five year olds:** The most modest option to expand early learning is to introduce full day kindergarten to five-year-olds. Even though a portion of children are already funded for full day kindergarten, the investment to expand this program to all children would cost \$130 million per year once fully implemented.

**Five and four-year-olds:** Adding pre-kindergarten for four-year-olds in public boards of education and independent schools would cost an estimated total of \$423 million per year for both five and four-year-olds.

To phase in kindergarten for five-year-olds and add pre-kindergarten for four-year-olds in schools and other settings, such as existing preschools and child care centres, would cost an estimated total of \$395 million per year.

**Five, four, and three-year-olds:** To add programs for three-year olds in schools (public and independent) would raise the cost to over \$615 million per year.

If multiple providers, such as private pre-schools and child care centres, in addition to schools were funded to offer the program, estimated costs would be a total of \$600 million per year for all three age groups.

The year over year costs during phased implementation would impact Government's operating costs.

## **Important Feasibility Considerations for Government**

### *Choice*

Choice is an important theme throughout the feasibility work of the ECLA, especially regarding pre-kindergarten programs. For pre-kindergarten for four and three-year-olds, parents could have the option of enrolling their children with a board of education, an independent school, or a licensed preschool or child care centre, as parents currently choose between public and independent schools today. During the consultation, some parents said they also wanted to choose whether they enrol their children in pre-kindergarten at all. Some parents also wanted a choice between half day and full day programming, particularly for younger children.

Government will need to determine how best to address parent choices, including consideration of a range of providers for any expanded early learning for three and four-year-olds. Offering a range of choices will also address the shortage of early childhood educators and parents' need for child care. Using a range of providers to deliver programs to four and three-year-olds will also help alleviate potential negative impacts on child care providers and families needing their services.

### *Quality*

Quality is of the utmost importance for any new programs in order to realize children's early learning potential and achieve the results that government seeks. Consideration should be given to the quality indicators from the literature (e.g. qualifications of educators, class size and adult to child ratios, and curriculum standards). Any new programs should have high standards and be developmentally appropriate for the children and be based on the ideas expressed in the *British Columbia Early Learning Framework*. Government should ensure that any new investment goes to early learning programs carefully designed to achieve the results sought.

Government should focus work on developing the curriculum standards for any new programs to ensure that they will effectively address children's learning. Staged implementation would allow government to invest the time necessary to develop these standards in consultation with experts and evaluate their effectiveness through pilots and

evaluation. Because new early learning programming is a significant investment, it is critical to be sure that the programs are created with a strong evidence base.

### ***Implementation***

Introducing such a large change is only feasible with careful implementation planning. This planning will need to involve the organizations expected to offer the programs. Central activities of this planning should include the following:

- detailed facilities analysis;
- a human resource strategy; and
- development of program standards, along with accountability and evaluation strategies.

Most jurisdictions have implemented new early childhood programs over a number of years. The impact of such a large change in the education and preschool system would be significant. Time will be needed for local planning.

Government, boards of education, independent school authorities, and preschool and child care providers will require time to address change. Phasing in with predictable implementation targets would allow the system necessary time to address program standards, human resource, and facilities challenges. Some considerations for phasing might include offering new programming first in communities with a high proportion of vulnerable children and readily available space. Staging implementation over time is a way for B.C. to address fiscal challenges, while remaining committed to the idea of expanding early learning.

## **Next Steps: Early Learning Action Plan**

### **Background:**

The February 2009 report of the Early Childhood Learning Agency (ECLA) on the feasibility of expanding early learning programs concluded that government address choice, quality, and carefully staged implementation. It suggested work be started right away in the following areas: a human resource strategy; development of program standards and evaluation strategies; and detailed facilities analysis and planning.

The report concluded the following:

- The impact of such a large change in the education and preschool system would be significant. Time will be needed for local planning.
- Government, boards of education, independent school authorities, and preschool and child care providers will require time to address change. Staging

implementation would allow the system necessary time to address program standards, human resource, and facilities needs.

