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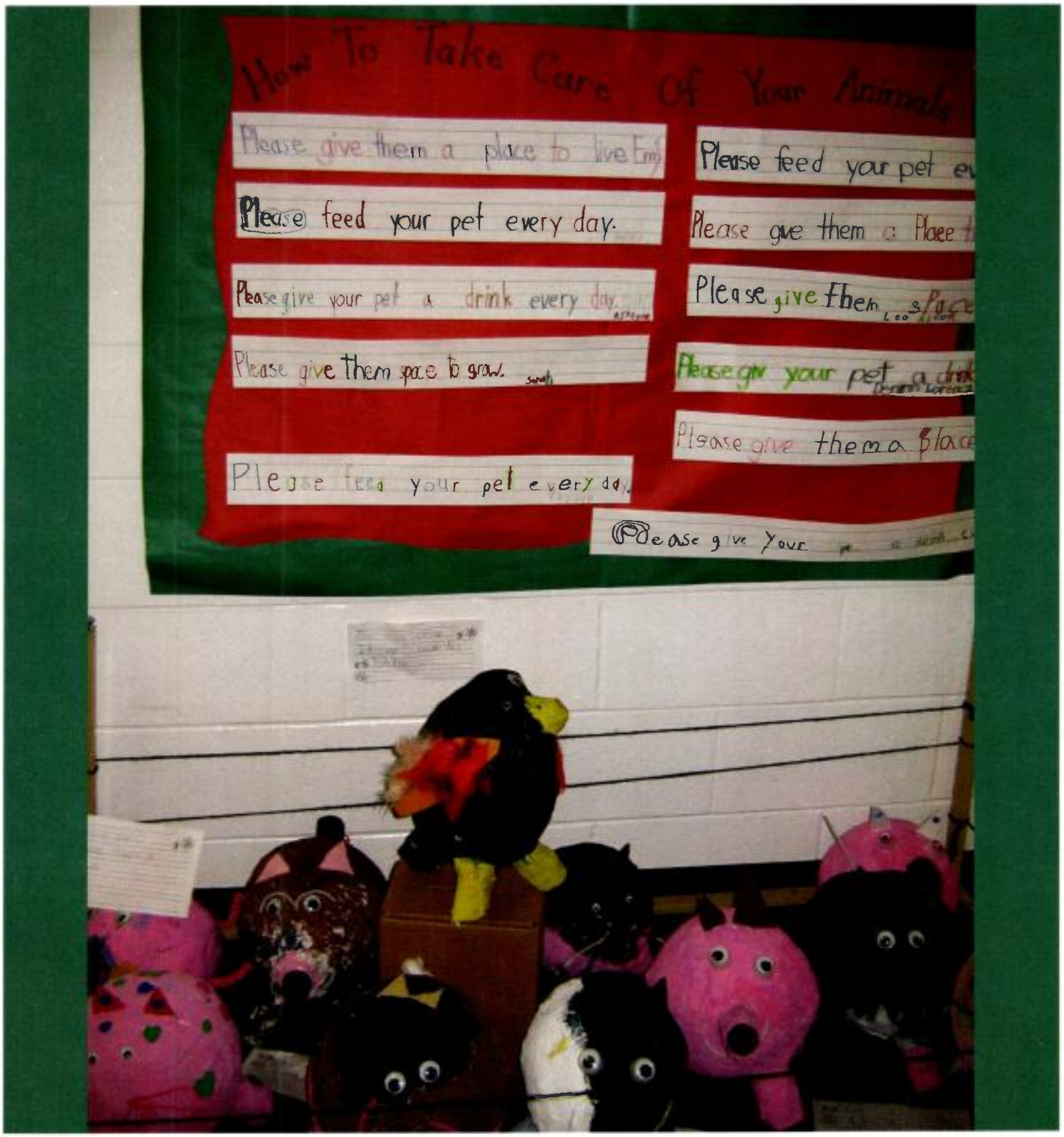

Early Childhood Education is the official journal of the Early Childhood Education Council (ECEC) of The Alberta Teachers' Association (ATA). The journal assists the ECEC to achieve its objective of improving practice in early childhood education by publishing articles that increase the professional knowledge and understanding of teachers, administrators and other educationists involved in early childhood education. The journal seeks to stimulate thinking, to explore new ideas and to offer various points of view. It serves to promote the convictions of the ECEC about early childhood education.

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Early Childhood Education is indexed in the Canadian Education Index.

On the cover: At Florence MacDougall Community School in High Level, Grade 1 students excel with hands-on learning! While learning about domestic animals, papier-mâché farm animals were created and a farm constructed. Their teacher, Jane Rosenberger, facilitates the students' understanding of new vocabulary and concepts by exploring themes over an extended period of time, weaving in many cross-curricular connections. She joined the Fort Vermilion School Division in 1994 and still loves watching her students learn.

From the Editor's Desk

Anna Kirova is a professor in the Department of Elementary Education, Faculty of Education, University of Alberta. She teaches courses in early childhood education in both the bachelor of education program and the master of elementary education (with specialization in early childhood) program. Her research interests include peer relationships and social inclusion of young children, particularly immigrant and refugee children; issues related to global migration and education; and collaborative arts-based research with children.

Once again, it is my pleasure to provide you with an issue of *Early Childhood Education*, the official journal of the ATA Early Childhood Education Council (ECEC). It begins with an overview of the research on the importance of full-day kindergarten, an issue of consideration by researchers and school boards across the province of Alberta, Canada and the United States. As part of the completion of her master's degree specializing in early learning at the University of Alberta, Joy de Nance thoroughly reviews the studies conducted on the topic and recommends policies on full-day kindergarten. The ECEC executive reviewed her recommendations and are currently drafting a position statement. Without the background work provided by Joy de Nance, the council would not have had the solid scientific bases for its position. Such work represents the direction the council has taken; that is, to serve as a bridge between theory and practice, and promote the role of early childhood educators as leaders.

This issue features yet another article written by Lee Makovichuk, a recent graduate of a master's program specializing in early learning in the Department of Elementary Education at the University of Alberta. Her paper explores the learning occurring in her kindergarten classroom provoked by the introduction of a penny jar. Her rich description of the use of the tools of pedagogical documentation in the exploration of mathematical concepts that would normally be considered too difficult for kindergarten children is compelling and engaging. Although learning such concepts as place value is important but may or may not happen in another kindergarten classroom, the culture of listening to children's questions and guiding their own curiosity and exploration is what any teacher can take away from the article. The use of pedagogical documentation in our own Canadian context is an example of how ideas typically associated with the Reggio Emilia approach can and should be applied in a meaningful and creative way in everyday practice in local contexts.

This issue also offers a concrete example of a wraparound support in an early learning classroom that serves children from refugee and immigrant backgrounds. Donna May Ford and Rebecca Georgis, along with cultural brokers Mulki Ali, Sabah Tahir, Saida Khalif, Josephine Aroub and Kiki Ibrahim, provide a comprehensive picture of the needs of newcomer families and the amount of work the cultural brokers do, mostly behind the scene, to support these families in their transition to life in their host country. As the number of children from diverse cultural and linguistic backgrounds increases, many teachers feel overwhelmed by the difficulty of communicating the schools' expectations, routines and regulations to the parents and children. Some often feel that they are left to their own devices in addressing these families' needs and may feel discouraged if they do not see the immediate results of their efforts. This article reveals the complexities of these families' lives and highlights the role of cultural brokers in helping schools address their needs, and advocates for the ongoing involvement of cultural brokers in schools. Making provisions for wraparound services for newcomer families is not only a matter of social justice and equality but also about building Canada into a place where all people belong.

Although newcomer children go through a silent period while they are new to learning English or French as an additional language, the article by Debra Harwood and Po-Ling Bork discusses reasons for some children to become silent (that is, children with selective mutism) out of fear of being seen or heard speaking. This condition may occur as children enter kindergarten or another early childhood setting and can remain for several years. All early childhood educators must be aware of and utilize the pedagogical strategies, based on the Reggio Emilia approach, suggested by the authors if there is a child with selective mutism in their classroom.

Last but not least, in an article by Jonas A Cox, Charles V Salina and Fay C Mascher, a school-based study in Alberta suggests that environmental education, taught through place-based, experiential activities, builds environmental empathy and responsibility. The authors demonstrate how such

an approach with 5- and 6-year-old children results in expanding their awareness of the natural environment and increasing their empathy and respect for the natural world. Now, when the environmental concerns are amplified by the recent disasters that have global effect, all educators must adopt a proactive approach to environmental education and use any opportunity in their local contexts to teach a responsible and caring attitude toward the environment.

This issue also includes a book review of the book *Play* by Stuart Brown. Because the book will be presented as a gift to ECEC members, readers can get a glimpse of the book by Rebecca Ghelfi's engaging review. Without stealing the pleasure of reading the book itself, Rebecca outlines the main points and shares with the reader why she finds the book important and enjoyable.

I would like to thank the authors for their invaluable contributions and the Editorial Review Committee for working with the authors to expand and deepen their ideas. As a collective effort of early childhood educators and researchers, *Early Childhood Education* is an important vehicle for change in the field.

—Anna Kirova

Full-Day Kindergarten: An Overview of the Literature

Joy de Nance

Joy de Nance currently teaches two half-day kindergarten programs at a primary school in Calgary, Alberta. She has taught kindergarten in Calgary for 28 years in small and large schools with diverse populations. Lifelong learning has always been her passion, and it was that passion for learning and kindergarten that led her to completion of a master's degree with the early learning cohort at the University of Alberta in November 2010.

Abstract

Full-day kindergarten exists in some capacity in each province of Canada and is a common option for parents in the United States. Early studies suggest that full-day kindergarten produces many academic gains for young children; however, longitudinal studies indicate that, as the elementary years pass, the gains fade for average and above average students. This paper is a summary of the research on, interest in and perceived benefits of full-day kindergarten. Also discussed will be possible reasons for the lack of long-term benefits, questions arising from the research and educational policy recommendations.

Introduction

The Early Childhood Education Council (ECEC), a specialist council under the umbrella of the Alberta Teachers' Association, is an organization committed to the education of young children. To further this goal, ECEC requested a position paper to examine the research and make recommendations on full-day kindergarten programming.

To facilitate the preparation of the position paper, this paper is a literature review of the research on full-day kindergarten. The review was part of the capping paper written as a master's of elementary education degree requirement at the University of Alberta. In this paper, I examine the reasoning behind and interest in full-day kindergarten, summarize the research on full-day kindergarten as it currently exists in Canada, Alberta and the United States, and provide suggestions for future directions for research and policy recommendations.

Full-Day Kindergarten: A Canadian Perspective

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

475 hours Half-day 2½ hours/day	Newfoundland, PEI, Manitoba, Saskatchewan, Alberta, Nunavut		
900 hours Full-day 5 hours/day	Nova Scotia, New Brunswick, Quebec	Ontario: 600 schools in September 2010, 200 more schools in 2011	British Columbia: half of eligible children in 2010, all in 2011

Both full- and half-day programs	Northwest Territories and Yukon (twice as many full as half) Alternate full-day not on consecutive days but several times per week

Full-Day Kindergarten in Alberta: An Overview

In 2002 Alberta's Commission on Learning was established to provide a comprehensive review of Alberta's educational system. The Commission consulted with parents, teachers, school boards, educational experts and a variety of organizations and examined current research to establish 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 received a lot of attention in this report. Recommendation three was to "establish full-day kindergarten programs, ideally for all children, but as a first priority, for at-risk children" (pp 46–47). How have Alberta schools reacted to this suggestion?

In Alberta, kindergarten funding is for 475 hours of instructional time, which equates to a half-day program (approximately 2 1/2 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 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.

Examples of Alberta School Jurisdictions Currently Implementing Full-Day Kindergarten

As part of the comprehensive overview of the state of full-day kindergarten, I contacted several urban and rural school jurisdictions in January 2010 to inquire about their full- versus half-day options for kindergarten. I also examined public information on school district websites. Although the survey was not scientific and its conclusions must be viewed as tentative, the rural and northern areas reported that they offer full-day kindergarten programming on alternate days because of transportation costs as opposed to any particular instructional reasons.

This was unexpected; the school districts' full-day programs were held up as a model for the province. I speculate the economic climate and the corresponding funding issues impacting education in Alberta might have affected their decision.

Reasons for the Pursuit of Full-Day Kindergarten

According to DeCicca (2005, 4) "the rationale for full-day kindergarten is simple: the more time children spend in school, the more they will learn." 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 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 thought 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 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 students (Le et al, p xi).

475 hours Half-day: 2½ hours/day	Red Deer Public SD No 104 Lethbridge SD No 51
Both half- and full-day 2½ hours/day or 475 hours/year 5 hours/day or 900 hours/year	Calgary SD No 19: half-day and 25 full-day locations in 2006/07 2010/11: 15 schools or 36 classrooms Programs offered for at-risk children Calgary RC Separate SD No 1: half-day and 22 schools with full-day—no mention of demographics Edmonton SD No 7: half-day and 25 full-day sites in 2010— at risk children Edmonton Catholic Separate SD No 7: half-day and 21 full-day sites in 2010/11—no mention of demographics Medicine Hat SD No 76— full-day since 2004 for all 2010. All schools offer a variety of half-day kindergarten programs, including alternating full-day and morning programs

- 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 students and those from higher socioeconomic groups (Beach et al 2009; Brewster and Railsback 2002; Cooper et al 2010).
- According to da Costa (2008, 4), 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."

