

Submission to the Minister of Education

Regarding

Full-Day Kindergarten



Acknowledgments

- Kim Wrathall, Kindergarten Teacher and Member of ECEC Executive (Co-Editor, *Issues, Events & Ideas*)
- Joy de Nance, Kindergarten Teacher and Member of ECEC Executive (Calgary Regional President)

Preamble

There has been a great deal of debate over the last decade about the relative merits of full- and half-day kindergarten programming in Canada. At the beginning of the decade, full-day programming was new, and it required some time to determine its impact on students. With further research and evidence of its impact in place, the Early Childhood Education Council of the Alberta Teachers' Association is prepared to take a position on this important matter.

As an organization of teachers focused on students in early childhood, the Early Childhood Education Council believes that it is important to define the quality programming that appropriate full- and half-day kindergarten programs should include. Council members are advocates for young learners whose needs and learning goals must be met through programming that is developmentally appropriate and based on age, experience and understanding. These areas also need to align with the philosophy, vision and mission statement of the Early Childhood Education Council.

Given that early childhood is considered to range from birth to age eight, many areas of developmentally appropriate practice must be taken into account in examining research on the relative merits of full- and half-day kindergarten programming. Students' language and cognitive development, social skills, physical skills, socioeconomic status, and cultural and background knowledge all play a role in their learning. Developmentally appropriate practice should provide a variety of experiences through hands-on and play-based learning at the student's level of understanding and promote creativity, social skills and lifelong learning.

To have a developmentally appropriate program is to understand individual student needs and learning styles and how four- and five-year-old children learn. Kindergarten programming needs to ensure a firm foundation in play and hands-on experiences; provide variety based on understanding and need; and be rich in experience, language and exploration. Teachers also need to participate in current professional development in order to keep abreast of research on student achievement and alternative ways of providing appropriate programming. Finally, teachers need to communicate regularly with parents and community members about what is appropriate for support and understanding within the community as a whole.

As stated in the position paper *Early Childhood Education: Teaching and Learning in Kindergarten, Grade 1, Grade 2 and Grade 3* (Early Childhood Education Council 2001),

members of the Early Childhood Education Council base their teaching philosophy on the following principles of child development:

- Children learn through play and personal experience, motivated by their natural curiosity and desire to make sense of the world.
- Learning occurs in a social context as children observe and interact with people and the environment, using prior knowledge to make sense of new experiences.
- Language and thought are vehicles for children's exploration, construction and communication of their experiences.
- Sensory and perceptual motor experiences are crucial to children's development.
- Children's cultural, social-emotional, physical, intellectual and creative growth develops concurrently and cannot be separated.
- Developmental rates vary and are shaped by innate capacity, cultural and environmental influences, situational context and chronological age.
- A positive self-concept is crucial to learning.
- Self-esteem and the confidence to take risks are fostered in a supportive environment that allows children to make choices and recognizes their individuality.
- Children have the potential to accept responsibility for guiding their own learning.
- Families and cultural backgrounds play significant roles in the growth and development of children.

This submission is predicated on the following two motions passed by the Early Childhood Education Council on November 5, 2010, at the Annual General Meeting: (1) ECEC supports full day kindergarten and (2) ECEC supports full day kindergarten that is optional, fully funded, taught by certificated teachers eligible for ATA membership, accessible for all children, developmentally appropriate and consistent with the Early Childhood Education Council position paper and statement of philosophy.

Joy de Nance, as part of her University of Alberta master of early learning capping paper, presented the following information to the Executive Committee of the Early Childhood Education Council in November 2010:

Research

Early Studies

Much of the research from the 1970s and 1980s involved short-term, one-year studies encompassing the kindergarten year. Sample sizes were small, with academic measures the only outcome. The results were mixed, but when there was a significant difference, it was in favour of the children enrolled in full-day programs (Puleo 1988). Puleo (1988) and Burriss (2000) criticized the early studies for their problems with internal and external validity. However, one trend did surface in spite of the suggested inadequacies, and that was evidence of positive academic and social benefits of full-day kindergarten for children from low socioeconomic or educationally disadvantaged backgrounds, considered at-risk children (Clark and Kirk 2000; Olsen and Zigler 1989).

Overall, the early studies showed positive gains for full-day programs when achievement was tracked over the kindergarten year. More specifically, gains in literacy were more significant than those in mathematics, and progress tended to fade after Grade 1 (Koopmans 1991).