- The fiscal considerations associated with introducing expanded early learning programs are significant. In 2009, governments around the world are facing fiscal challenges. Staging implementation over time is one way for B.C. to address these challenges, while remaining committed to the vision of expanding early learning opportunities.

In the February 2009 *Speech from the Throne*, government reiterated its commitment to full day kindergarten. While it is not possible to introduce full day kindergarten for five-year olds in 2009 due to current economic circumstances, the need to develop appropriate space, and the time to recruit qualified educators, government remains committed to that vision. Government will commence creating space and teacher capacity to achieve this goal.

The following action plan has been created. This plan recognizes both government's commitment to expanded early learning and also the fiscal, human resource, and facilities needs of today. It includes activities that focus on preparing for programs in the future, when the economy has begun to recover from the current downturn.

Next steps include:

1. carrying out a detailed facilities analysis and starting to prepare space for programs;
2. creating a human resource strategy; and
3. developing program standards for full day kindergarten for five-year-olds and pre-kindergarten for four-year-olds

## **1. Analyzing Facilities**

The work of the ECLA was based on an analysis at the provincial level using established standards for school facilities rather than an actual local analysis. A more precise capital analysis and costing must be completed in collaboration with boards of education in preparation for implementing full day kindergarten and pre-kindergarten for four-year olds and three-year olds in the future.

The Ministry will engage with each school district in a planning process that will identify more accurately and specifically how it can accommodate expanded early learning and where new space will be needed.

New capital projects currently being planned will include space for early learning expansion in the coming years. Modular early learning centres will be built, where space is required, in preparation for implementation.

For example, capital projects in School Districts No. 23 and 61 that are going forward in the 2009/2010 school year will incorporate new space for full day kindergarten and pre-kindergartens of the future.

## **2. Creating a human resource strategy**

The Ministry of Education will work with the Ministry for Children and Family Development, the Ministry of Advanced Education and Labour Market Development, post secondary institutions, and the British Columbia School Employees Association to create a human resource strategy. This strategy will address shortages of Early Childhood Educators, the training programs in post-secondary institutions, as well as professional development for kindergarten teachers and practicing ECEs to address training and retention.

This work connects with activities already underway, but will ensure that the ECE strategy addresses future needs of not only the child care sector and StrongStart BC early learning centres but also educators needed to staff pre-kindergarten classes in the future.

## **3. Developing program standards**

During 2009/10, the Ministry of Education will lead the development of new program standards to support the expansion of kindergarten for five-year-olds and introduction pre-kindergarten for four-year-olds.

Based on the concepts expressed in the *Primary Program* and the *British Columbia Early Learning Framework*, new standards for these programs will be developed. For the new program for four-year-olds, beginning with a small number of pilots in 2010 to evaluate the effectiveness of these standards.

To address full day kindergarten, the Ministry will work in partnership with boards of education, kindergarten teachers, and academics/experts to address full day programming, aligning this change with the already existing standards of the prescribed learning outcomes of the provincial curriculum and the concepts contained in the *Primary Program* guidelines document. The product of this work may be most appropriately expressed as an addendum to the *Primary Program*.

To address new pre-kindergarten programming, the Ministry will lead a project in partnership with the Ministry of Children and Family Development to create program standards, based on the Early Learning Framework and the evidence found during the ECLA's feasibility study. Once developed, these standards will be used in five to ten pilot sites for full day pre-kindergarten and will be evaluated over two years.