The Perceived Benefits of Full-Day Kindergarten Programming

"Doubling the time does not necessarily double program quality" (Weast 2001). However, the potential benefits of full-day kindergarten compared with half-day programs could include

- better academic skill development, reading readiness, language development (especially for non-English-speaking students);
- fewer grade retentions;
- an easier transition to first grade;
- lower child-care costs; and
- decreased future educational costs because of a reduced need for retention and remediation. (Cooper et al 2010; Eubanks 2006; Plucker et al 2004)

Early Studies: An Overview

Much of the research from the 1970s and 1980s involved short-term, one-year studies encompassing the kindergarten year. Sample sizes were small, and academic measures were the only outcomes. 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. One trend did surface in spite of the suggested inadequacies and that was the 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 show positive gains for full-day programs when achievement is tracked over the kindergarten year. More specifically, literacy gains were more significant than gains in math, but progress tended to slow after Grade 1 (Koopmans 1991).

ECLS-K Studies: An Overview

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 private and public 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, families, teachers and the 1,277 schools attended. The plan called for waves of data in the areas of literacy, math and general knowledge, to be collected at the beginning and end of kindergarten, Grades 1, 3 and 5 (Le et al 2006).

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

Summary of the ECSL-K Studies

The ECLS-K studies (Cannon, Jacknowitz 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 pertains to American demographic information and does not necessarily reflect the composition of the Canadian population. Second, the results were contradictory. Some researchers found benefits for at-risk or minority students (Lee et al 2006; Le et al 2006; Yan and Lin 2005); however, others, for example, DeCicca (2005) and Cannon, Jacknowitz 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 research in the next section of this literature review was conducted in the United States. However, although only five projects involve Canadian children, the results are similar to the US studies. The bulk of the studies have been divided into two groups: short-term studies (encompassing the kindergarten year) and longitudinal (within the elementary school years).

Summary of the Short-Term Studies

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 kindergartens to half-day programs are consistent. The gains during the kindergarten year are stellar for all learners, particularly in the area of literacy. However, math gains do not match literacy gains. Based on the types of assessments used in these studies, many kindergarten programs spent much of their time engaged in literacy development. The 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 benefit all learners; 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 the 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 the children progress through their elementary or primary school years?

Summary of the Longitudinal Studies

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 the students progress through elementary school (Cannon, Jacknowitz 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-Dzal and Li-Grining 2008; Zvoch 2009). The Medicine Hat kindergarten study demonstrated that students showed excellent gains up to Grade 3, but that study compared students to provincial averages from provincial tests as opposed to comparing full- and half-day kindergarten programs. Calgary SD No 19 compared the achievements of full-day students to those of regular at-risk (but not ELL) learners, ELL learners and special education codes, as opposed to comparing half-day to full-day programs.

Another highlight of the research on the full- and half-day kindergarten debate is that children considered to be at risk either socioeconomically or educationally benefit from full-day programming. The full-day program appears to narrow the achievement gap between disadvantaged and 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 2004; 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).

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

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

As Koopmans (1991, 36) 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." Cooper et al (2010) propose several possibilities 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" (p 64).
- Children receiving and benefitting from full-day kindergarten may not receive the same educational supports as half-day children receive, and the full-day advantage is negated as additional programs allow the "half-day children to catch up" (Cooper et al 2010, 64).

- Wolgemuth et al (2006) suggests that teachers spend so much time assisting students who come to school with little or no skills that other children who may be at or above grade level receive little attention.

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

Summary and Conclusion

The review revealed that according to research, full-day kindergarten produces significant gains for all students in their kindergarten year, and maintains, at least to Grade 3, gains for at-risk students, and levels the playing field between at-risk learners and those who are not at risk to at least Grade 5. Although the academic differences between students registered in full- and half-day programs from middle- and upper-income brackets are not statistically significant by Grade 6 (da Costa 2008) and the tremendous academic gains achieved in full-day kindergarten programs appear to diminish over time, it is reasonable to conclude that full-day kindergarten is not harmful for students. Perhaps increased student success in kindergarten and into the primary grades is an adequate reason to provide full-day kindergarten for all students. The problem is how governments and school districts decide who qualifies for this programming and who pays for it. Public school districts are debating whether to offer full- or half-day programs, whether to provide full-day only for at-risk children and how to finance this proposition (Lee et al 2006). Medicine Hat School District No 76 altering their full-day provision for all students and including half-day options may be one casualty of the economic costs of full-day programming.

The debate over full- and half-day kindergarten elicits many questions.

1. If there are few long-term benefits for middle and upper income children, are the dollars spent on universal access to full-day kindergarten well spent (Gullo 2000; Le et al 2006)?
2. How will the community (government) finance twice the number of classrooms, expendable resources and teachers, and find more space for full-day programs (Fromberg 2006)?
3. Will the funding for full-day kindergarten be an additional expense, or will monies be redirected from other established programs within the school district (Medicine Hat School District No 76 Program Review, 2007/08)?
4. How will access to full-day kindergarten assist families who still require extended day care, and should the issues of child care be resolved at the school level? Is full-day kindergarten part of an educational solution to a social condition (Finne 2007)?
5. What else can be done to support English language learners and students from economically and educationally challenged environments to mitigate nonacademic factors that could interfere with future school success (da Costa 2005/06, 2008).
6. Are there beneficial and effective instructional strategies used at the primary level that would extend academic gains into the upper grades (da Costa 2005/06, 2008)?

Recommendations

1. Mandate kindergarten and include this valuable program in the *School Act* to ensure fully funded and pedagogically sound full-day programs taught by certified staff.
2. Establish a task force to examine the issues related to full-day kindergarten, including as members educators, school administrators and university educators from rural and urban centres currently involved in providing full-day programming.
3. Empower Alberta Education to create a provincial policy on full-day kindergarten; the policy should pay special attention to examining qualifying factors.
4. Provide funds for professional development to explore sound pedagogy supported by the Early Childhood Education Council philosophy statement to promote consistent educational practices from kindergarten to Grade 6.
5. Fund full-day kindergarten programs provincially for all at-risk children without expecting school districts to redirect monies from other established programs.
6. Initiate rigorous Canadian longitudinal studies of full-day kindergarten, similar to the ECLS-K, to compile a similar wealth of data on our early learners pertinent to Canadian culture.

7. Provincially fund educational supports at the school level to assist at-risk learners.
8. Support English language learners and students from economically and educationally challenged environments to mitigate nonacademic factors that could interfere with future school success.

Perhaps the issue is not the debate between the effects of full-day versus half-day kindergarten programs. Sound pedagogy will provide the best environment for all children to succeed whether they are enrolled in full- or half-day classes. The key may be to ensure full and equal access to children who would benefit the most.

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Learning Through a Penny Jar

Lee Makovichuk

Lee Makovichuk is a kindergarten teacher with Garneau School, Child Study Centre, in Edmonton, Alberta. She has a master's degree in early learning. Lee has viewed and reflected on the images of the children and teachers in learning shared by the infant centres and preschools of Reggio Emilia, Italy. She views their work as an example for practice that is responsive to learners involved in active learning environments. Second to working in a classroom with children, Lee appreciates opportunities to share the work of the children with whom she works each day.

Abstract

This article showcases the competence and capabilities of the children with whom I have the good fortune of working with. As a kindergarten teacher I work with groups of children who have as much to teach me about the teaching–learning relationship as I have to teach them about curricular concepts. Here, I describe children involved in sharing their mathematical thinking to facilitate connections between what they already know and do, and their next learning steps. This story demonstrates that when teachers are careful listeners, the learning that happens in a classroom is not restricted to the children but offers teachers a place of learning as well. This story also shows that when curricula support learning rather than direct it, the outcomes cannot be predicted or limited. In this way, learning outcomes become beginnings.

In Reggio Emilia, Italy, pedagogical documentation allows teacher–researchers to reflect on the deep complex work of the infant and preschool programs. Teachers listen to children and are members of the learning community. In Alberta, Canada, this work has been experienced by a group of children with their teachers.

Having worked with communities of children for years, I know how competent and capable young children are. Recently, the work of the infant and preschool programs in Reggio Emilia has attracted the attention of educators across the globe to the notion of a competent and capable child—a strong child who is able to interpret his or her knowledge and experiences of the world (Edwards, Gandini and Forman 1993). As well, the North American Education for Young Children (NAEYC) association describes young children as having informal experiences that are the foundation for school learning when we help them to connect previous experiences with curricular outcomes (NAEYC/NCTM 2002, 2008). Yet, it is through our action as teachers that we communicate and make decisions to create a learning environment that either recognizes or ignores the capabilities and competencies of young children as contributors to their learning communities.

Underlying the tangible objects that adorn the classroom walls and shelves is a belief system about who the teachers are and who the learners are. Perceptible or not, this belief system is foundational to the creation of a learning environment. The Reggio Emilia environments are noteworthy in their use of natural materials: woven baskets, light, shadow and spacious, airy environments that extend beyond the classroom walls and invite children to explore, create, invent and interpret the world (Edwards, Gandini and Forman 1993). Eagerly, these elements are transplanted into classrooms and elsewhere, assuming that the materials reflect a strong and capable image of the child. When materials are chosen without understanding our own beliefs about teachers and learners, the materials clutter our space and time, and consume our energy and budget dollars. The materials do not communicate our understanding of teachers and learners. Rather, it is in our knowing that the roles of the learner and the teacher evolve into dynamic, collaborative and unconventional ways that determine the intentional selection of meaningful materials that provoke engagement and interaction between those who live in learning spaces together. Through this belief I begin with groups of children, as a teacher and as a learner, create an environment that reflects the knowledge that each child is competent and capable in the creation of our learning experience together. I do this through the process of pedagogical documentation. This process positions me as a learner working to understand what children already know and what the possibilities are, and as a teacher striving to deepen

the children's creative invention and interpretation of their experiences in the learning community through asking questions that will invite children to make meaningful inquiries.

"Will We Count the Pennies?" Children's Initial Counting Strategies

In September, as I placed a penny jar on a window ledge at the children's height, I wondered, How will the children use these pennies? What kinds of ideas will be prompted? Where will those ideas take us in our learning together? Then I waited. It was December before I noticed that the children were interested in the jar. It was Sophie's question that awakened me to the children's interest in the pennies. She asked, "Will we count the pennies?" Her question came just days before the winter break—a busy time in the classroom as we prepared for a community celebration. I held on to the question, not wanting to dismiss it in the flurry of activity.

In January the regular pace of classroom life resumed and, with it, Sophie's question echoed in my mind. I decided to bring the question back to the children.

"Sophie, do you remember before winter break when you asked me about this penny jar?"

She remembered. "Yes, will we count the pennies?" With the question restated, a conversation developed with the morning class about how we could count the contents of the jar.

"You can skip count. Count by twos: two, four, six, eight," offered Rachel.

"We can each take some and count it," added Esther.

"We can make a pile and move the counted into another pile and call it the counted pile," reasoned Flynn.

"We can count all of the jar!" Garrett exclaimed.

"We can count some and then he (pointing to Cole) can count some and he (pointing to Pablo) can count some until it's all counted," confirmed Errol.

"How many do you think are in the jar?" I asked, wanting to extend this conversation further.

Flynn: "Two million."

Nikos: "A kazillion."

Pablo: "One thousand."

Rachel: "One hundred."

Garrett: "Nine."

Following this initial conversation, I considered possible next steps. I was surprised that the conversation engaged few children. MacNaughton and Williams (2009, 116) explain, "When you listen to someone . . . you concentrate on what is said and what is not said; you note what they are saying and not saying and think about it carefully." With this in mind, I prepare counting mats (11-x-14-inch construction paper), a camera and note paper to gather further ideas about counting from the group. I thought that perhaps the children could demonstrate their ideas for counting more easily than articulating their strategies in words. The following day, I invited them to talk about their counting strategies once again.

Devon: "Count one, two, three, four until they are counted."

Nikos: "Share the pennies and everyone count them."

Flynn: "Move the pennies that you count."

Rachel: "Give the same to each kid and everyone count."

Garrett: "One, two, three, four, five, six, seven, eight, nine, ten."

Pablo: "Count to a hundred."

Errol: "Split into groups and move your pennies when you count them."

Malak: "Each take a penny and take turns until all the pennies are counted."

Tatum: "Take them out and put them in a line, then count."

Sophie: "Take groups of pennies. Then count them. Then add them up."

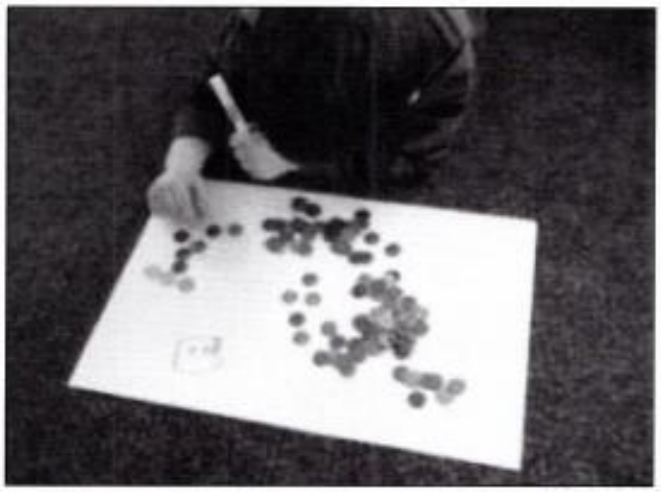
After a few more children expressed their ideas, I asked them to show me how they count. I assured them that there was no wrong way and that I was really interested to learn about their way of counting.