The Canadian Context

Early Childhood Education and Care in Canada 2008 (Beach et al 2009) provides a wealth of data concerning the state of kindergarten in Canada. Of the 10 provinces and 3 territories, kindergarten is compulsory only in Nova Scotia and New Brunswick. Provincial and territorial governments are responsible for the funding, direction and execution of kindergarten programming. Across the country there exists a range of kindergarten attendance options. From the 1980s to 2009, kindergarten attendance has swelled to include some four-year-old but mostly five-year-old children across Canada. However, scheduling remains split between half- and full-day options, which vary from province to province.

Half-day programs typically cover a 2.5-hour time period to total 475 hours per year. Newfoundland and Labrador, Prince Edward Island, Manitoba, Saskatchewan, Alberta and Nunavut have only half-day attendance. Full-day attendance usually covers the length of a traditional school day, lasting approximately 5 hours. Full-day programs operate in Nova Scotia, New Brunswick and Quebec. Ontario began providing full-day programming for 600 schools in September 2010 and 200 additional schools in 2011 (Ontario Ministry of Education 2010).

British Columbia followed the trend with a full-day kindergarten initiation date of September 2010 for half of the province's eligible children and 2011 for all (British Columbia Ministry of Education 2010a). The Northwest Territories and Yukon offer both full- and half-day options. Yukon offers twice as many full-time programs as half-day ones. Alternate full-day schedules involve children attending for a full day several times a week but not on consecutive days (Beach et al 2009).

In 2002, Alberta's Commission on Learning was established to provide a comprehensive review of the province's education system. The commission consulted with parents, teachers, school boards, educational experts and a variety of organizations and examined current research to develop a series of recommendations. The product of this review was the report *Every Child Learns, Every Child Succeeds* (Alberta's Commission on Learning 2003). Full-day kindergarten played a prominent role in this report: recommendation 3 sought to "establish full-day kindergarten programs, ideally for all children, but as a first priority, for at-risk children" (46–47). This initiative was a noble effort on behalf of our province's young learners.

In Alberta, the government provides kindergarten funding for 475 hours of instructional time, which equates to a half-day program (approximately 2.5 hours per day). However, "the decision to offer full-day or junior Kindergarten programs within a community is the decision of the local school authority, which has a maximum flexibility to use their funds in whatever manner they choose" (Alberta Education 2010, 6–7). Full-day programming may include full-day (five hours), alternate full-day (every other day) and optional full-day kindergarten.

The Alberta Context

In conducting her research, de Nance contacted several urban and rural school jurisdictions in January 2010 to inquire about their full- and/or half-day options for kindergarten. Public information on school jurisdiction websites was also examined. Although the survey was not scientific and its conclusions must be considered tentative, the rural areas reported that they offer full-day kindergarten programming on alternate days due to transportation costs rather than for instructional reasons.

Red Deer Public School District and Lethbridge School District offer half-day kindergarten schedules for 475 hours as prescribed by the Department of Education (Red Deer Public Schools 2001; Lethbridge School District No 51 2008). There is no mention of full-day programming in the district information or policy sections of their respective websites.

Since September 2005, Calgary School District has offered full-day kindergarten programs in designated schools. In 2006/07, there were 25 locations, and in 2010/11, 15 schools will qualify for a total of 36 classrooms (Danysk and Xiang 2009). Calgary Roman Catholic Separate School District lists 22 schools offering full-day programming (Calgary Catholic School District 2010). Most of the schools in the district provide half-day classes or 475 hours of instruction per year (Calgary Catholic School District 2010). The district's website does not specify whether the full-day programs are situated in schools in any particular socioeconomic area.

In 1998/99, a full-day program was established at Norwood School in Edmonton School District. The district now has 25 sites with full-day programs (Edmonton Public Schools 2010). Edmonton Catholic Separate School District will offer 21 full-day programs in 2010/11. Again, however, no mention is made of the demographic population served by these programs in the Catholic system (Edmonton Catholic Schools 2010).

Both Calgary School District and Edmonton School District offer half-day schedules for a majority of eligible children but provide options for at-risk children. Medicine Hat School District has altered its position on full-day kindergarten programming. While the district began offering inclusive "Full-Day, Every Day Kindergarten" (Medicine Hat School District No 76 nd) in September 2004, the situation has recently changed. The district's website states that, as of September 2010, "all schools are offering a variety of half-day kindergarten programs to meet the needs of our children. These include alternating full-day programs as well as morning programs" (Medicine Hat School District No 76 2010, 1–2). This was an unexpected development: the district's full-day programs were held up as a model for the province.