## References

- Alberta. Alberta Education. Retrieved from: <http://education.alberta.ca/>.
- Anderson, L. (2005) *Lots to Build On, More to Do: Blueprint for Community Architecture for Early Childhood Learning and Care*. YWCA Canada and Vancouver.
- Anderson, L. *Child Care System Implementation Model: More than a Pretty Space*, HELP Public Seminar Series, July 5 2007.
- Anderson, L., Westcoast Child Care Resource Centre & Perryman, G., and Associates. (1997). *Final Report on the Child Care Financial Analysis Pilot Project (December 1997)*. (Vancouver Child Care Regional Delivery Models Pilot Project).
- Aos, S., Lieb, R., Mayfield, J., Miller, M., & Pennucci, A. (2004). *Benefits and costs of prevention and early intervention programs for youth.*, Olympia, WA: Washington State Institute for Public Policy.
- Ball, J. (2008). *Promoting Equity and Dignity for Aboriginal Children in Canada*. IRPP Choices.
- Barnett, S. (2003). Better teachers, better preschoolers. Student achievement linked to teacher qualifications. *Preschool Quality Matters 2*. New Brunswick, NJ: NIEER, Rutgers University.
- Barnett, W.S & Masse, L.N. (In press). Early childhood program design and economic returns: Comparative benefit-cost analysis of the Abecedarian program and policy implications. *Economics of Education Review*.
- Barnett, W.S. (1995). Long-Term Outcomes of Early Childhood Programs: on Cognitive and School Outcomes. *The Future of Children: Long-Term Outcomes of Early Childhood Programs*. LA: Packard Foundation.
- Barnett, W.S. *Debunking the Myths: Benefits of Preschool*. National Institute for Early Education Research.
- Barnett, W.S. & Boocock, S.S. (Eds.). *Early care and education for children in poverty: Promises, programs, and long-term results* (pp. 11-44). Albany, NY: SUNY Press.
- Barnett, W.S. et al. (2007). *The State of Preschool 2007*. National Institute for Early Education Research.
- Barnett, W.S. (2008). *Preschool education and its lasting effects: Research and policy implications*. Boulder and Tempe: Education and the Public Interest Center & Education Policy Research Unit.

- Barnett, W.S., Brown, K. & Shore, R. (2004). The universal vs. targeted debate: Should the United States have preschool for all? *Preschool Policy Matters*, 6, New Brunswick, NJ, NIEER.
- Barnett, W.S., Lamy, C. & Jung, K. (2005). *The effects of prekindergarten programs in young children's school readiness in five states*. National Institute for Early Education Research.
- BCPVPA Standards Committee. (2007). *Leadership standards for principals and vice-principals in British Columbia*. BC Principals and Vice-Principals Association (BCPVPA).
- Beach, J.& Friendly, M. (2006) *Quality by Design*, Childcare Resource and Research Unit.
- Berrueta-Clement, J.R., Scwainhart, L.L., Barnett, W.S., Epstein, A.S., & Weikhart, D.P. (1984). *Changed lives: The effects of the Perry Preschool study through age 19*. Ypsilanti, MI: High/Scope Press.
- Best Start Early Learning Panel. (2006). *Early learning for every child today: A framework for Ontario early childhood settings*. Government of Ontario. Retrieved from: [http://www.gov.on.ca/children/graphics/stel02\\_183342.pdf](http://www.gov.on.ca/children/graphics/stel02_183342.pdf).
- Blank, H., Schulman, K. & Ewen, D. (1999). *State Prekindergarten Initiatives, 1998-1999*. Children's Defense Fund.
- Brewster, C & Railback, J. (2002). *Full-day Kindergarten: Exploring an Option for Extended Learning*. Portland, Oregon: Northwest Regional Educational Lab
- Brotherson, MJ, Sheriff, G, Milburn, P., & Schertz, M. (2001). Elementary school principals and their needs and issues for inclusive early childhood programs. *Topics in Early Childhood Special Education*, 21(1), 31-45.
- Buyse, V. & Wesley, P.W. (2006). *Evidence-based practice in the early childhood field*. Washington, DC: Zero to Three.
- Campbell, et al (2002). Early childhood education: Young adult outcomes from the Abecedarian project. *Applied Developmental Science*, 6(1), 42-57.
- Canada. New Brunswick Department of Education. (2007). *A benchmark report on the targets of when children come first*. Retrieved from: <http://www.gnb.ca/0000/publications/comm/A%20Benchmark%20Report%20W KCF.pdf>.
- Canada. New Brunswick Department of Education. (2007). *When kids come first: A challenge to all New Brunswickers to build Canada's best education system*. Retrieved from: [http://www.gnb.ca/0000/publications/comm/4578\\_report\\_E.pdf](http://www.gnb.ca/0000/publications/comm/4578_report_E.pdf).
- Canada. Northwest Territories Department of Education, Culture and Employment. Retrieved from: <http://www.ece.gov.nt.ca/>.