Eagerly, the children began. As promised I photographed and took notes, recording how each child approached the task. The following examples demonstrated a variety of approaches children used to count an unknown group of pennies:

Figure 1. Counting in 10s.

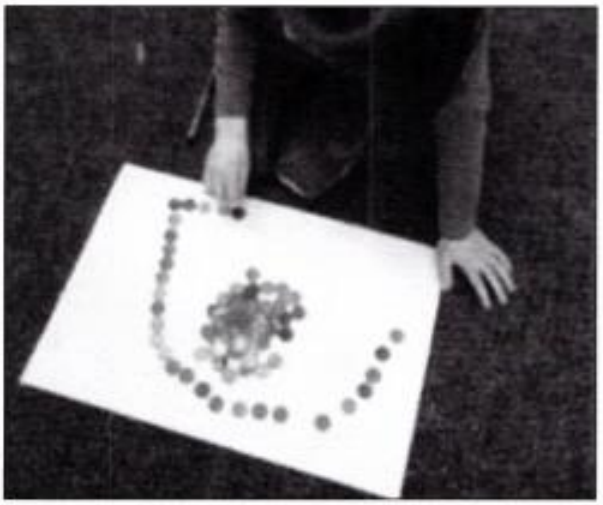
Jared explained, "I can count to 10." He drew the number 10, and then drew 10 circles (Figure 1). He placed a penny in each circle, sliding them across the paper into a pile on the right side. He then repeated his "counting 10" process until all the pennies were in the pile on the right side.

Figure 2. Using estimation.



Mark estimated how many pennies he had in his pile. He recorded 100 on his counting mat (Figure 2). He counted each penny as he slid them across his paper. He ended his count at his estimated number.

Figure 3. A solution to a problem.



Tatum began by numbering each penny as she slid them into a line (Figure 3). Getting to number five, she recognized, "I don't know how to write five." I encouraged her to think of a way she could solve her problem. After several moments, she began a new strategy by lining the pennies around her paper. Once she had the pennies lined up, she began touch counting. As she neared her starting point, she stopped, thoughtfully placed her other hand across the approximate place she started and continued her count to 33.

Figure 4. Drawing and counting.

Garrett made a square shape with some pennies and drew a square around those pennies (Figure 4). He placed two pennies at the bottom edge of the square and drew a circle around each. He named it, "penny car." He drew another shape he named, "a tower" and placed pennies inside the tower. He drew an airplane and placed pennies inside the airplane. He repeated this process, drawing many shapes, filling each shape with pennies until he had a very small pile of pennies. He counted the pennies in his pile, 1 to 11, drew an "island" and placed all 11 pennies on the island.

Figure 5. Expanding on another's idea.

After listening to Jared explain his approach to counting 10 (Figure 1), Mark was excited. He drew 10 circles on one side of the counting mat he had divided in half (Figure 5). He placed a penny in each circle, collected the group of 10 and placed them on the other half of his mat. He drew a circle around the group of 10. He repeated this process making 9 groups of 10 pennies. He asked, "How many pennies do I have?" Together, we counted by 10s.

Figure 6. Counting in Portuguese.

Nikos slid each penny from one pile into another pile and counted in Portuguese (Figure 6).

To move forward with the children in their meaning making, I reflected on their engagement with materials and ideas. I was reminded, "When we document we are co-constructors of children's lives, and we also embody our implied thoughts of what we think are valuable actions in a pedagogical practice" (Dahlberg, Moss and Pence 2007, 147). My reflections on what I have listened to—hearing and seeing how the children have counted (shown in the Figures 1–6)—contribute to my understanding of the big ideas that will frame further learning. I know that what I have observed and listened to is limited by my own lens. I am looking and listening to the children's mathematical thinking. Through another lens, I might see and hear something else. In the context of pedagogical documentation Forman and Fyfe (1999, 240) explain that "the curriculum is child originated and teacher framed."

Exploring Mathematical Possibilities with the Children

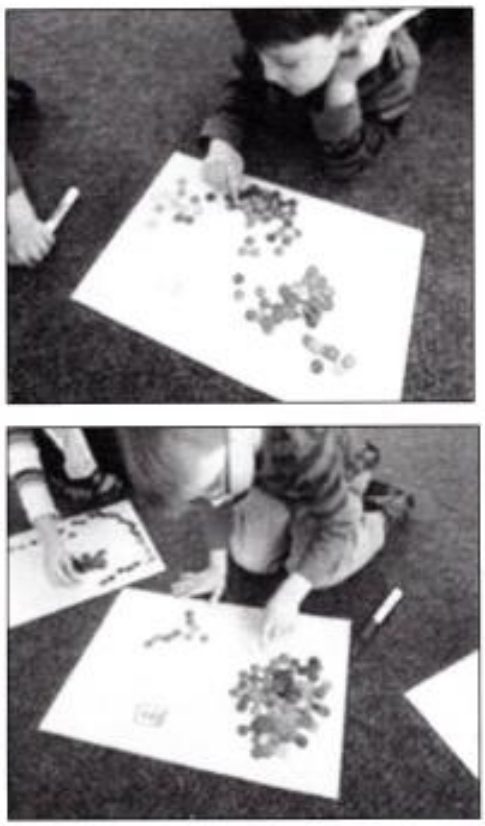
I framed several mathematical possibilities for further exploration, as shown in the photos and children's documented words in Figures 7–10.

Figure 7. Emerging ideas of skip counting.

Rachel: "I counted by twos: two, three, four, five, six, seven."

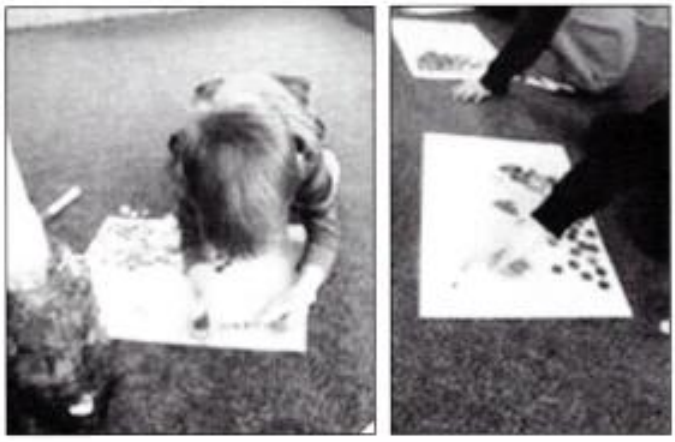
Josh: "Skip count, like two, four, six, seven, eight, ten."

Figure 8. Emerging ideas of estimation.



Sophie: "One million."
Sophie: "One hundred."
Safi: "Twenty."
Tatum: "Two million."
Malak: "One million, one hundred."
Errol: "Nine hundred."
Spencer: "One million."

Figure 9. Emerging ideas of place value thinking.



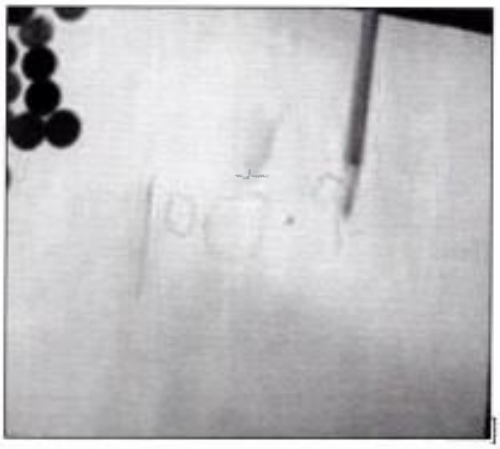


Figure 10. Story of 12.

While ordering the numbers on the February calendar, the children searched each other's calendar number cards to locate the number 12. To support their search, I explained as I wrote on the whiteboard, "Twelve is a ten (1) and a two (2)." Devon laughingly commented, "Lee, you said a ten and a two, not a one and two."

In addition to my learning about each child's approach to counting, my learning through a master's level math course had implications for deepening the learning experiences in the classroom. My awareness of how mathematical ideas are communicated between teacher and learner has been heightened; Moseley (2005, 385) uses the term *math-mediated language* to describe the process that occurs between teacher and student(s) in creating and communicating mathematical understanding. Through understanding the children's mathematical theories and my knowledge of pedagogical documentation, I form a question. The pedagogical question sets the stage for children to explore, create and think aloud as they make meaning and build personal knowledge in meaningful ways. Although framing questions guide further exploration and learning paradoxically, the questions limit the lenses through which we observe and listen. Therefore, as I ask a question that furthers children's mathematical learning, I recognize that I might not hear beyond the boundaries of my question.

Pedagogical activity can be seen as a social construction by human agents in which the child, the pedagogue and the whole milieu of the early childhood institution are understood as socially constituted through language. However, this perspective also implies that this activity is open to change; if we choose to construct pedagogical activity in one way, we can also choose to reconstruct it in another (Dahlberg, Moss and Pence 2007, 144).

By intentionally listening to the children's engagement of counting strategies and revisiting the collection of data (Figures 7–9), I became aware that the pedagogical question can take many avenues. I might have formed a question that focuses on children's knowledge of object counting, skip counting or estimation; however, as the children ordered the numbers for the February calendar (Figure 10), my curiosity was ignited. I decided to proceed with further learning in the pedagogical question, "What do children know about place value?" In doing so, I considered the possibilities for learning that can occur for the whole group:

- Object counting and skip counting are concepts that the children will explore as we investigate their understanding of place value.
- Experience counting groups of objects will help the children develop an understanding of estimation.
- Alberta Education's program of studies (2009) does not include place value formally until Grade 3.
- Alberta Education program of studies for kindergarten (2009) focuses on number and spatial sense through developing children's personal meaning and competencies in "communication, connections, mental math and estimation, problem solving, reasoning, technology and visualization" (p 17).

As well, children arrive in kindergarten having had an abundance of mathematical experiences that we can and should build upon:

> Children's confidence, competence, and interest in mathematics flourish when new experiences are meaningful and connected with their prior knowledge and experience. At first, young children's understanding of mathematical concepts is only intuitive. Lack of explicit concepts sometimes prevents the child from making full use of prior knowledge and connecting it to school mathematics. Therefore, teachers need to find out what young children already understand and help them begin to understand these things mathematically. (NAEYC 2008, 4)

Teachers must understand the complexities of the concepts that they explore with children. My own investigation of place value helps me to understand that many children "fail to differentiate between the face value of each symbol in a number and the complete value of the same symbol" (Varlas and Becker 1997, 265). As well, Clements and Sarama (2009) highlight language as a factor in understanding base 10 numbers. Whereas English language users use the suffixes "teen" and "ty" to identify 10, Chinese language users read numbers

10-1, 10-2 and so forth, which is more helpful for children's conceptual understanding of numbers beyond 10.

Can Kindergarten Children Understand Place Value? Challenges Presented by Numbers 11 and 12

Understanding the conceptual difficulties of place value learning and language meaning, I considered a way to invite children to explore the number 12. With Devon's approval to share the story—the exchange between him and me during the building of the February calendar (Figure 11)—I gathered the penny jar, counting mats, audio recorder and cameras.

I wrote the number 12 on the whiteboard. "What is the one in 12?" I asked.

Many of the children called out, "One."

I pointed to the two and explained that two means two, holding up two fingers. "If two means two and this one means one—we know that one plus two equals . . ." I paused.

The children confirmed, "Three."

I wondered aloud, "What is the one in 12, then?"

"It's one of something," Cole offered.

"Yes it is, but what is the something?" I wondered.

"We can discover what the one is. Let's each take 12 pennies," I explained as I modelled with the pennies. "We know that the two is two, so I am going to move these two pennies to one side. Now I have some pennies left; what do you think I should do?"

"You can count them," Devon offered.

"Okay, let's all try this." With a counting mat and 12 pennies in hand, the children set about to think and explore the 1 in 12. I take on the role to facilitate children in their exploration, observe their processes, record what they do and say using digital photography, audio and video.

Reviewing a recorded videoclip of Errol and Mark working beside each other, I see that each has two pennies off to one side and another group of pennies in the centre of his mat. Mark told Errol, "Count them" (referring to the group of pennies in the centre of the mat). Errol touch counted as Mark looked on, "One, two, three, four, five, six, seven, eight, nine, ten."

Mark remarked, "Let me count them." He counted, "One, two, three, four, five, six, seven, eight, nine and ten."

Continuing to take the video footage, I prompted, "What does the one mean?"

Mark paused momentarily, "Hum, 10! It's 10!"

He reasoned, "One means 10 and two means two."

I asked, "What is 10 + 2?"

Mark concluded, "Twelve!"

Videos, photos and recorded dialogue archive the children's exploration. The images and recorded children's words in Figure 12 allow me to see that some children had been exploring number composition. A few children continued to explore object counting and a few children were beginning to understand that the 1 in 12 was, in fact, a 10.

Spencer: "Look five and seven make 12."

Sophie: "It makes 10 if I take two."