The American Context

The US Department of Education embarked on an ambitious project called the "Early Childhood Longitudinal Study, Kindergarten Class of 1998–99," or ECLS-K. As Rathbun and West (2004) explain, the ECLS-K employed a multistage, probability sample design in a nationally representative study of 22,782 children in public and private schools.

Kindergarten children registered in the fall of 1998 were followed through to the end of Grade 5, and information was collected from the children, their families and teachers, and the 1,277 schools attended. The plan called for waves of data, in the areas of literacy, mathematics

and general knowledge, to be collected at the beginning and end of kindergarten and grades 1, 3 and 5 (Le et al 2006).

The sample includes English language learners and children from a variety of racial-ethnic and socioeconomic backgrounds. Along with a large sample size, the data controls for child and family backgrounds and, appropriately weighted, is representative of the 3,866,000 kindergarten students enrolled in 1998/99 (Yan and Lin 2005).

The ECLS-K studies (Cannon, Jackowitz and Painter 2006; Chang and Singh 2008; DeCicca 2005; Le et al 2006; Lee et al 2006; Votruba-Drzal and Li-Grining 2008; Yan and Lin 2005) provide an opportunity for researchers to examine a stable and reliable sample of students in the United States over time. The data reflects earlier studies in that gains are obvious within the kindergarten year and fade as the children progress into primary school.

Caution is necessary in interpreting the results. First, the ECLS-K databank contains the analysis of American demographic information and does not necessarily reflect the composition of the Canadian population. Second, the results were mixed. While most researchers acknowledged that at-risk or minority students were at least able to perform as well as more advantaged students (Lee et al 2006; Le et al 2006; Yan and Lin 2005), DeCicca (2005) and Cannon, Jackowitz and Painter (2006) found few gains for at-risk or minority students.

Additional Studies

This national sample utilizing waves of data from the United States is not representative of all the research accomplished in the decade from 2000 to 2010. Other researchers have explored full-day kindergarten using samples outside of the ECLS-K studies. The vast majority of the research outlined below was conducted in the United States. However, while only five projects involve Canadian children, the results are similar across the US and Canadian studies. The bulk of the studies have been divided into two groups, short-term studies (encompassing the kindergarten year) and longitudinal studies (within the elementary school years).

Results of short-term research (Baskett et al 2005; da Costa and Bell 2000; Hall-Kenyon, Bingham and Korth 2009; Hildebrand 2001; Kruse 2007; Zvoch, Reynolds and Parker 2008) comparing full-day and half-day kindergarten programs are consistent. The gains within the kindergarten year are stellar for all learners, particularly in the area of literacy. However, gains in mathematics have not matched those in literacy. Based on the types of assessments used in these studies, many kindergarten programs spent much of their time engaged in literacy development.

A majority of the short-term studies focused on the effects of a full-day kindergarten program on groups of children from socioeconomically or educationally challenged environments. Full-day programming appeared to be beneficial for all learners, and only Hildebrand (2001) did not make any judgments regarding the differences between middle- and low-income groups. According to the results from these short-term examples, full-day kindergarten would be a logical and educationally sound solution to increase achievement levels, particularly in the area of literacy development, for all kindergarten-aged children. At-risk learners would reap the benefits of more time to learn. However, the short-term studies tell only one side of the story. The full-day or half-day kindergarten debate continues with the inclusion of studies from a longitudinal perspective. Are the gains seen in the kindergarten year maintained as children progress through their elementary or primary school years?

The results of this research mirror those found in the ECLS-K longitudinal studies: full-day programming produces excellent and significant gains in the kindergarten year, but the gains fade as students progress through elementary school (Cannon, Jackowitz and Painter 2006; da Costa 2005/06, 2008; DeCicca, 2005; Koopmans 1991; Le et al 2006; Saam and Nowak 2005; Wolgemuth et al 2006; Votruba-Drzal and Li-Grining 2008; Zvoch, Reynolds and Parker 2008). The Medicine Hat kindergarten study demonstrated that students showed excellent gains up to Grade 3, but it compared students to provincial averages from provincial tests as opposed to comparing full-day and half-day kindergarten programs. The Calgary Board of Education compared full-day students with students exposed to a series of economic and educational conditions rather than comparing half day and full-day programs.