- Canada. Nova Scotia Department of Education. Retrieved from: <http://www.ednet.ns.ca/>.
- Canada. Nunavut Department of Education. Retrieved from: <http://www.gov.nu.ca/education/eng/>.
- Canada. Saskatchewan Learning. Retrieved from: <http://www.learning.gov.sk.ca/>
- Carr, M. (2001). *Assessment in early childhood settings: Learning stories*. London (UK): Paul Chapman Publishing.
- Chernoff, J.J., Flanagan, K.D., McPhee, C. & Park, J. (2007). *Preschool: First Findings from the Preschool Follow-up of the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B)*. U.S. Department of Education.
- Clarke-Stewart, A. (1999). *How child care relates to children's cognitive and language development: NICHD study*. Paper presented at the American Association for the Advancement of Science meetings. Anaheim, CA. January 21-26.
- Cleveland, G. & Krashinsky, M. (1998) *The benefits and costs of good child care: The economic rationale for public investment in young children*. Childcare Resource and Research Unit.
- Cleveland, G. & Krashinsky, M. (2004). *Financing Early Learning and Child Care in Canada*. Canadian Council on Social Development.
- Cleveland, G. & Krashinsky, M. (2005). *The nonprofit advantage: Producing quality in thick and thin child care markets*. Retrieved from: <http://childcarepolicy.net/pdf/non-profitadvantage.pdf>.
- Cleveland, G. (2008). *If it don't make dollars, does that mean it don't make sense?* Retrieved from: [http://www.toronto.ca/children/pdf/cleveland\\_report\\_may08.pdf](http://www.toronto.ca/children/pdf/cleveland_report_may08.pdf).
- Cleveland, G., Corter, C., Pelletier, J., Colley, C., Bertrand, J., & Jamieson, J. (2006). *A review of the state of the field of early childhood learning and development in child care, kindergarten and family support programs*. Atkinson Centre for Society and Child Development. Retrieved from: <http://www.ccl-cca.ca/NR/rdonlyres/67F194AF-8EB5-487D-993C-7CF9B565DDB3/0/SFREarlyChildhoodLearning.pdf>.
- Coleman, M.R., Buyse, V. & Neitzel, J. (2006). Establishing the evidence base for an emerging early childhood practice: Recognition and Response. In V. Buyse & P.W. Wesley, Evidence-based practice in the early childhood field. Washington, DC: Zero to Three.
- Colley, S. (2006). *The integration kit: Policy papers: How can integrated services for kindergarten-aged children be achieved?* Toronto: Integration network project, Institute of Child Study, University of Toronto. Retrieved from: [http://action.web.ca/home/crru/rsrscs\\_crru\\_full.shtml?x=92997&AA\\_EX\\_Session=4d7fc2a3d4a6ca32283e5d17f13a534e](http://action.web.ca/home/crru/rsrscs_crru_full.shtml?x=92997&AA_EX_Session=4d7fc2a3d4a6ca32283e5d17f13a534e).