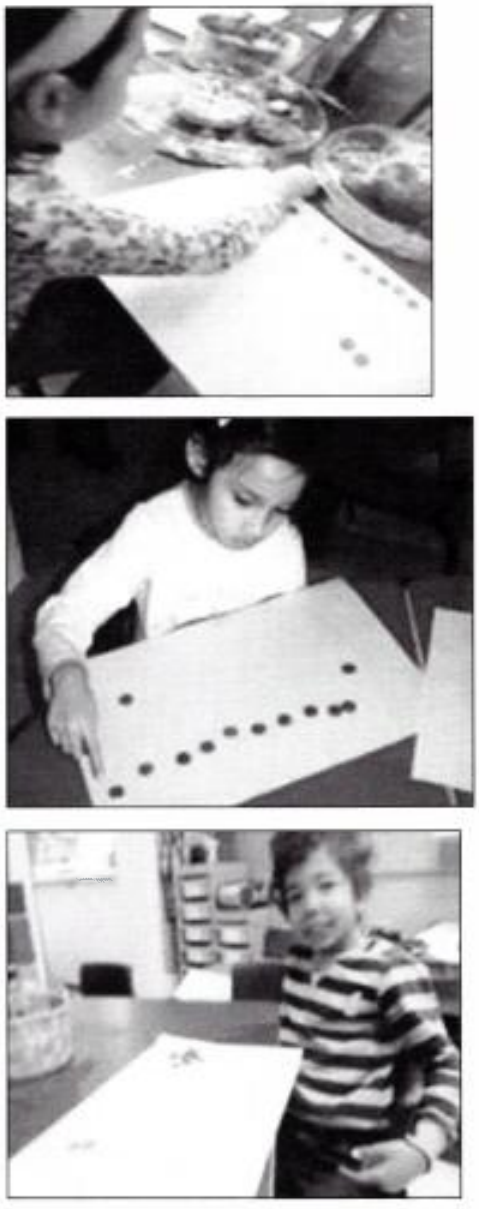
Shivani: "Six and six are 12."

Flynn: "I took two away and made 10. The one is first."

Malak: "I put all the pennies in a row and counted them. They were 10,".

Garrett: "I counted 12."

Figure 11. Exploring the 1 in 12.



I knew that another opportunity to explore two digit numbers was important. The following day, I asked the children about number 11. In much the same way as I posed the problem of 12, I wondered what the ones in 11 represented. Through this exploration, only one child demonstrated an understanding that 11 is a 10 and a 1. The responses of many children, as shown in Figure 12, left me wondering if place value was an appropriate direction for their mathematical learning.

Figure 12. Confusion with 11.

What Is Two in Twenty?

Reflecting on the children's confusion over number 11, I considered that the double 1s in 11 were problematic. It is confusing to think about the numeral 1 as both a 10 and a 1 this early in the exploration. With this in mind, I considered exploring number 13 with the afternoon class. Before we could begin, Isaac declared, "I want to do all the numbers up to 20!" As I introduced the number 13, Minh confidently explained, "The 1 is 10 and the 3 is 3!" I then wrote 14 and the children chanted, "The 1 is 10 and the 4 is 4." I wrote 15 and again the children chanted, "The 1 is 10 and the 5 is 5." I wrote 20 and asked, "What is the 2 in 20?" The children paused. I explained that like the 2 in 12, which means 2, the 0 in 20 means 0. I suggested that the 2 in 20 means 2 of something the same, and that if they drew a line down the middle of their counting mat that might help them to think about 2 numbers the same.

Once again, I am observer, recorder and facilitator of the children's engagement with the challenge of 20. This time, I collect the children's thinking processes in video, and they record their ideas on their counting mats as seen in Figure 13.

In the recorded videoclips of the children's exploration of 20, the following interactions are documented:

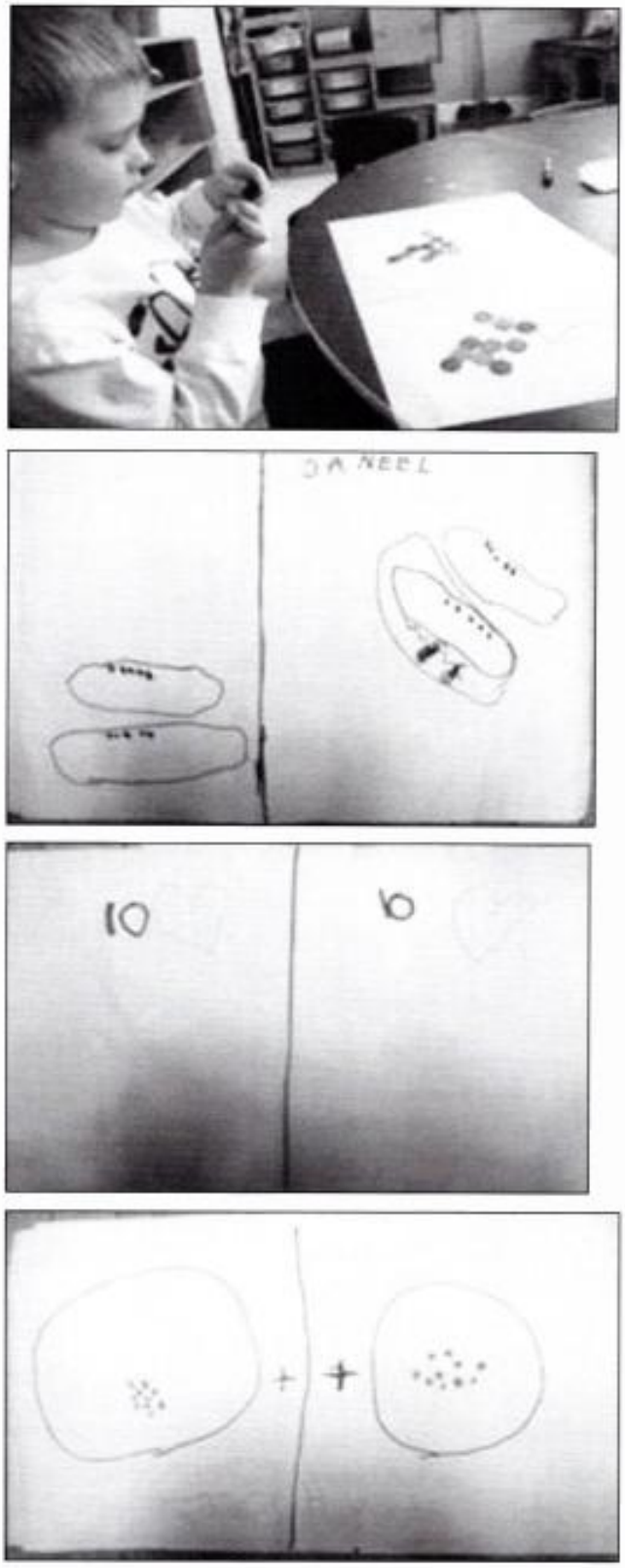
Josh draws my attention: "I figured it out."

I asked him to explain his strategy to another group working at an adjacent table. He explained, "I tried to make 10 on each side."

I prompted, "Can you tell Jared?"

Jared explained, "I got nine plus nine."

Figure 13. Exploring 20.



I asked, "What is nine plus nine?"

Jared replied, "I don't know." He begins to count the pennies on his mat.

Josh interjected, "Eighteen."

Josh explained to Jared, "If you put 10 on each side, you make 20."

Jared explained, "No if I put 10 on this side then they aren't the same. It will be 10 and 1, 2, 3, 4, 5, 6, 7, 9. It would be 10 and 8."

Realizing that perhaps Jared was only working with 18 pennies rather than 20, Anh (a colleague) helped him to adjust his pennies to 20, and I moved over, asking Mark what he has discovered.

Mark explained, "I got 10 on each side."

I asked, "What is the 2 in 20?"

Mark searched, "Two zeros, two tens, two pennies?"

I wondered along with him, "Two pennies?"

Daveed exclaimed interrupting us, "Ten here and 10 here."

I inquired, "What does 10 plus 10 make?"

Daveed replied, "Twenty."

I prompted, "What does the 2 in 20 mean?

Daveed and Josh, confirmed, "Ten!"

In another videoclip I see Daneel working. He has two circular shapes drawn on each side of his counting mat. He explains, "Five plus here, five plus here, five plus here, five plus here. Five plus five makes ten. Ten plus ten makes twenty. Only two tens and no more."

After I revisited the collected documentation, I came to believe that the afternoon group of children had developed an understanding for place value 10. The morning group of children had been exploring several concepts, including place value, composition of numbers and object counting. In both groups, I felt that my question (What do children know about place value?) and the manner in which we explored those queries engaged every child in a way that challenges them and engages their thinking within the scope of meaningful learning. My next thoughts were on generalizing the idea of base 10. Could the children recognize tens in other numbers? I introduced the hundreds chart, which prompted Minh to explain his theory about two-digit numbers. As he pointed to the number 83, he explained, "The first one has some tens in it and the second number doesn't—it's the regular number."

Building Numbers

To further explore this idea, I introduced an idea to build numbers. Using familiar materials explored in previous contexts, the Unifix blocks and calendar numbers 11 to 31, I proposed a game called building numbers. The rule of the game is that you cannot build a tower taller than 10. I imagined that children would want to build towers as tall as possible, so I stipulated a limit to promote the concept of place 10. Many of the children explored this game as I imagined, as seen in Figure 14.

Figure 14. Building numbers.

A videoclip of the activity revealed that the teacher–child interaction challenged the tension between what we intend and what children interpret.

I directed my attention to Sophie, "Can you show us what you have?" Sophie counted a tower of nine. In response, I asked the whole group, "What should Sophie do?"

Cole said, "Add one more." Removing a single block from another tower, Sophie added the block to her tower in question, making a tower of 10 blocks. I explained, "Sophie's number is 31. Sophie, tell us what your next tower is."

She counted, "Eight." She then counted her next tower, "One, two, three, four, five, six, seven. Seven." She counted her last tower, "One, two, three, four, five, six." She looked at me.

I summarized for the whole group, "Sophie made a tower of ten, a tower of eight, a tower of seven,

and a tower of six." I probe further, "Can she make any more towers of ten?"

Sophie responded, "No, because it would make more (than 31 blocks). She then counted the blocks in each tower to confirm her count.

I concluded, "Sophie made her number 31 a different way. Cole made three towers of 10 for the number 30, and Sophie made 4 towers, 10, 8, 7 and 6 for 31."

Sophie commented, "Almost the same."

In another videoclip, Isaac explained, "I got 31." Together we described, "Ten plus 10 plus 11 makes 31."

Although not documented in the penny jar experience, through dialogue with colleagues I noticed my use of evaluative language as I described the children's engagement with the pennies. Unintentionally, I used evaluative language to describe the children who were exploring number composition or object counting and the children involved in working through the problem of place value. "The afternoon children are showing a strong understanding of place value, but most of the morning children are only exploring composition of number and object counting." Evaluative language places importance on one in relation to others. Taguchi (2008, 272) explored "deconstructive talk as a tool in the displacement of dominant or taken-for-granted ways of thinking and doing." Her goal was to "search for ways to understand childhood and learning that work with and make use of—rather than muting—the complexities, diversities and multiplicities arising from different contemporary theoretical perspectives on childhood, child development and, learning." Listening to myself in dialogue with colleagues gave me an opportunity for learning and challenged me to attend to my use of evaluative language and clarify my ideas—my perspective reflected in my practice with children.

Interactions with Children: Reflections on My Teaching

The opportunity to revisit documentation gave me a backward glance to listen to my interaction with Sophie and her construction of the number 31. Moments of teacher–student interaction captured in video allowed me to see another hidden bias. I saw myself working with a young girl who had built 4 block towers that amounted to 31. In this learning experience, I had proposed a game for the children to build numbers using connecting blocks, with the stipulation that the towers could not be more than 10 blocks high. My intention was that children would build as many towers of 10 as each number allowed. This particular child had built towers of 6, 7, 8 and 10 blocks to construct the number 31. I saw in my tone and probing questions that I viewed her solution as lacking, even asking the whole group, "Can she construct any more towers of 10?" By reviewing this example I recognized that, in fact, she had achieved an original solution to the game that I had posed to the group, yet my response had not celebrated her creativity. Looking back on the video I saw my bias. I valued the children's responses that correlated with my question and undervalue a solution that was different from the one I had in mind. Upon further reflection, I have come to understand that the pedagogical question is the teacher's question. When teachers ask pedagogical questions, we cannot necessarily assume that the children will take up the question along with us.

Returning to Sophie's question, we counted the pennies in the jar. Interestingly, as we began this phase of the work with the penny jar, the children gave estimates, no longer fantastical in nature, but rather predicative, such as, 1,000, 600 and 960.

In the months that followed the penny jar exploration, I continued to notice the presence of mathematical language in the children's conversations each day. Upon our return to school in April after spring break, Nikos mused, "What is the 3 in 31?" Cole and Flynn took up the challenge and reported back at the end of the morning. On another day, Sophie and Flynn watched as Devon recorded the day's temperature on the whiteboard. As he wrote +11, Sophie commented, "One, one." Flynn reminded her, "No, remember it's a 10, 1, it's 11. Plus 11." Sophie replied, "That's right. It's 10 and 1. That makes 11."