Another highlight of the research is that children considered to be at risk either socioeconomically or educationally benefit from full-day kindergarten programming. The full-day program appears to provide the bridge narrowing the achievement gap between them and their more advantaged peers (Danysk and Xiang 2009; da Costa and Bell 2000; da Costa 2005/06, 2008; Kruse 2007; Le et al 2006; Lee et al 2006; Plucker et al 2005; Saam and Nowak 2005; Schroeder 2007; Yan and Lin 2005; Zvoch, Reynolds and Parker 2008). In contrast, “no study demonstrates academic advantages for children in half-day kindergarten” (Lee et al 2006, 175).

The many hypotheses for the diminishing academic gains suggested in the research, although not quantitatively proven, may provide insight into other confounding variables complicating the lives of our young learners and interfering with the learning process.

Analysis

Reasons for the Lack of Long-Term Achievement Gains of Full-Day Kindergarten

As Koopmans (1991) advises, “the lack of a long term effect for the all-day groups could indicate that the circumstances under which learning takes place at the primary grades does not enable the all-day group to maintain their advantageous position” (36). Several possibilities are proposed for the fade-out effect by Grade 3:

- “The effect of full-day kindergarten becomes a smaller and smaller influence as children accumulate more and more experiences in an academic setting” (Cooper et al 2010, 64).
- Children receiving and benefitting from full-day kindergarten may not receive the same educational supports as half-day children, and the full-day advantage is negated as those additional programs allow the “half-day children to catch up” (Cooper et al 2010, 64).
- Teachers spend so much time assisting students who come to school with few or no skills that the students who may be at or above grade level receive little attention (Wolgemuth et al 2006).

As Cooper et al (2010) reiterate, full-day and half-day children are a “collection of individuals who will be differently influenced by the intervention and its implications for latter instruction” (66). Cooper et al (2010) elaborate on this concept, proposing that some kindergarten students from educationally or economically disadvantaged environments will have in the years subsequent to their full-day experience “challenges that erode the academic advantage they obtained in full-day Kindergarten relative to their more fortunate and majority counterparts in half-day Kindergarten” (66). Full-day kindergarten “may not be the ‘magic bullet’ that alters permanently poor and minority students’ academic trajectories” (66), but it could be considered one of a series of interventions to support disadvantaged learners.

Reasons for the Pursuit of Full-Day Kindergarten

According to DeCicca (2005), “the rationale for full-day kindergarten is simple: the more time children spend in school the more they will learn” (4). The interest in full-day kindergarten research was sparked by several societal and educational trends in the United States and Canada (Brewster and Railsback 2002; Cryan et al 1992; Elicker and Mathur 1997; Olsen and Zigler 1989; Vecchiotti, 2003; Walston and West, 2004):

- There are more single parents and increased dual-wage-earner families requiring extended child care (Baskett et al 2005; Brewster and Railsback 2002; Cooper et al 2010).
- Early language instruction for new immigrant children is considered to be the best way to set the stage for future academic success, and the extra time spent in kindergarten could be an effective way of meeting the needs of second-language learners (Cooper et al 2010).
- Recent research shows large skill gaps occur between minority and nonminority children even before they enter kindergarten (Le et al 2006). Minority children come to school with lower literacy skills and poorer social development than white children (Le et al 2006, xi).
- White (2006) suggests that the key to economic development and poverty alleviation is education. One of the national priorities for the United States and Canada has been to bridge the gap between the achievement levels of at-risk and higher socioeconomic groups (Beach et al 2009; Brewster and Railsback 2002; Cooper et al 2010).
- According to da Costa (2008), Canada and the United States, regardless of legislation, are offering full-day programming to “address the needs of children from socially and economically impoverished backgrounds” (4).

The Perceived Benefits of Full-Day Kindergarten Programming

While “[d]oubling the time does not necessarily double program quality” (Weast 2001), the potential advantages of full-day kindergarten programs over half-day programs could include

- better academic skill development, reading readiness and language development (especially for non-English-speaking students);
- fewer grade retentions;
- an easier transition to Grade 1;
- lower child care costs for parents; and
- decreased future educational costs because of a reduced need for retention and remediation (Cooper et al 2010; Eubanks 2006; Plucker et al 2005).