- Corter et al. (2006). *Toronto First Duty Phase I Final Report*. Retrieved from: <http://www.toronto.ca/firstduty>.
- Corter, C., Bertrand, J., Pelletier, J., Griffin, T., McKay, D., Patel, S., & Ioannone, P. (2006). *Toronto first-duty phase I report: Evidence-based understanding of integrated foundations for early childhood*. Retrieved from: [http://www.toronto.ca/firstduty/TFD\\_Summary\\_Report\\_June06.pdf](http://www.toronto.ca/firstduty/TFD_Summary_Report_June06.pdf).
- Cryan, J.R., et al (1992). Success outcomes of full-day kindergarten: More positive behavior and increased achievement in the years after. *Early Childhood Research Quarterly*, 7, 187-203.
- Damian, B. (1997). Practitioner perspective: Full-Day Kindergarten Perspective. *Early Childhood Research Quarterly*, 12, 485-486.
- DeCicca, P. (2007). Does full-day kindergarten matter? Evidence from the first two years of schooling. *Economics of Education Review*, 26, 67-82.
- Deemer, E., DeSimone, L., & Finn-Stevenson, M. (1998). *The School of the 21st Century as a Year-Round Service Center for an Entire Community*. Principal, pp. 43-46.
- Doherty, G., Friendly, M., & Forer, B. (2002). *Child care by default or design?* Retrieved from: <http://www.childcarecanada.org/pubs/op18/OP18.pdf>.
- Early Learning and Development Framework for 3-5 Year Olds*. The Kelowna Preschool Partnership Program, The Central Okanagan School District (#23).
- Edwards, C, Gandini, L. & Forman, G. (Eds.) (1998). *The hundred languages of children: The Reggio Emilia approach: Advanced reflections*. Greenwich, Conn: Ablex.
- Ellicker, J, et al (1997). What do they do all day? Evaluation of a full-day kindergarten. *Early Childhood Research Quarterly*, 12, 459-480.
- Finn-Stevenson, and M., Zigler, E., *Schools of the 21st century: Linking child care and education (Renewing American Schools)*. HarperCollins Canada.
- Finn-Stevenson, M., Desimone, L., & Chung, A.M. (1998). Linking Child Care and Support Services with the School: Pilot Evaluation of the School of the 21st Century. *Children and Youth Services Review*, 20(3), 177-205.
- Fitfield, S. et al (2004). *The status and nature of full-day kindergarten in Delaware*. Delaware Education Research & Development Center.
- Friendly, M. (2008). *International Journal of Child Care and Education Policy*, Volume 2, Number 1, 36-52.
- Friendly, M., Beach, J., Ferns, C., & Turiano, M. (2007). *Early Childhood Education and Care in Canada 2006*. Toronto, ON: Child Care Resource and Research Unit. Retrieved from: [www.childcarecanada.org](http://www.childcarecanada.org).

- Fullan, M., Hill, P., & Crevola, C. (2006). *Breakthrough*. Thousand Oaks, CA: Corwin Press.
- Goelman, H. & Pence A. (1985). Effects of child care, family, and individual characteristics on children's language development: The Victoria Day Care Research Project. *Canadian Children Winter/Spring*, 115-123
- Goelman, H., Doherty, G., Lero, D.S., LaGrange, A., and Tougas, J. (2000). *Caring and learning environments: Quality in child care centres across Canada*. Guelph, Ontario: Centre for Families, Work and Well-Being, University of Guelph.
- Gormley, W.T., Phillips, D., & Gayer, T. (2008). The Early Years: Preschool programs can boost school readiness. *Science*, 27 (320), 1723-1724.
- Gullo, D.F. et al (1997). The effects of different models of all-day kindergarten on children's developmental competence. *Early Child Development and Care*, 139, 119-128.
- Gullo, D.F. (2000). The long term educational effects of half-day vs. full-day kindergarten. *Early Child Development and Care*. Volume 150, pp 17-24.
- Hargreaves, A., & Fink, D. (2006). *Sustainable leadership*. San Francisco: Jossey-Bass.
- Heckman, J.J. et al. (2006). Skill formation and the economics of investing in disadvantaged children. *Science*, 312, 1900.
- Henry, G.T. et al. (2005). The Georgia Early Childhood Study 2001-2004: Final Report. Georgia State University.
- Herry, Y., Maltais, C., & Thompson, K. (2007). Effects of a full-day preschool program on 4-year old children. *Early Childhood Research and Practice*, 9(2).
- Hewes, J. (2006). *Let the children play: Nature's answer to early learning*. Canadian Council on Learning. Retrieved from: <http://www.ccl-cca.ca/CCL/Reports/LessonsInLearning/LinL20061010LearninPlay.htm>.
- Howes, C. (1997). Children's experiences in center-based child care as a function of teacher background and adult: Child ratio. *Merrill-Palmer Quarterly*, 43, 404-425.
- International Play Association. (1989). *IPA Declaration of the child's right to play*. Retrieved from: [http://www.ipaworld.org/ipa/ipa\\_declaration.html](http://www.ipaworld.org/ipa/ipa_declaration.html).
- Japel, C., Tremblay, R. & Cote, S. (2005). *Quality counts! Assessing the quality of daycare services on the Quebec Longitudinal Study of Child Development*. Montreal: Institute for Research on Public Policy.
- Kagan, S.L. & Scott-Little, C. (2004). *Early Learning Standards: Changing the parlance and practice of early childhood education?* Phi Delta Kappan, 388-396.