Taguchi (2008) reports that the teachers with whom she worked to explore deconstructive talk realized that there was no going back to old ways; rather, they were "ethically obligated to re-examine [their] practices, always looking for better ways to 'do good' for the particular children with whom [they] were working" (p 280). Deep in my knowledge of who I am as a classroom teacher, this is true for me. Remarkably, in 1963, Sylvia Ashton-Warner described a teaching practice we continue to strive for—a practice that begins with and focuses on the cultural experiences of children. At a time when dominant Western European views were imposed on cultures considered less developed, less desirable, Ashton-Warner was a teacher of the five-year-olds of the Maori infant rooms. I am inspired by Ashton-Warner's approach to generating a "key vocabulary" inviting each child to contribute personally significant words toward creating a classroom vocabulary list. These words became the material for developing printing skills,

handwriting and reading skills, and eventually created Maori readers. I consider Ashton-Warner to be both skilled and courageous—a teacher who listened intently and created a curriculum that connected children, their lived experience and their learning experience. As well, Paley (1997) speaks of one particular kindergarten student, Reeny. Through developing a deep connection for Leo Lionni's story character Frederick, Reeny breathes life into each newly introduced story character through a class study of the author's work. Reeny's passion propels each class member to take up the journey along with her, which transforms the class identity. Paley observes,

> I too require passion in the classroom. I need the intense preoccupation of a group of children and teachers inventing new worlds as they learn to know each other's dreams. To invent is to come alive. Even more than the unexamined classroom, I resist the uninvented classroom. (p 50)

I share Paley's sentiments—a classroom that breathes originality and creativity is a listening classroom—listening with intention to learn, to create and to invent. It is in these classrooms that the would-be readers that Bruner (2000) speaks of find themselves in the world of possibilities. When we attend to children's experiences in school and to their experiences in the world, we create together that which cannot be packaged and duplicated elsewhere.

Teaching and learning are highly complex processes, and it is through closely attending—through listening with intention to learn that which is not yet known—that it becomes an art, complex and evocative, mindfully open to possibilities. It is this notion that I take with me, into the classroom with children, listening for possibilities, with a keen awareness of how the context, materials, learners and teachers are entwined in the process of creating multiple interpretations. Pedagogical documentation situates me, the teacher as a learner—willing to reflect on and refine my practice toward understanding what each child knows and can do and how I determine further learning experiences for children, with children.

Upon opening this article I focussed on the potential superficiality of transplanting the Reggio Emilia context into a North American classroom. This is a real hazard when our goal is understanding our own beliefs about children and learners and how classroom practice communicates our beliefs. I hold the highest regard for the work of the teachers and children of the infant and preschool programs of Reggio Emilia—not for what I can duplicate, but for what I can learn about my own practice through what they have shared about theirs.

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An Intercultural Early Learning Program: What Wraparound Support Looks Like for Newcomer Families

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Abstract

While most newcomers with young children want to engage in early learning programs, their access and participation are often limited by language and cultural barriers, lack of information and complex enrolment processes, as well as the need to prioritize more pressing settlement issues related to employment, housing and health care. This paper explores the kind of wraparound support for newcomer families that has been developed in the context of an Intercultural Early Learning program. It describes the intensity and scope of wraparound that is provided through the role of cultural brokers, highlights why this is critical to engaging and supporting newcomer families, and concludes with broader implications for schools and educators working with newcomers.

Introduction

As Alberta's demographic landscape changes with increasing numbers of immigrant and refugee families, so too must the programs and services change to meet the diverse needs of this segment of the population. Such changes are particularly important for schools and educators, who must take socioeconomic, cultural and linguistic factors into account if they are to holistically address the needs of newcomer children and recognize their strengths.

When it comes to early childhood programming, most models are based on the assumption of monocultural and universal development and do not consider the developmental and acculturation challenges and strengths inherent in bicultural development, which is the reality for children in immigrant families (for example, Bernhard 1995). Bennet (2004) argues, in a *UNESCO Policy Brief on Early Childhood Education*, that "minority groups should be supported to continue their own child-rearing and early education practices" (p 2), yet this is rarely translated into practice. There is also growing evidence that school settings should encourage and support children to maintain proficiency in their first language because this is linked to cognitive, academic and social benefits (Alberta Education 2009; Yosso 2005).

Not only are there few programs that address the importance of fostering bicultural development and first-language maintenance in children as they enter the formal education system, but newcomer families are often hampered in accessing early learning programs by poverty, language and cultural barriers, and lack of transportation. Although immigrant parents want their children to take part in opportunities for early learning, more pressing settlement challenges related to employment, housing, child care and health care often make this a secondary priority. The literature concurs that low

participation of immigrant families in early learning programs can be accounted for by both the lack of culturally relevant curricula and the lack of programming that addresses the multiple needs of immigrant families (for example, Espinosa 2005; Fuller et al 1994; Matthews and Jang 2007; Takanishi 2004).

This paper describes an intercultural early learning program, in Edmonton, Alberta, that was created in response to the barriers faced by newcomer families with young children and the lack of culturally relevant local programming. In particular, this paper focuses on the kinds of holistic support that was provided to families participating in the program through the role of cultural brokers and how this contributes to our understanding of wraparound support for newcomer populations.

The Intercultural Early Learning Program: Description and Background Information

Four years ago, representatives from Edmonton Public Schools and the Multicultural Health Brokers Cooperative (MCHB) came together to find ways of addressing the difficulties and barriers that immigrant and refugee families face in accessing appropriate early learning opportunities for their children. As the dialogue developed, other agencies came to the table including the University of Alberta, ABC Head Start, Alberta Health Services, Children and Youth Services, and the Edmonton Mennonite Centre for Newcomers. When funding from Alberta Education for early childhood programming for English language learners became available in June 2007, it became possible to begin developing the Intercultural Early Learning Program.

The objectives of this program have been to (1) assist preschool children to grow in the knowledge of their first language while acquiring English, (2) create a school environment that feels natural and culturally familiar for children and that contributes to cultural identity and pride, (3) help parents access supports for family well-being and integration into Canadian life and (4) encourage these same parents to contribute to program development from their wealth of life experience and cultural knowledge. To the extent that these objectives are accomplished, children are expected to transition into kindergarten and Grade 1 more smoothly, with a greater sense of belonging and a more solid foundation in their first language and culture for subsequent learning.

The program currently operates four mornings a week (Monday mornings are reserved for planning) at an elementary/junior high school in north Edmonton, an area that is home to a relatively high number of newcomer families. A preschool teacher is employed in the early learning classroom, and she is assisted by first language and culture facilitators (FLFs), who speak the home languages of the children and are from their cultural communities. For example, during 2009/10 three facilitators, who spoke Kurdish, Sudanese Arabic and Somali, assisted in the classroom. These facilitators promoted home languages, contributed to the development of culturally relevant curriculum and activities, help problem solve and support students in culturally appropriate ways, and communicated with the families (for additional descriptions of program activities, see Kirova 2010).

Cultural brokers (CBs) are also important members of the program team. Like FLFs they are bicultural and bilingual, and from the communities they serve. CBs are not in the classroom regularly; rather, they foster a connection between the program and the cultural communities involved by

- encouraging hard-to-reach families to fully participate in the program with the related logistical supports (registration, transportation, meeting attendance),
- seeking out and soliciting sources of cultural knowledge in the cultural communities involved (community elders, artists) and
- bringing the perspective and real-life circumstances of the families and communities into classroom planning and problem solving.

CBs also play a vital role in assisting these newcomer families to access a broad network of support for settlement, health and well-being, both within the mainstream services and the cultural communities themselves.

The whole early learning team for this program meets monthly and includes early childhood specialists from the school and school board, the classroom teacher, FLFs, CBs and representatives from the partner agencies. In accordance with the program's objectives and guiding principles, the group provides input on program planning, classroom practices and support to the participating families. The CBs who contributed to this article are part of this team and provide ongoing holistic support to families in the three cultural communities noted earlier. The first author provides coordination support to the program team and helps to collect, analyze and disseminate program learning as it evolves. The second author is a University of Alberta graduate student who was involved with the evaluation of the Intercultural Early Learning

Program; her relation with MCHB evolved out of a community-based internship with the Community-University Partnership, an organization with established research and evaluation collaborations with the MCHB.

Program Guiding Principles

Stakeholder conversations, carried on early in the development of the program, resulted in identifying several guiding principles that continue to be foundational to all program activities. Initially there were five such principles (1–5 below), but, in the spirit of a participatory approach, they were constantly revisited and added to. By the end of the third year, there were ten.

It was felt that the program should

1. be genuinely responsive to the unique early learning needs of newcomer children growing up in a particularly complex socioeconomic and multicultural context;
2. provide cultural and linguistic continuity for young newcomer children through both first language and English instruction;
3. be culturally sensitive and inclusive of the newcomer families' perspectives;
4. be holistic, strength- and equity-based, building on the combined expertise of government organizations, community partners, communities and researchers;
5. be collaborative, inter-relational and interdependent so that mutual learning becomes fundamental to the success of the project;
6. be a place where an intercultural community is built rather than a place where problems are fixed;
7. recognize that children attending the program are not at risk; they are in the program because they deserve and have the right to learn in their mother tongue;
8. be premised on the recognition that there is richness in diversity, both among and within communities, that allows for similarities to emerge;
9. help children develop a sense of belonging to both their home culture and language, and the Canadian culture; and
10. recognize the importance of building a support system and partnership within the broader school community (for example, multiage language and culture-based extracurricular activities).

Transformative Program Components

As the model for this program evolved, four transformative elements were identified as foundational to program planning and implementation:

1. Culturally and linguistically appropriate early learning practices

Practices, as referred to here, is a broad term inclusive of curriculum content and delivery, as well as the assessment of children's learning needs and strengths. In order to meaningfully include culture and language in the program, it was essential that the early learning curriculum be cocreated with the participation of parents, classroom facilitators and the broader community; only then would it truly reflect the children's culture. This required conversations with primary stakeholders about how children learn, what they should learn, how to assess what they know, how to build on their strengths and how to address their needs. Involving the parents, teacher, FLFs and cultural communities in answering these key questions resulted in a curriculum that was deeply intercultural, going beyond a simplistic, superficial inclusion of culture and language.

2. First language and culture facilitators (FLFs)

FLFs, who are members of the children's cultural communities, proficient speakers of the home language and knowledgeable of cultural practices, play a critical role in the classroom daily and thereby represent another essential element in development of an intercultural early learning program. The FLF is not there primarily to interpret or translate; rather, he or she is a teacher of language and culture, and a mediator of parents' perspectives and desires for their children's learning.

3. Collaborative partnerships with families, communities, schools, and the early learning and care sector

Child development is recognized as a collective effort that requires more than parent–teacher involvement; it requires the involvement of families, communities and schools. From this standpoint, collaboration between all those who influence the lives of young children is an important ingredient of program success. Collaboration also brings balance because it allows stakeholders to explore culturally different ways of knowing and innovative ways of delivering support, and to utilize each partner's different expertise.

4. Cultural brokers and wraparound support

Wraparound support speaks to the importance of holistic support for immigrant and refugee children and families. Learning happens not only in the classroom but also outside of the classroom, and children learn best when their basic needs are met. For the most vulnerable families then, holistic support is foundational. It also means that in addition to FLFs, CBs, who help families access services and supports for integration, play a critical role.

While each of these transformative elements represents a foundational program piece, this article will explore more deeply the kind of wraparound support that has developed in the context of this work, why it is critical to engaging and supporting newcomer families and its broader implication for schools and educators working with newcomers.

Wraparound in the Literature

Although there is no single widely accepted definition of *wraparound*, the term often refers to a family-centred collaborative process between sectors and agencies to address the complex needs of children and families (Prakash et al 2010). Intervention efforts that build on the strengths and resources of the family and the expertise, perspectives and resources of multiple service partners can address the multifaceted needs of the family better than any single source of services and supports (for example, Bruns et al 2005). The wraparound process has been used primarily in the field of mental health, in interventions for children with complex emotional and behavioural needs; it has also been used in other contexts, such as with transnational families (Furman et al 2008) or immigrant college populations (HRSDC 2008). However, literature defining what wraparound does or should look like, especially for newcomer families, given the additional barriers they face (that is, language and cultural barriers), is scarce. In the following sections, we provide a description of wraparound support as it was practised in the Intercultural Early Learning program and attempt to define wraparound with respect to immigrant families with young children, especially newcomer families.

Wraparound Support in the Intercultural Early Learning Program

Given the experience of this early learning team in working with newcomer families, the importance of holistic support relating to health, settlement and education was recognized as an important component of this program from the outset. MCHB brought the practice of cultural brokering to the table, as an already well-developed and natural way of working with newcomer families. Data related to the nature and frequency of the contacts CBs had with families participating in the program during its third year were recorded during interviews and are presented in the following two sections.

Frequency and Intensity of Support to Families: Some Examples

Table 1 summarizes the support that was provided to four of the families in the early learning program during 2009/10. Home visits were said to take 1.5–2 hours on average, and most phone calls 10–15 minutes, depending on the issue. CBs emphasized that this account covers the school year only (that is, September through June) and that their work was often more intense during the summer months when families needed encouragement and direction to connect with summer programs and recreational opportunities for their children.

The following illustrates the extent to which the support provided to these families, especially in cases C and D, was intense and constant. Also, the lines between the types of visits and contacts were, in practice, blurry, since many times parents would bring their settlement needs to the FLFs in the classroom when dropping off or picking up their children, and CBs had many informal but important contacts with families in community contexts.