Conclusion

Full-day kindergarten produces significant gains for all students in their kindergarten year; maintains, at least to Grade 3, gains for at-risk students and levels the playing field between at-risk learners and their peers, at least to Grade 5. The Early Childhood Education Council believes full-day kindergarten to be an integral component of the Alberta educational system, and therefore we put forth the following recommendations

Recommendations

Recommendation 1 That the Government of Alberta include in the *Education Act* provisions requiring school authorities to provide full day kindergarten.

Recommendation 2 That the Government of Alberta fully fund full day kindergarten of 950 hours, in order to allow school boards to provide full day kindergarten programs, taught by certificated teachers, that are available to all children who are five years of age by December 31.

Recommendation 3 That the Government of Alberta establish a task force including teachers, school administrators and university faculty; from rural and urban centres involved in the delivery of full-day kindergarten programming, with a mandate to examine the issues surrounding and develop provincial policy on the implementation of full-day kindergarten.

Recommendation 4 That the Government of Alberta provide targeted funding for professional development to enable teachers to develop sound pedagogical principles and practices supported by the philosophy of the Early Childhood Education Council in order to promote effective educational practices.

Recommendation 5 That the Government of Alberta initiate a rigorous longitudinal study of full-day kindergarten, similar to “Early Childhood Longitudinal Study, Kindergarten Class of 1998–99,” initiated by the US Department of Education, to compile data on early learners. Furthermore, that the Government of Alberta consider requesting participation by other provinces in a pan-Canadian study.

References

The following references are based on the University of Alberta capping paper (July 2010) of Joy de Nance:

Alberta Education. 2008. *Kindergarten Program Statement*. Edmonton, AB: Alberta Education. Also available at <http://education.alberta.ca/media/312892/kindergarten.pdf> (accessed September 30, 2011).

Alberta Education. 2010. "Early childhood services (ECS)." Alberta Education website. <http://education.alberta.ca/admin/ecs.aspx> (accessed September 30, 2011).

Alberta's Commission on Learning. 2003. *Every Child Learns, Every Child Succeeds: Report and Recommendations*. Edmonton, AB: Alberta Learning. Also available at <http://education.alberta.ca/media/413413/commissionreport.pdf> (accessed September 30, 2011).

Baskett, R, K Bryant, W White and K Rhoads. 2005. "Half-Day to Full-Day Kindergarten: An Analysis of Educational Change Scores and Demonstration of an Educational Research Collaboration." *Early Childhood Development and Care*, 175, no 5: 419–30. doi:10.1080/0300443042000266259

Beach, J, M Friendly, C Ferns, N Prabhu and B Forer. 2009. *Early Childhood Education and Care in Canada 2008*. Toronto, ON: Childcare Resource and Research Unit. Also available at www.childcarecanada.org/ECEC2008/pdf/ECEC08_State_of_ECEC_2009.pdf (accessed September 30, 2011).

Brewster, C, and J Railsback. 2002. *Full-Day Kindergarten: Exploring an Option for Extended Learning*. Portland, OR: Northwest Regional Educational Laboratory. Also available at <http://www.eric.ed.gov/login.ezproxy.library.ualberta.ca/PDFS/ED472733.pdf>

British Columbia. Ministry of Education. 2010a. *Full Day Kindergarten Program Guide*. Victoria, BC: British Columbia Ministry of Education. Also available at www.bced.gov.bc.ca/early_learning/fdk/pdfs/fdk_program_guide.pdf (accessed September 30, 2011).