- Karoly, K. et al. (2001). *Assessing costs and benefits of early childhood intervention programs: Overview and application to the Starting Early Starting Smart program*. Santa Monica, CA: RAND Corporation.
- Karoly, K., Kilburn, M.R., & Cannon, J.S. (2005). *Early Childhood Interventions: Proven Results, Future Promise*. Santa Monica, CA: RAND Corporation.
- Kershaw, P. (2007). *Measuring Up: Family Benefits in British Columbia and Alberta in International Perspective*, Institute for Research on Public Policy (IRPP), Investing in our children.
- Kilburn, M.R., & Karoly, K., (2008). *The economics of early childhood policy: What the dismal science has to say about investing in children*. Santa Monica, CA: RAND Corporation.
- Kohn, L., & Zellman, N. (1994). *Education in context: Recent trends in child welfare*. Santa Monica, CA: RAND Corporation.
- Lansdown, G. (2004). *Evolving capacities and participation*. [Electronic version]. International Institute for Child Rights and Development. Retrieved from: <http://web.uvic.ca/iicrd/graphics/CIDA%20CAP%20Report%20%20-%20Evolving%20Capacity%20and%20Participation.12.03.pdf>.
- Lee, V. et al (2006). Full-day versus half-day kindergarten: In which program do children learn more? *American Journal of Education*, 112.
- Leithwood, K. (2007). *Leading student achievement: Our principal purpose: Taking the project to the next level*. OISE, University of Toronto.
- Leithwood, K., & Seashore, L., et al. (2004). *How research influences student learning: Learning from leadership project*. Review of Research. Centre for Applied Research and Educational Improvement. OISE.
- Lubeck, S. (1996). Deconstructing “Child Development Knowledge” and “Teacher Preparation.” *Early Childhood Research Quarterly*, 11, 142-167.
- Lynch, R.G. (2007). *Enriching children, enriching the nation: Public investment in high-quality prekindergarten*. Washington, DC: Economic Policy Institute.
- Magnuson, K, Meyers, M, Ruhm C., & Waldfogel, J. (2004). *American Educational Research Journal*, 41(1), 115-157.
- Magnuson, KA, Ruhm, C & Waldfogel, J. (2006). The persistence of preschool effects: Do subsequent classroom experiences matter? *Early Childhood Research Quarterly*.
- Mahon, (2005). *The OECD and the reconciliation agenda: Competing blueprints*. Carleton University/Childcare Resource and Research Unit.
- Manitoba Education, Citizenship and Youth. <http://www.edu.gov.mb.ca/>.