Table 1. Frequency and Intensity of Support Provided by Cultural Brokers to Families

Family A. Two parents with nine children, in Canada for three years	
Number of home visits: Focus on parenting and mediation especially regarding teens, referrals for other settlement issues	11
Number of visits in school	6
Number of appointments and visits in other locations (including food bank, dentist, homework club, housing, links for recreation)	6
Number of phone calls	41 (1/week)
Total number of contacts (including phone calls)	62
Family B. Single mom with four children, in Canada for four years	
Number of home visits: Translating and sorting mail, settlement support, child development and child feeding education	7
Number of visits in school	7

Number of appointments and visits in other locations (including health centre, homework club, immunization clinic, dentist, medical clinic, housing, links for recreation)	7
Number of phone calls	80 (2/week)
Total number of contacts (including phone calls)	101
Family C. Grandmother living with four-year-old grandchild, in Canada for three years	
Number of home visits: Translating documents, health-related issues such as how to take medicine, advice on child discipline and guidance, communicating with school	36
Number of visits in school: For this particular family, as well as family D, the cultural broker also acted as FLF, so the parent frequently stopped into the classroom during the school week to inquire not only about school-related matters but to ask for assistance with settlement and health-related issues	62
Number of appointments and visits in other locations: (help with medical and dental appointments, grocery shopping, Citizenship and Immigration Canada, African centre	42
Number of phone calls	36
Total number of contacts (including phone calls)	176
Family D. Two parents and two children, in Canada two and one-half years	
Number of home visits: English language learning, employment and settlement, health issues	30
Number of visits in school	64
Number of appointments and visits in other locations: Included family physician, gynaecologist, paediatrician, social assistance, employment program	40
Number of phone calls	120 (3/week)
Total number of contacts (including phone calls)	254

Scope of the Support Provided to Families

CBs also reported broadly on the scope of their work and the kinds of support they provided to the families in the early learning program. Table 2 details (but does not exhaust) the ways in which they supported families who were in the early learning program. Direct quotations from interviews with the cultural brokers have been added to the first column to further illustrate the nature of their involvement.

Table 2. Scope of the Support Provided by Cultural Brokers to Families

Category of support	Actual intervention provided to early learning family in the program
Basic needs: food, shelter, transportation You can start with something small and be there for three or four hours. Sometimes one family can take all your time. You must prioritize.	• Referred family to food bank • Made referral for subsidized housing and to agency for affordable housing • Explained how to find car insurance • Contacted telephone company on behalf of family • Contacted cable company • Helped family pay power bill • Explained transportation options for work and school
Communication and advocacy There are problems with landlords. One unit had mice, cockroaches and bedbugs. The mom left her children eating while she went to get something, and when she returned a mouse was walking across the food. She doesn't want to pay rent this month, but he (the landlord) says if she doesn't pay she must leave. I have to help her work on this step by step.	• Helped approach landlord regarding house concerns • Accompanied parent to appeal eviction notice with housing agency • Helped family to take steps to apply for refugee status • Accompanied parent to address work permit issue

School related: early learning The older brother in kindergarten had many problems at school. I met with the teachers and mom. The family would receive a letter from OT and not know what to do with it. I arranged support for this child through the homework club.	• Accompanied parents to register for early learning (reading documents, filling out forms, coming to school, translation) • Explained to parents about school norms, practices and expectations • Attended interviews and meetings with teacher and facilitator • Attended meeting with speech language pathologist • Assisted preschool child with transition to neighbourhood school for kindergarten—visits to neighbourhood school • Coordinated driving to early learning with other parents • Explained school bus rules—parents need to accompany children and timeliness.
School related: broader support for families The school really needs us on-site. They are always asking, "Please can you come to the office? We are having problems with a family." Sometimes the older kids in the family were fighting in the classroom.	• Helped register older siblings in elementary and junior high school • Attended several meetings with parent and kindergarten teacher for sibling experiencing difficulties • Mediated principal and parents regarding behaviour issues with older siblings • Attended several meetings with ELL and administrative staff in school to share knowledge of family • Met parent several times at school to hear concerns and frustrations—encourage communication and patience
Health related The father had a mental health problem—emotional issues because of lifestyle and wars—it was hard for him with nothing to do, hard for him to find employment. Took him to the doctor for trauma, depression and headaches.	• Helped family find family doctor and dentist • Prenatal, birth and postpartum support (younger sibling of child in program) • Accompanied family to health-related appointments to translate, advocate and provide health-related education (doctor and dental appointments, diagnostic tests) • Accompanied pregnant mother with complications to appointments and other services • Assisted with birth control • Educated mother about diabetes, her role and school's role in monitoring an early learning child who was diagnosed during the school year • Referral and support for special needs child (younger sibling) • Educated mother about the dangers of smoking, especially during pregnancy • Assisted a father to apply for income support related to disability • Assisted a grandmother with special needs to get supports for daily living • Home visit to advise on child development and infant feeding • Accompanied mother and infant to immunization clinic • Accompanied father to doctor's appointment for mental health issues
Employment or financial You go deeper with the family because of the program They start to tell you things once they know you: "Our financial situation is not good, we are short of food and we can't pay the rent."	• Assisted to apply for daycare subsidies • Referred for financial support and health subsidy for senior in household • Helped apply for unemployment insurance • Helped identify and apply for relevant subsidy related to health and recreation

Education (parents and family) Because of the parent who was in the program, I helped the daughter-in-law, who was new to Canada, get into ELL and then into nursing and helped the other daughter to upgrade.	• Referred family to language and literacy programs for parents with young children • Made referral to ELL classes • Referred for qualification upgrading at a college • Referral to employment program
Communication When the family is illiterate in their first language, this makes it even more difficult for them. The mom had lots of questions. She had letters from the school and capital housing and no idea what they were about. Whenever she opens the mail she needs someone with her	Interpreted written documents during home visits: letters from school, housing agency and so on. Brokers accompanied families on several health or education-related appointments to interpret and mediate
Parenting and family support—general I talked to moms about pregnancy and birth control; for example, a mom who is depressed with five or six kids. Sometimes there is family violence going on.	• Referred to parenting group of Multicultural Health Brokers • In-home visit to provide mediation and support around conflict with teens • Support during family violence issue—in-home visits • Referred to women's shelter • Referred to a variety of community agencies providing drop-in daycare, collective kitchen, parenting support group and sewing groups, African women's group, basic computer classes, day-home training, janitorial or house cleaning course
Connecting with resources within ethnocultural Communities For them, isolation is a new thing; when they are here, even if they are physically well, it can be an emotional crisis	• Referred to Sudanese women's group • Referred to Kurdish youth group • Connected with indigenous churches (Sudanese) • Referred to homework club organized by community (Somali) • Connected family with heritage language group (Somali) • Connected with soccer club organized through community (Kurdish) • Referred to African centre

The holistic nature of the work is explained, in part, by the fact that sometimes CBs were already connected with the families through other programming they were involved in, most often health related. In some cases, the CBs had even provided prenatal, birth and postnatal support for the families involved. When asked to describe the kinds of support provided to families, one CB commented that "once you get involved, it is as if your lives merge ... it is no longer just about early learning."

Cultural Brokers as Critical to Wraparound Support for Newcomer Families in the Early Learning Program

When it comes to providing holistic family support, in many ways newcomers represent a unique population. Language barriers, premigration, current settlement experiences and culture as the lens through which different groups view the world are the main factors that make the practice of cultural brokering essential to the program. Cultural brokering can be defined as "the act of bridging, linking, or mediating between groups or persons [of differing cultural backgrounds] for the purpose of reducing conflict or producing change" (Jezewski 1990, 497; text in brackets has been added by the authors of this paper).

The preceding tables reveal the nature and intensity of the challenges that many newcomers face, which encompass not only adapting to a new climate and culture but dealing with communication barriers, poverty, unemployment or underemployment, isolation and loneliness, discrimination, and changing family dynamics. Learning how to navigate new systems to meet financial, educational and health-related needs can be particularly challenging for those coming from

social settings where a much broader and more personal support network of extended family and kin assisted with basic needs and childrearing. When stresses culminate and become overwhelming, the result can be marital breakdown, alcohol and drug abuse, family violence or depression. Refugees who have witnessed war and violence might experience post-traumatic stress, which might not emerge until after the initial settlement period (Turcotte 2002; Wolfe-Gordon 2003).

CBs possess a certain expertise when it comes to understanding and assisting families with the challenges of resettlement. Often they have a personal familiarity with issues from their own lives or from experiences within their cultural communities. They are also very knowledgeable about the landscape of settlement-related services, mainstream systems that newcomers must learn to navigate and informal supports within immigrant communities themselves. In the context of this program, the CBs were in the best position to help families with settlement-related challenges. They elucidated for the rest of the early learning team the real-life circumstances and settlement-related challenges of particular families and the bearing this had on what was seen in either the classroom or the home.

CBs must be proficient in the first language of the families participating in the early learning program to provide a relatively seamless wraparound support. Otherwise, communication would be laborious, and families would be less likely to engage in the program, the community or in supports and services. With no language barrier, families are more likely to attend parent meetings and to bring their own knowledge and perspective into the program and into conversations about the well-being of their child and family. As one Somali parent explained during an evaluation focus group, "Having a broker who speaks our language during a meeting like this one is good. If no one spoke our language, we would not come to this focus group or to this school."

Knowledge of a language is related to knowledge of the culture, which CBs also share with the families they serve. What is clear is that if families are to authentically engage, either by bringing their knowledge and capacities to the table or by receiving support, their cultural knowledge, values and practices must be recognized, honoured and built on. Also, culture must be recognized, beyond dress and dance, as something that is pervasive and foundational to how families make choices, prioritize their lives and raise their children. In our team conversations, we learned that culturally rooted assumptions and values, whether in the case of cultural minorities or mainstream Canadians, usually remain invisible unless situations of tension bring them to the surface. It is the CBs (and FLFs) who are uniquely positioned as bicultural and bilingual team members; they are able to mediate the cultural perspectives of the families in the program, helping the early learning team to create an "intercultural space" where cultural tensions can be examined and innovations that honour all perspectives can be born.

Finally, CBs organize their work in such a way that they are uniquely positioned to prioritize trust and relationship building with the families in the program; they practise holistically, responding to immediate needs that parents bring forward, be they related to health, finances, school or transportation. Their work with each family takes place in a noncompartmentalized fashion, across a spectrum of needs, in ways that mirror the orientations to time, personal relationships and space that characterizes the culture of the family. Although this can sometimes present challenges for the CBs, the result is that the parents realize that they can count on them.

The strength and depth of relationships that develop between the CBs and the families in the early learning program brings a sense of reciprocity, as parents come into the classroom and to parent meetings with not only their needs but their strengths, abilities and a willingness to share ideas. From the beginning, this program has been explicit in its concern to be strength-based and to engage the perspectives, cultural knowledge and life experiences of parents and community members to help vital program planning, classroom activities and problem solving. Figure 1 illustrates some of the family strengths that were identified in this early learning program. Recognizing and accessing these strengths required relationships, something that was largely contingent on the role of CBs. In the end, support and knowledge flowed both ways, from the early learning team to the families and from the families to the early learning team, and CBs acted as bridges between them.

Implications for the Conceptualization of Wraparound

This paper describes the nature of wraparound support for newcomer families as provided in an intercultural early learning program and highlights the fundamental role of CBs in providing such support. The term wraparound, as used in this context, features holistic support for children and families attending the program in two ways: (1) through direct assistance to families in accessing the

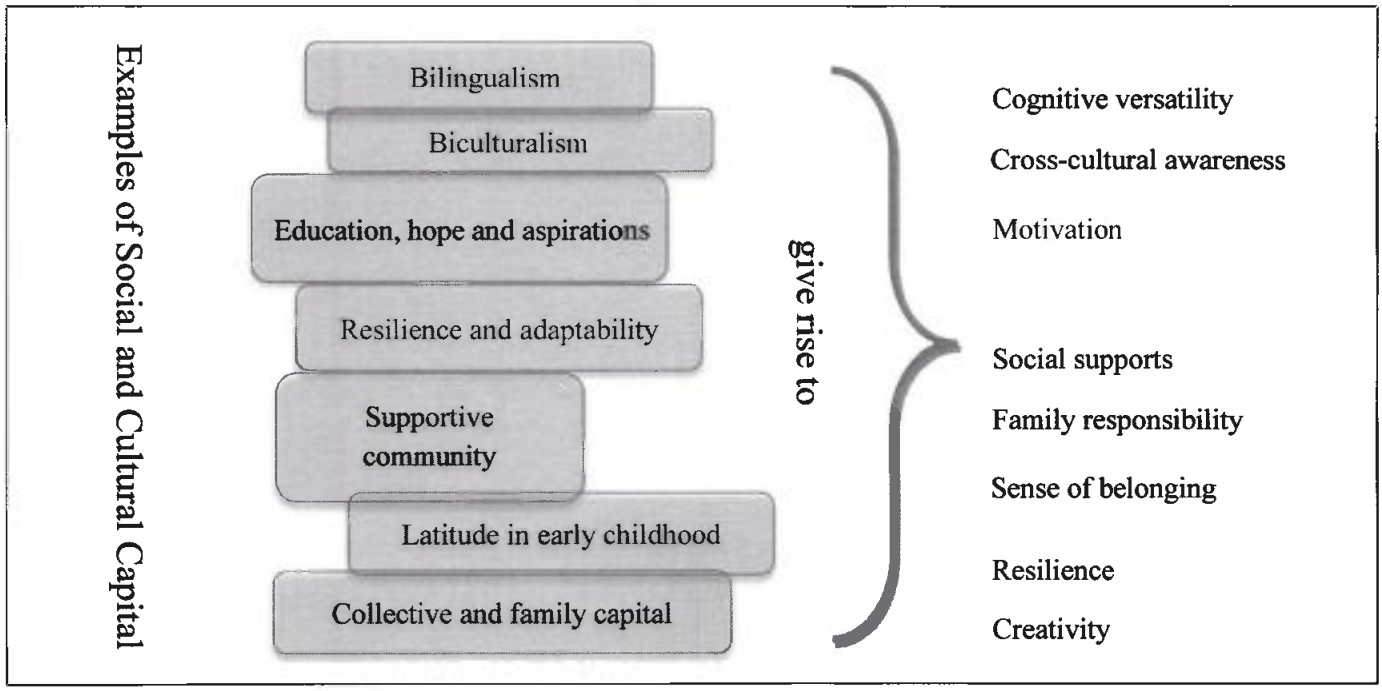
necessary services and supports for settlement and integration, and (2) through relationships of trust with the family, which allow for a bidirectional flow of information from and to the family, thus surfacing their often invisible knowledge, perspectives and life experiences for the early learning team. A key assumption behind this type of holistic support is that for newcomer families to fully participate in the program, their multiple needs must be met and existing barriers removed.