- British Columbia. Ministry of Education. 2010b. "Full School Day Kindergarten." British Columbia Ministry of Education website. www.bced.gov.bc.ca/early_learning/fdk (accessed September 30, 2011).
- Burriss, K. 2000. All-Day Kindergarten. *Childhood Education*, 76, no 4: 228–31. doi:52574798
- Calgary Board of Education. 2010. "Kindergarten." Calgary Board of Education website. www.cbe.ab.ca/programs/prog-kinder.asp (accessed September 30, 2011).
- Calgary Catholic School District. 2010. "Kindergarten." Calgary Catholic School District website. www.cssd.ab.ca/default.asp?V_ITEM_ID=1282 (accessed September 30, 2011).
- Cannon, J, A Jackowitz and G Painter. 2006. "Is Full Better Than Half? Examining the Longitudinal Effects of Full-Day Kindergarten Attendance." *Journal of Policy Analysis and Management*, 25, no 2: 299–321. doi:10.1002/pam.20174
- Chang, M, and K Singh. 2008. "Is All-Day Kindergarten Better for Children's Academic Performance? Evidence from the Early Childhood Longitudinal Study." *Australian Journal of Early Childhood*, 33, no 4: 35–42. Also available at http://findarticles.com/p/articles/mi_hb6418/is_4_33/ai_n31677765 (accessed September 30, 2011).
- Clark, P, and E Kirk. 2000. "All-Day Kindergarten." *Childhood Education*, 76, no 4: 228–31. Also available at http://vnweb.hwwilsonweb.com.login.ezproxy.library.ualberta.ca/hww/results/results_single_fulltext.jhtml;hwwilsonid=4TGFFZEFZH2WTQA3DIMCFGGADUNGIIV0
- Cooper, H, A B Allen, E A Patall and A L Dent. 2010. "Effects of Full-Day Kindergarten on Academic Achievement and Social Development." *Review of Educational Research*, 80, no 1: 34–70. doi:10.3102/0034654309359185
- Cryan, J, R Sheehan, J Weichel and I Bandy-Hedden. 1992. "Success Outcomes of Full-Day Kindergarten: More Positive Behavior and Increased Achievement in the Years After." *Early Childhood Research Quarterly*, 7, no 2: 187–203. doi:10.1016/0885-2006(92)90004-1

- da Costa, J. 2005/06. "Full Day Kindergarten: Longitudinal Effects Through to Grade Three." *International Journal of Learning*, 12, no 6: 15–36.
<http://ijl.cgpublisher.com/login.ezproxy.library.ualberta.ca/product/pub.30/prod.759/m.2>
Download L05_2977_Full-dayKindergartenlongitudinalEffects_final_1.pdf
- da Costa, J. 2008. *Longitudinal Effects of Full-Day Kindergarten Through to Grade Six*.
Edmonton, AB: University of Alberta, Department of Educational Policy Studies.
- da Costa, J, and S Bell. 2000. "Full Day Kindergarten at an Inner City Elementary School: Perceived and Actual Effects." Paper presented at the Annual Conference of the American Educational Research Association, New Orleans, LA, April.
www.eric.ed.gov/login.ezproxy.library.ualberta.ca/PDFS/ED440751.pdf
- Danysk, G, and Xiang P G. 2009. *Full-Day Kindergarten Evaluation Report*. Calgary, AB: Calgary Board of Education.
- DeCicca, P. 2005. "Does Full-Day Kindergarten Matter? Evidence from the First Two Years of Schooling." *Economics of Education Review*, 26: 67–82.
doi:10.1016/j.econedurev.2005.04.003
- Early Childhood Education Council. 2001. *Early Childhood Education: Teaching and Learning in Kindergarten, Grade 1, Grade 2 and Grade 3*. Edmonton, AB: Alberta Teachers' Association.
- Edmonton Catholic Schools. 2010. "Full Day Kindergarten for the 2010–11 School Year." Edmonton Catholic Schools website.
www.ecsd.net/programs/early_learning/full_day_kindergarten.html (accessed October 3, 2011).
- Edmonton Public Schools. 2010. "Full-Day Kindergarten." Edmonton Public Schools website.
<http://programs.epsb.ca/full-day-kindergarten-locations> (accessed October 3, 2011).
- Elicker, J, and S Mathur. 1997. "What Do They Do All Day? Comprehensive Evaluation of a Full-Day Kindergarten." *Early Childhood Research Quarterly*, 12: 459–80.
doi:10.1016/So885-2006(97)90022-3

Eubanks, S, ed. 2006. *Quality Full-Day Kindergarten: Making the Most of It*. Washington, DC: National Education Association.

Finne, L. 2007. *Reviewing the Research on Universal Preschool and All-Day Kindergarten*. Washington, DC: Washington Policy Center. Also available at www.washingtonpolicy.org/publications/notes/reviewing-research-universal-preschool-and-all-day-kindergarten (accessed October 3, 2011).

Fromberg, D. 2006. "Kindergarten Education and Early Childhood Teacher Education in the United States: Status at the Start of the 21st Century." *Journal of Early Childhood Teacher Education*, 27, no 1: 65–85. doi:10.1080/10901020500527145

Gullo, D. 2000. "The Long Term Educational Effects of Half-Day vs Full-Day Kindergarten." *Early Childhood Development and Care*, 160, no 1: 17–24. doi:10.1080/0030443001600102

Hall-Kenyon, K, G Bingham and B Korth. 2009. How Do Linguistically Diverse Students Fare in Full- and Half-Day Kindergarten? Examining Academic Achievement, Instructional Quality, and Attendance." *Early Education and Development*, 20, no 1: 25–52. doi:10.1080/10409280802206593

Hildebrand, C. 2001. "Effect of All-Day, and Half-Day Kindergarten Programming on Reading, Writing, Math, and Classroom Social Behaviors." National *Forum Journals* website. www.nationalforum.com/Electronic%20Journal%20Volumes/Hildebrand,%20Charlene%20Effects%20of%20All-day%20and%20Half-day%20Kindergarten%20Programming.pdf (accessed October 3, 2011).