- McCain, M., Mustard, F., & Shanker, S. (2007). *Early years study 2: Putting science into action*. Toronto: Council for Early Child Development.
- Meisels, S. J. (1993). Remaking Classroom Assessment with The Work Sampling System. *Young Children*, 48(5), 34-40.
- Melhuish, E., Quinn, L., Hanna, K., Sylva, K., Sammons, P., Siraj-Blatchford, I., & Taggart, B. (2006). *Effective pre-school provision in Northern Ireland (EPPNI) Summary Report, 41*. Department of Education: Northern Ireland Statistics & Research Agency.
- Ministry of Education (2000) *The primary program: A framework for teaching*. Victoria: Government of British Columbia. Retrieved from: [http://www.bced.gov.bc.ca/primary\\_program/primary\\_prog.pdf](http://www.bced.gov.bc.ca/primary_program/primary_prog.pdf).
- Ministry of Education (2008) *British Columbia early learning framework*. Victoria: Government of British Columbia. Retrieved from: [http://www.bced.gov.bc.ca/literacy/early\\_learning/early\\_learning\\_framework.pdf](http://www.bced.gov.bc.ca/literacy/early_learning/early_learning_framework.pdf).
- Mitchell, L., Wylie, C. & Carr, M. (2008). *Outcomes of Early Childhood Education: Literature Review*. Report prepared for the New Zealand Ministry of Education and the New Zealand Council for Educational Research.
- Morrissey, T.W. & Warner, M.E. (2007), *Why early care and education deserves as much attention, or more, than prekindergarten alone*. Cornell University, Applied Development Science.
- Mortimore, P. (1989). *School matters*. Wells, MO. Open Books.
- Moss, P. & Bennett, J. (2006) *Toward a new pedagogical meeting place? Bringing early childhood into the education system*. Briefing paper for a Nuffield Educational Seminar.
- Nelson, G., Westhues, A. & MacLeod, J. (2003). A meta-analysis of longitudinal research on preschool prevention programs for children. *Prevention & Treatment*, 6.
- Odom, S.L. & Diamond, K.E. (1998). Inclusion of young children with special needs in early childhood education: The research base. *Early Childhood Research Quarterly*, 13(1), 3-25.
- OECD. (2006). Canada country profile. [Electronic version]. Paris: OECD. Retrieved from: <http://www.oecd.org/dataoecd/16/44/37423348.pdf>
- \*\*OECD database used for all other countries in report.**
- Organization for Economic Co-operation and Development. (2008, July). *Babies and bosses: Balancing of work and family life*. Retrieved from: <http://www.oecd.org/dataoecd/12/2/34566853.pdf>.

- Peisner-Feinberg, E. et al (2001). The relation of preschool child care quality to children's cognitive developmental trajectories through second grade. *Child Development*, 72(5), 1534-1553.
- Peisner-Feinberg, E. S. & Burchinal, M. R. (1997). Relations between preschool children's child care experiences and concurrent development: The cost, quality and outcomes study. *Merrill-Palmer Quarterly*, 43, 49-70 & 451-477.
- Peisner-Feinberg, E. S., Burchinal, M. R., Clifford, R. M., Culkin, M.L., Howes, C., Kagan, S. L., Yazejian, N., Byler, P., Rustici, J., & Zelazo, J. (1999). *The Children of the Cost, Quality, and Outcomes Study Go to School: Technical Report*.
- Phillips, D. (Ed.) (1987). *Quality in child care: What does research tell us?* Washington, DC: National Association for the Education of Young Children
- Pianta, R. Fox, M.J. & Snow, M.L. (2007). *School readiness & the transition to kindergarten in the era of accountability*. Baltimore: Paul H. Brooks.
- Pianta, R., (2004). Transitioning to School: Policy, practice, and reality. *The Evaluation Exchange*, 10(2). Cambridge (MA): The Harvard Family Research Project, Harvard Graduate College of Education.
- Puma, M., Bell, S., Cook, R., Heid, C., Lopez, M., Zill, N., et al. (2005) *Head Start impact study: First year findings*. Washington, DCL US Department of Health and Human Services, Administration for Children and Families.
- Ramey, C. et al (2000). Persistent effects of early childhood education on high-risk children and their mothers. *Applied Developmental Science*, 4(1), 2-14.
- Reynolds, A.J. (2000). *Success in early intervention: The Chicago Child-Parent Centres*. Lincoln: University of Nebraska Press.
- Sammons, P., Sylva, K., Melhuish, E., Siraj-Blatchford, I., Taggart, B., & Elliot, K. (2004). *The Effective Provision of Pre-School Education (EPPE) Project: Technical Paper 11 – The continuing effects of pre-school education at age 7 years*. London, DfES / Institute of Education, University of London.
- Samuelsson, I.P. & Johansson, E. (2006). Play and learning—inseparable dimensions in preschool practice. *Early Child Development and Care* 176(1), 47-65.
- Schweinhart, L.J. et al (1993). Significant benefits: The High/Scope Perry Preschool study through age 27. Monographs of the High/Scope Educational Research Foundation No. 10. Ypsilanti, MI.
- Schweinhart, L.J. et al (2005). Lifetime Effects: The High/Scope Perry Preschool study through age 40. *Monographs of the High/Scope Educational Research Foundation*, 14. Ypsilanti, MI.