The model that has emerged in the early learning program, however, differs from the wraparound process as described in the literature. It refers less to the intentional coordinated integration of services across a number of sectors than it does to cultural and linguistic mediation to mobilize and link families with appropriate supports and services. For newcomer families who face settlement difficulties and cultural, social and linguistic barriers, cultural brokering emerges as a critical component for effective wraparound. Although some of the principles undergirding the early learning program and the practice of cultural brokering are similar to those explicated in the wraparound literature (for example, the need to be strength-based, family-centred, collaborative and culturally responsive [Bruns et al 2004; Prakash et al 2010]), our work adds to the existing literature by illustrating the importance of cultural brokering for immigrant and refugee families. For instance, although the literature on wraparound recognizes the importance of cultural responsiveness, more important are the mechanisms through which cultural responsiveness can be realized. The early learning program also recognizes the importance of building on the strengths of families and seeing them as sources of knowledge, illuminates the extent to which strengths and abilities are mediated through language and culture and thus require the right connecting pieces. In essence, mediation as practised by CBs, who are members of the family's cultural community, speak the family's first language and build trusting relationships with the family, should become an integral part of any wraparound process that involves working with immigrant and refugee families.

Conclusion

Early childhood is a critical period of growth and development that is associated with long-term outcomes related to education, health and well-being (Hertzman 2009; Shonkoff and Philips 2000). If we want to support optimum development of the younger generations of Canadians, then we must ensure that all children participate in quality early childhood programming (Hertzman 2009). For newcomer populations, the wraparound support facilitated by cultural brokers in this program speaks to this quality. Without it, the most vulnerable families would be unable to access early learning, the program would not be able to provide holistic, culturally responsive support to children and families, and the early learning team would be largely unaware of the everyday realities, cultural perspectives and knowledge of the families.

Figure 1. The strengths newcomer families bring to the intercultural early learning program.



This kind of programming is possible only when teachers and other school-based service providers closely collaborate with CBs who work with families from cultural minorities. This requires time, resources and recognition of the expertise that all team members bring. Furthermore, such collaborative opportunities must be purposefully created and integrated into existing programming if they are to be sustainable and effective. For this to happen schools and school boards must believe in the importance of wraparound for newcomer populations and commit to developing strong working relationships with community agencies.

Ultimately, policies and structures that prioritize effective wraparound for vulnerable families and facilitate school–community collaborations must be established. In any case, educators will continue to play a vital role in creating educational environments that are truly inclusive and equity based.

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Including Children with Selective Mutism: What Can Teachers Learn from the Reggio Emilia Approach?

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Abstract

Children with selective mutism (SM) have an intense fear of being seen or heard speaking. Typically, the onset of the condition occurs as a child enters kindergarten or an early childhood education setting. Because a child with SM may remain mute for several years and the condition is generally resistant to intervention, early school experiences can be frustrating and exasperating for the child, parent and teacher. This article posits that a pedagogical orientation based on the principles of the Reggio Emilia approach can provide insight into ways for teachers to support children with SM in an inclusive classroom.

Introduction

A child with selective mutism (SM) has an intense fear of being seen or heard speaking. The condition typically presents itself as a child enters into kindergarten or an early childhood education setting and can create a frustrating and exasperating early school experience for the child, parent and teacher.

According to the American Psychiatric Association (2000) children with SM consistently and persistently fail to speak in specific social situations (where there is an expectation of speaking) despite being able to communicate in other contexts. The child may remain mute for several years and experience separation anxiety and refuse to go to school (Steinhausen and Juzi 1996) as well as other social anxiety and phobias (Black and Uhde 1995). Additionally, SM children may be at heightened risk for language impairment (Manassis et al 2003; Steinhausen and Juzi 1996). Little agreement exists in the literature on the prevalence of SM; some research reports a 7.1 per 1,000 occurrence rate in the general child population of the United States (Bergman, Piacentini and McCracken 2002) and others claim that the rate is closer to 2 per cent (Kumpulainen et al 1998). Interestingly, the estimated prevalent ratio is higher for girls than it is for boys (2.6:1 and 1.5:1, respectively) and the age of onset is between 2.7 years and 4.1 years (Garcia et al 2004). Incidentally, there seems to be an increase in diagnosis of SM in the school-age population (Bergman, Piacentini and McCracken 2002; Sharp, Sherman and Gross 2006).

In general, selective mutism is poorly understood and most research relies on parent reports (for example, Manassis et al 2003) or clinical case studies (for example, Kehle and Owen 1990; Sanetti and Luiselli 2009). And to date, little research has examined the contexts within which selective mutism occurs (Omdal 2008). Several authors have acknowledged the importance of supporting children with selective mutism in the natural settings of school and home (Sage and Sluckin 2004; Sanetti and Luiselli 2009; Schwartz, Freedy and Sheridan 2006). Typically, the onset of SM coincides with school entry. Often, educators find themselves on the front line of finding ways to

support children with SM on a daily basis, frequently with little or no additional resources or support. We believe that an inclusive classroom based on the pedagogical principles of the Reggio Emilia (RE) approach can provide new avenues of support for children with SM, their families and teachers. We begin with a brief review of some of the central tenets of the RE pedagogy to frame our ideas about the applicability of the approach in supporting the child with selective mutism.

Reggio Emilia Approach

The Reggio Emilia (RE) approach to early years' education has been evolving since the end of World War II (Edwards, Gandini and Forman 1998). The RE approach is based on many years of providing services and care for young children and their families in Northern Italy, and several philosophical tenets are now central to the RE approach. We propose that by examining some of these central tenets, new avenues for supporting children with SM in the classroom can also be realized.

One Hundred Languages

Metaphorically, the hundred languages of children represent a core RE belief— the worthiness and capability of all children. These hundred languages or graphic languages are a means for any child to explore and express their understanding of the world (Katz 1998). Thus, graphic languages are natural forms for children "to think, play, speak, listen, discover, invent, and express themselves" (Edwards, Gandini and Forman 1998, 3). With an RE approach children receive a diverse array of materials, unrestricted time and multiple opportunities to explore those materials (often through projects), as well as numerous avenues to represent their thinking and ideas. Children's ideas and understandings are expressed through drawing, sculpting, writing, dramatizing and photography (as well as a multitude of other mediums). The infinite ways children can express their thoughts and ideas are validated with an RE approach (Kang 2007), providing all children "many entry points for offering and negotiating their ideas" (Nimmo 1998, 303). In this sense, children's individuality is honoured and each child is appreciated for his or her contribution and varied levels of "expertise" (Nimmo 1998).

The typical North American verbocentric orientation (Fueyo 1991) to classroom practices are not useful in helping children express what they know. For the child with SM, symbolic avenues (that is, graphic representations) may be more useful, because often the mere thought of participating in classroom oral discussions and activities paralyzes the child with fear. The metaphor of 100 languages is intricately tied to RE's image of the child. All children are viewed as capable, competent, resourceful, imaginative, worthy and possessing strong desires to interact and communicate with others and their environment (Cadwell 1997; Fraser 2006). Within an RE approach all children are conceptualized as unique beings with "special rights" and diverse abilities in contrast to a deficit approach, whereby a child is perceived as a fragile being with simple needs that must be fulfilled (Loreman 2007).

Children with "Special Rights"

A conceptualization of children with "special rights" ensures that children with SM (like all children) would be included and engaged in meaningful ways in the classroom. A basic theoretical tenet of the RE approach is "to value differences [of each child] and to bring out as much potential" as possible (Smith 1998, 205).

Because RE is based on the idea that education is founded on relationships, collaboration is central. Often in an RE classroom children form small working groups with peers, and these cohesive units become "a space in which thoughts take shape, are expressed and compared with other's different interpretations; new thoughts are generated; meanings are negotiated; and the 'hundred languages' can emerge" (Rinaldi 2005, 127). A child with SM would collaborate with peers in small group work and contribute his strengths in say creative and artistic expressions (a particular strength of children with SM) (Shipon-Blum 2003). Collaborative groups could also allow a child with SM to take a leadership role (Edmiaston and Fitzgerald 2000), as one can foresee the child's creative expression as an impetus for a new direction in thinking and exploration for the group's project work. Additionally, as each child is treated with ultimate regard for their individuality (by teachers and children alike) and as a valuable contributor to the interdependence of learning and functioning within the group (Rinaldi 2005), a child with SM would be respected as an equal member and competent contributor to that classroom community.

A strong degree of collaboration and collegiality between families, educators, support staff and specialists involved with the child is also evident in RE's "special rights" orientation (Smith 1998). Through careful observation and documentation, the child's interests, strengths, relationships and

needs can be illuminated and utilized to inform the plans and practices required to support the child's progress. Because a collaborative team-based approach and careful documentation are suggested practices for children with SM (Johnson and Witgens 2001) similarities between recommended practices already exist. However, the RE approach challenges current attitudes toward parental involvement that is more typical of North American schools (Gilman 2007). With an RE approach the parent is one protagonist in the education process (the other protagonists being the child and the teacher) (Gandini 1993). The parent is considered a valuable and integral partner in children's early learning experiences (Vakil, Freeman and Swim 2003). Thus, parents in an RE school have a right to be involved and participate in numerous ways, such as curriculum development, program planning, child and school evaluations, advocacy, policy decisions, daily interactions and organizing special events (Fu, Stremmel and Hill 2002; Gandini 1997). Thus, much can be gleaned from Reggio Emilia's use of parents as partners who support children with SM in the inclusive classroom. Although we do not negate the importance of parents as conversational partners for a child with SM (McHolm, Cunningham and Vanier 2005), we believe that parents can play a more active role in the "common goal, the well-being and education of the child" (Gilman 2007, 26). When parents are considered indispensable and "the contribution of ideas, expectations, and abilities offered by families to the schools help the teachers to perceive the link with families as something that enriches rather than interferes" (Spaggiari 1998, 111), will collegiality and increased knowledge provide better support for children with SM?

Role of the Teacher

The child with SM presents unique challenges for teachers, and the goal of full member participation can be daunting (Gilman 2007). Teachers must find the delicate balance between including the child with SM in routine activities and allowing the child to exclude him or herself from participation (for example, occasions for the child to find a quiet space in order to alleviate their anxiety) (Omdal 2008). Again, much insight can be gleaned from RE's conceptualization of the role of the teacher. Because the RE approach envision all children as capable learners the teacher's role becomes one of nurturer, guide and facilitator (Edwards 1998). Thus, the teacher is better positioned to act as both a participant and partner in the child's learning (Gandini 1997). When the child is selectively mute, the teacher must balance both observing and engaging with the child and learn when to provide opportunities for learning and when to allow time for the child to withdraw.

The teacher as nurturer, guide and facilitator needs to learn to listen. As Edwards (1998, 181) stated:

> "Listening" means being fully attentive to the children, and at the same time, taking responsibility for recording and documenting what is observed and then using it as a basis for decision making shared with children and parents. "Listening" means seeking to follow and enter into the active learning that is taking place.

The teacher acts as an agent provocateur in the child's learning, at times inciting new discoveries through, say, a thoughtful well-placed question or an addition of resources after an observation of the children's activities. Through listening the teacher remains "open to others and what they have to say, listening to the hundred (and more) languages, with all [their] senses" (Rinaldi 2005, 125–26).

Being attuned to the rhythms of a child with SM is especially important. As Johnson and Witgens (2001) state, a teacher needs to be aware of the activities the child with SM engages in and to carefully document who the child interacts with and speaks to. The teacher can use this information to provide opportunities for the child's inclusion. For example, if a teacher has documented that a child with SM has an interest in art and is drawn to a particular play partner the teacher could suggest a collaborative project whereby the two children create a storybook together. As the teacher observes the child's increasing level of comfort in communicating with one play partner, he or she can encourage greater communication with a broader range of people in more contexts (McHolm, Cunningham and Vanier 2005). As the pedagogical classroom approach transitions to one based on the RE concept of listening, the individual child is taken out of anonymity. Thus, a teacher's readiness in providing multiple mediums and conditions for a child with SM to express herself (and lessen the anxiety-provoking environment), the necessary scaffold is provided to "break down the barriers of the silent identity" (Omdal 2008, 314).