Hough, D, and S Bryde. 1996. "The Effects of Full-Day Kindergarten on Student Achievement and Affect." Paper presented at the Annual Conference of the American Educational Research Association, New York, NY, April 8–12. www.eric.ed.gov/login.ezproxy.library.ualberta.ca/PDFS/ED395691.pdf

Koopmans, M. 1991. *A Study of the Longitudinal Effects of All-Day Kindergarten Attendance on Achievement*. Newark, NJ: Newark Board of Education, Office of Research, Evaluation and Testing. Also available at www.eric.ed.gov/login.ezproxy.library.ualberta.ca/PDFS/ED336494.pdf

Kruse, T. 2007. "Academic Growth in Kindergarten: The Effects of Child-Level and School-Level Factors on Learning Outcomes." PhD diss, University of Minnesota.

Le, V, S Kirby, H Barney, C Setodji and D Gershwin. 2006. *School Readiness, Full-Day Kindergarten, and Student Achievement*. Santa Monica, CA: Rand Corporation. Also available at www.rand.org/pubs/monographs/MG558 (accessed October 3, 2011).

Lee, V, D Burkam, D Ready, J Honigman and S Meisels. 2006. "Full-Day Versus Half-Day Kindergarten: In Which Program Do Children Learn More?" *American Journal of Education*, 112, no 2: 163–208. Also available at www.journals.uchicago.edu/login.ezproxy.library.ualberta.ca/doi/pdf/10.1086/498994

Lethbridge School District No 51. 2008. "Early Childhood Services/Kindergarten." Lethbridge School District No 51 website. <http://lethsdweb.lethsd.ab.ca/OurTrustees/Documents/602.1.pdf> (accessed October 3, 2011).

Medicine Hat School District No 76. nd. "Program Review 2007–2008—Full-Day Every Day Kindergarten Programming: The Fourth Year." Medicine Hat School District No 76 website. <http://sp.sd76.ab.ca/Docs/District%20Reviews/FDED%20K%20Review-4th-Yr-Dec2008.pdf> (accessed October 3, 2011).

Medicine Hat School District No 76. 2010. "Great Options for Early Childhood and Kindergarten Programs." Medicine Hat School District No 76 website. www.sd76.ab.ca/News.php?news_id=2427 (accessed October 3, 2011).

Meyer, L, J Wardrop, N Hastings and R Linn. 1993. "Effects of Ability and Settings on Kindergarteners' Reading Performance." *Journal of Educational Research*, 86, no 3: 142–60. Also available at www.jstor.org/login.ezproxy.library.ualberta.ca/stable/27541857?cookieSet=1

Olsen, D, and E Zigler. 1989. "An Assessment of the All-Day Kindergarten Movement." *Early Childhood Research Quarterly*, 4, no 2: 167–86. doi:10.1016/S0885-2006(89)80001-8

Ontario. Ministry of Education. 2010. "Full-Day Kindergarten." Ontario Ministry of Education website. www.edu.gov.on.ca/earlylearning (accessed October 4, 2011).

Plucker, J A, J J Eaton, J E Rapp, W Lim, J Nowak, J A Hansen and A Bartleson. 2005. *The Effects of Full-Day Versus Half-Day Kindergarten: Review and Analysis of National and Indiana Data*. Bloomington, IN: Center for Evaluation and Education Policy. Also available at

http://ceep.indiana.edu.login.ezproxy.library.ualberta.ca/projects/PDF/FDK_report_final.pdf

Puleo, V. 1988. "A Review and Critique of Research on Full-Day Kindergarten." *Elementary School Journal*, 88, no 4: 427–39. Also available at

www.jstor.org.login.ezproxy.library.ualberta.ca/stable/pdfplus/1001692.pdf

Rathbun, A, and J West. 2004. *From Kindergarten Through Third Grade: Children's Beginning School Experiences*. Washington, DC: National Center for Educational Statistics. Also available at

<http://nces.ed.gov.login.ezproxy.library.ualberta.ca/pubsearch/pubsinfo.asp?pubid=2004007>

Red Deer Public Schools. 2001. "Policy and Regulation: 3.01.12— Early Childhood and Kindergarten Services." Red Deer Public Schools website.