- Scott-Little, C., Kagan, S.L., & Stebbins-Frelow, V. (2003) *Standards for preschool children's learning: Who has standards, how were they developed, and how are they used?* SERVE Regional Education Laboratory, Greensboro, NC.
- Seefeldt, C. (2005). *How to work with standards in the early childhood classroom*. NYC: Teachers College Press.
- Siraj-Blatchford, I., & Manni, L. (2007). *Effective leadership in the early years sector*. The ELEYS Study. London: Institute of Education, University of London. Retrieved from: [www.ioe.ac.uk/publications](http://www.ioe.ac.uk/publications).
- Snow, C.E., & Paez, M.M., The Head Start Classroom as an Oral Language Environment. In Zigler, E & Styfco, S. et al (2006). *A vision for universal preschool education*. Cambridge University Press.
- Spodek, B. & Saracho, O. (Eds). (1990). *Early Childhood Teacher Preparation*. NYC: Teachers College Press.
- Standards for Programs Preparing Early Childhood Professionals (2003). National Association for the Education of Young Children.
- Strong Start. [https://www.bced.gov.bc.ca/literacy/early\\_learning/strongstart\\_bc.htm](https://www.bced.gov.bc.ca/literacy/early_learning/strongstart_bc.htm).
- Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I., & Taggart, B. (2004). *The final report: Effective pre-school education*. Technical paper 12. London: Institute of Education, University of London.
- Taylor, N., Early Learning Coordinator, English Program Services, Department of Education, New Brunswick. Personal communication May 8, 2008. Newfoundland and Labrador Department of Education. <http://www.ed.gov.nl.ca/edu/>.
- The British Columbia Atlas of Child Development*, HELP, 2005, pp141-142.
- The National Association for the Education of Young Children, NAEYC; the National Association of Early Childhood Specialists in State Departments of Education, NAECS/SDE). *Early childhood curriculum, assessment and program evaluation*, 2003.
- Thomas, A. & Skage, S. (1998). *Family connections: The 1998 directory of family literacy projects across Canada*. Welland, ON: Soleil Press.
- United States. National Center for Educational Statistics. (2004). *From kindergarten through third grade: Children's beginning school experiences*.
- Vandell, D. L. (1999). *Cognitive, linguistic and social consequences of early experience: Child care and social competence: NICHD study*. Paper presented at the American Association for the Advancement of Science meetings, Anaheim, CA. January 21-26.

- Vandell, D.L. and the NICHD Early Child Care Research Network (2005). *Early Child Care and Children's Development in the Primary Grades: Follow-Up Results from the NICHD Study of Early Child Care*. Paper presented to the Society for Research in Child Development.
- Vi-Nhuan Le, & Kirby, S.N. (2006). *School readiness, full-day kindergarten, and student achievement*. The RAND Corporation.
- Weigel, D.J., & Martin, S.S. (2006). *Early Childhood Research and Practice*, 8(2).
- Winnipeg School District. Retrieved from:  
<http://ww.wsd1.org/parents/entrancerequir.htm>.
- Wylie, C., Thompson, J., Hodgen, E., Ferral, H., Lythe, C., & Fijn, T. (2004). *Competent Children at 12*. Wellington, Ministry of Education and New Zealand Centre for Education Research.
- Zigler, E. & Styfco, S. et al (2006). *A vision for universal preschool education*. Cambridge University Press.
- Zigler, E. & Finn-Stevenson, M. (1992). *Children in a Changing World: Development and Social Issues*. Wadsworth Publishing.
- Zigler, E. & Finn-Stevenson, M. (1996) Funding child care and public education. *The Future of Children: Financing Child Care*, 6(2). The Center of the Future of Children, The David and Lucile Packard Foundation.
- Zigler, E., Finn-Stevenson, M., & Hall, N.W. (2002). *The first three years and beyond: brain development and social policy*. New Haven, CT: Yale University Press.
- Zigler, E., Gilliam, W.S., Jones, S.M. (2006). *A vision for universal preschool education*. NYC: Cambridge University Press.