[www.rdpsd.ab.ca/docs/library/30112%20-](http://www.rdpsd.ab.ca/docs/library/30112%20-%20Early%20Childhood%20and%20Kindergarten%20Services.pdf)

[%20Early%20Childhood%20and%20Kindergarten%20Services.pdf](http://www.rdpsd.ab.ca/docs/library/30112%20-%20Early%20Childhood%20and%20Kindergarten%20Services.pdf) (accessed October 4, 2011).

Saam, J, and J Nowak. 2005. "The Effects of Full-Day Versus Half-Day Kindergarten on the Achievement of Students with Low/Moderate Income Status." *Journal of Research in Childhood Education*, 20, no 1: 27–35. doi:10.1080/02568540509594548

Schroeder, J. 2007. "Full-Day Kindergarten Offsets Negative Effects of Poverty on State Tests." *European Early Childhood Education Research Journal*, 15, no 3: 427–39.

doi:10.1080/13502930701679734

Takanishi, R. 2004. "Leveling the Playing Field: Supporting Immigrant Children from Birth to Eight." *Future of Children*, 14, no 2: 60–79. Also available at

www.questia.com/googleScholar.qst?docId=5010980365 (accessed October 4, 2011).

- Vecchiotti, S. 2003. "Kindergarten: An Overlooked Educational Policy Priority." *Social Policy Report*, 17, no 2: 3–19. Also available at www.familyindex.net/Categories/Education/Educational+Expectations/00340.htm (accessed October 4, 2011).
- Votruba-Drzal, E, and C Li-Grining. 2008. "A Developmental Perspective on Full- Versus Part-Day Kindergarten and Children's Academic Trajectories Through Fifth Grade." *Child Development*, 79, no 4: 957–78. Also available at <http://dx.doi.org.login.ezproxy.library.ualberta.ca/10.1111/j.1467-8624.2008.01170.x>
- Walston, J, and J West. 2004. "Full-Day and Half-Day Kindergarten in the United States: Findings from the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99." *Education Statistics Quarterly*, 6, no 1–2: 19–26. Also available at <http://nces.ed.gov.login.ezproxy.library.ualberta.ca/pubsearch/pubsinfo.asp?pubid=2004078>
- Weast, J. 2001. "Why We Need Rigorous, Full-Day Kindergarten." *Principal*, 80, no 5: 6–9. Also available at http://vnweb.hwwilsonweb.com.login.ezproxy.library.ualberta.ca/hww/results/external_link_maincontentframe.jhtml?_DARGS=/hww/results/results_common.jhtml.42
- White, J, Jr. 2006. "Community Economic Development and Poverty Alleviation: An Overview of Panel 4." *Employee Rights and Employment Policy*, 10, no 1: 121–49. Also available at <http://web.ebscohost.com.login.ezproxy.library.ualberta.ca/ehost/pdfviewer/pdfviewer?vid=4&hid=13&sid=41915880-88bc-4db1-ba7e-30f4b76bfa1c%40sessionmgr13>
- Wolgemuth, J, R B Cobb, M Winokur, M Leech and D Ellerby. 2006. "Comparing Longitudinal Academic Achievement of Full-Day and Half-Day Kindergarten Students." *Journal of Educational Research*, 99, no 5: 260–69.
- Yan, W, and Q Lin. 2005. "Effects of Class Size and Length of Day on Kindergartners' Academic Achievements: Findings from Early Childhood Longitudinal Study." *Early Education and Development*, 16, no 1: 49–68. doi:10.1207/s15566935eed1601_4
- Zvoch, K. 2009. "A Longitudinal Examination of the Academic Year and Summer Learning Rates of Full- and Half-Day Kindergarteners." *Journal of Education for Students Placed at Risk*, 14, no 4: 311–33. doi:10.1080/10824660903409260

Zvoch, K, R Reynolds and R Parker. 2008. "Full-Day Kindergarten and Student Literacy Growth: Does a Lengthened School Day Make a Difference?" *Early Childhood Research Quarterly*, 23: 94–107. doi:10.1016/j.ecresq.2007.08.001