The teacher also has the responsibility of ensuring that the environment, the "third educator" (Gandini 1998, 177), is well designed to support the needs of all children. The RE approach considers space an essential and integral element. Based on principles of transparency and community, an RE classroom space should be configured to promote interaction and exchanges (Gandini 1998). The concept of transparency is

reflected in the use of light, mirrors, glass and reflections in the RE approach, both as a means of creating an aesthetically appealing space and to metaphorically convey the openness of the approach to ideas and theories from adults and children alike (Ceppi and Zini 1998). And although the idea of transparency appears to contrast with the SM child's desire not to be seen or heard speaking, we propose that transparency encourages greater opportunities for social interaction and negates the risk of social-based problems for children with SM (Crundwell 2006). And given the use of partitions, screens, moveable wall panels and furniture in an RE classroom space (Ceppi and Zini 1998), there are ample opportunities for the child with SM to create private spaces or to interact with classmates.

The concept of community is both a philosophical tenet and a criterion for how space is organized in the RE classroom. Supporting the pedagogy of relationships inherent in the RE approach, a piazza is a central feature in the school (Ceppi and Zini 1998). Thus, within a school or classroom, the piazza is the central meeting place. Children come together in the piazza to develop relationships, share ideas and stories, and interact (Ceppi and Zini 1998). This easily accessible and useable space then becomes an area the children control and not a central space to marshal children and impose adult order and control (corridors or personal cupboard areas of schools are often areas where children simply line up and attendance is taken). Because agency rests with the children in the piazza, the SM child can feel liberated and choose his or her own level of participation, whether that be as an observer, player, maker of spontaneous sounds or conversationalist.

An RE classroom environment is uncluttered, aesthetically appealing and provides a multitude of visual cues and tools that are particularly useful for a child with SM. The environment and the teachers support children's initiatives and inquiry. As Gambetti (personal communication, February 12, 2007) said, "children give shape to things, things don't give shape to children." Teachers provide opportunities of discovery through "a kind of alert, inspired facilitation and stimulation of children's dialogue, co-action, and co-construction of knowledge" (Edwards 1993, 182). Thus, through this negotiated curriculum process control is shared and reciprocity is fostered between the teacher and child (Wein 2008). For children with SM, knowing that they have the freedom to choose when and in what context to speak and through which medium (for example, drama, clay, music) could decrease the fear and anxiety associated with school participation.

Final Thoughts

In this article our goal was to illuminate how a pedagogical practice based on the principles of RE approach could foster selectively mute children's likelihood of overcoming their fear of being seen and heard speaking. Like Vakil, Freeman and Swim (2003) we do not advocate for North American schools to "adopt all aspects of their [RE] approach arbitrarily and out of context" (p 191); rather, we encourage educators to consider the central tenets of the RE approach as a lens through which to examine current praxis and the potential of those tenets in supporting children with SM in inclusive classrooms. An image of a child as capable, "reacting with a competent system of abilities, learning strategies, and ways of organizing relationships" (Rinaldi 2001) translates into classroom practices where children with SM are included as full members and appreciated for their strengths. As Omdal (2008) has noted, for the child with SM, useful strategies that help a child with SM to communicate include when schools' high expectations of speech, collaborative relationships between school and parents, and the encouragement of routine interactions among all children. Thus, Reggio Emilia's inclusion of all children in authentic relationships and its actively listening to the 100 languages of children offer new avenues for supporting children with SM in the classroom.

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A While in the Wild: How a Place-Based Environmental Program with Extended Outdoor Experiences Influenced Kindergarten Students' Empathy With the Environment

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Charles Salina was an elementary and high school principal for 21 years before joining Gonzaga University in 2005 to serve as director of the Master of Leadership and Administration program. Currently on special assignment, he spearheads a federally funded School Improvement Grant by serving as turnaround principal at Sunnyside High School, in Washington State. Salina's expertise includes implementing the school improvement process, establishing learning communities, and developing the capacity of informal and formal leaders.

Fay Mascher began her teaching career with a variety of special education teaching positions in British Columbia and Alberta. In 1992 she settled in High River and soon thereafter began her work at Cayley School, where her focus has been on primary education. In addition to her keen interest in environmental education, Fay was instrumental in founding the Cayley School strings program, which now delivers violin instruction to students from kindergarten to Grade 5.

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Abstract

When an environmental initiative at an elementary school appeared to fall short of its specific vision to shape students toward lifelong leadership in environmental stewardship, a plan was developed to explore how a place-based environmental program with extended outdoor experiences would influence kindergarten students' empathy toward the environment. Research focused on experiential learning of environmental curriculum aligned with district standards. Results indicated that five- and six-year-old students showed an expanding awareness of the natural environment as well as increased empathy and respect for the natural world around them.

> On a visit to the coulee, a startled owl exploded off of a nest that we thought was empty. On the bus ride back to school, one boy reached for my hand, "Feel my heart," he said. "It's still going really fast."
>
> —From the Coulee School action research project

In spring of 2005, the people of Coulee School* formed a vision. Situated in a rural hamlet about one hour south of Calgary, Alberta, the teachers, parents, community members and students of this small school (150 students in kindergarten to Grade 8) met with the Stewardship Centre of Canada to explore what their school could do to foster care of the natural environment.

**For the purpose of this article, the school has been given a fictitious name.*

The Youth Environmental Stewardship Program (YES) came into being and sparked much activity at Coulee School. The school installed 10 photovoltaic units and a small wind turbine to provide three kilowatts of power to the grid. Students and staff instituted a thorough recycling program. An environment club formed and began to meet weekly. Classroom instruction began to pursue cross-curricular inquiry into many environmental issues. Recognized in the media and given multiple awards for environmental projects, Coulee School has laid strong groundwork for meeting the goals of the YES project.

However, in a meeting of YES stakeholders in the fall of 2007, consensus emerged that the specific vision of the program—shaping students toward lifelong leadership in environmental stewardship—was not being realized. Students did not display a general ethic of stewardship, nor were they eager to fill leadership roles in the YES program (SWOT analysis, 2007). Thorough environmental instruction combined with exciting schoolwide environmental projects had failed to translate into genuine environmental stewardship.

Fay Mascher, a kindergarten teacher at Coulee School and a candidate for a master's in education at Gonzaga University began looking for educational approaches that would translate into genuine environmental stewardship. A review of the literature inspired her to design lessons that often took the children outside into nearby natural environments, allowing them to come to know—and perhaps bond with—a particular place in nature. She collaborated with Gonzaga professors Jonas Cox and Charles Salina to undertake a research project. The project sought to understand how the incorporation of a place-based environmental program with extended outdoor experiences influences kindergarten students' awareness of and empathy toward the environment.

Review of Literature

Since the 1980s, researchers in the field of environmental education have been exploring this basic question: Why do some people care about the natural environment and take action to protect it, while others do not? Tanner (1980) read the biographies of conservationists looking for patterns in their early experiences that might explain their lifelong care of the environment. In these biographies, and in a subsequent survey, he discovered that conservationists consistently report having spent a significant amount of time as children in wild or semi-wild places.

Subsequent studies (Peterson 1982; Palmer 1993; Chawla 1998; Wells and Lekies 2006) had similar findings: time spent in wild or "domesticated" nature correlates significantly with subsequent environmentally responsible behaviour. Wells and Lekies (2006) investigated the optimal age for these experiences and concluded that, "participation with 'wild' nature before age 11 is a particularly potent pathway toward shaping both environmental attitudes and behaviours in adulthood" (p 13).

Many of these studies discovered that when these nature experiences are shared with an important adult–a family member or a teacher—positive environmental behaviours are formed (Sivek 2002). During shared experiences in nature, a child becomes aware of the environment by attending to the bird, leaf or rock that has captured the attention of the adult companion. Chawla (2006) calls this the power of joint attention. The child turns his or her attention to things pointed out by an adult, and then begins to do the same, pointing at things and calling out their names. An adult noticing nature helps a child take the first steps toward becoming environmentally aware (Chawla 2006).

Shared adult/child experiences in wild nature moves a child into a process by which stewardship behaviour develops. The stages of that development can be compared with the evolution of a loving relationship between two people. In both cases there is a five-step process: awareness, knowledge gathering, coming to appreciate, coming to love and acting to protect.

Once the child has become aware of the natural environment, through the power of joint attention, she begins to gain knowledge about nature by interacting with it, by experimenting first-hand (Lindemann-Matthies 2005; Cornell 1979). The theory of ecological psychology (Jones 2003; Chawla 2006) describes how the natural world provides opportunities for interactive learning. For example, a low tree branch allows a child to climb; rough ground affords the opportunity to establish balance. Nature offers a rich environment for these interactions and provides immediate and often powerful feedback to all the senses. Free play in nature, then, begins a relationship between the child and the natural world (Cornell 1979).

Environmental education in the schools provides knowledge building activities. Students learn facts about the local environment from books and teachers. The more this learning serves to explain, support and deepen the students' hands-on outdoor experiences, the more meaningful it is to students (Lindemann-Matthies 2005; Sobel 2004).

The more children learn about a place, the more they appreciate it (Lindemann-Matthies 2005). Going forward, they maintain interest in it and show simple, environmentally responsible behaviour when

they are there. Lindemann and Matthies (2005) found that the more plants and animals children could identify in the field, the more appreciation they would show for all kinds of plants and animals. Increased knowledge of nature leads to increased appreciation of nature. Increased appreciation sparks more frequent visits to the natural world and increases the length of each visit (Kals, Shumacher and Montada 1999).

Appreciation deepens to a feeling of love as the child begins to identify and empathize with the natural world (Basile and White 2000). Once that attachment is formed, the child consistently exhibits environmentally responsible behaviour in that place (Vaske and Kobrin 2001). Attachment to one special place will often generalize to changed behaviour in other settings (Basile and White 2000; Vaske and Kobrin 2001).

Unfortunately, most children today have little, if any, experience in wild nature, with or without a significant adult. In his 15 years of interviewing families across the United States, Louv (2006, 54) found:

> With few exceptions, even in rural areas, parents say the same thing: Most children aren't playing outside anymore, not in the woods or fields or canyons. A fifth-grader in San Diego described his world succinctly: "I like to play indoors better 'cause that's where all the electrical outlets are."

As outdoor experience becomes less common, environmental education gains importance. It is here that children can be reconnected with "the restorative, challenging, primal qualities of nature" (Louv p 54) and guided through hands-on, personally meaningful activities that construct an empathetic knowledge of the natural world.

Effective Environmental Education

Experiences in wild nature shared with an important adult are vital components of successful environmental education. Further studies insist, however, that they are not the only considerations when designing experiences aimed at forming an ethic of stewardship.

Effective environmental education programs share several common features. They are experiential and personally meaningful (Chawla 2006; Wilson 1996; Sobel 2004). They are developmentally appropriate (Sobel 1996; Wilson 1996). They provide opportunity both for deeper understanding and for the application of new insights (Bogeholz 2006; Hungerford and Volk 1990; Coyle 2004).

Experiential and Personally Meaningful

John Dewey, in 1891, articulated the importance of building connections between school and personal life:

> From the standpoint of the child, the great waste in the school comes from his inability to utilize the experiences he gets outside the school in any complete and free way within the school itself; while, on the other hand, he is unable to apply in daily life what he is learning at school. That is the isolation of the school, its isolation from life. (cited in Smith 2002, 586)

Duffin (2004) and Gostev and Weiss (2007) show that environmental education programs that succeed in increasing environmentally responsible behaviour provide students with hands-on learning and abundant opportunities to make personal connections.

Developmentally Appropriate

Research investigating children's relationship with the natural world shows three clear stages of development (Sobel 1996). From age four to six a child connects with the immediate world through his empathy for living things, particularly animals. From age seven to eleven the child's desire to explore becomes stronger—exploration activities become appropriate. It is not until the age of twelve that students typically can begin to deal with tragedies, so at this age social action can become a focus.

Environmental education that is developmentally insensitive can do more harm than good. Sobel (1996) especially cautions against introducing ecological problems to a child who has not developed the power of abstract thinking. Such premature calls to action will distance the child from the natural environment.

Developmentally appropriate curriculum, on the other hand, nurtures a strong connection to the natural environment in stages. First a child connects with her immediate environment, then to an expanding local landscape, and finally to the global environment. Formed in those experiences, she takes action when she is ready (Wilson 1996; Smith 2002; Gruenewald 2003).

Building Deeper Understanding

Environmental education explores situations where the "correct" answer can be ambiguous. Students become equipped to respond to such complexity when, in the context of nature, they are

coached through a process of assessment and judgment (Bogeholz 2006). Educators begin by teaching knowledge variables. Students are given increasing ownership of the problem as they become capable of action (Hungerford and Volk 1990; Coyle 2004). Students feel empowered and confident as they apply knowledge to action. Students who have been coached in this way—prepared to think critically when faced with complex problems—are more likely to exhibit complex, environmentally responsible behaviour (Hungerford and Volk 1990; Coyle 2004).

Coulee School-Demographics

Armed with research and eager to realize Coulee School's vision to foster environmental stewardship, Mascher, with the collaboration of Salina, Cox and others, designed a five-month environmental experience for the kindergarten class as part of her master's thesis. From October 2007 to March 2008 14 five- and six-year-olds (8 boys and 6 girls) of mixed socioeconomic circumstances and academic and social ability participated in a place-based environmental education model aimed at building environmental empathy and responsibility.

Methodology

The literature points out several precursors to environmentally responsible behaviour. Three instruments were designed incorporating those precursors as they would be expressed by young children.

An attitude questionnaire probed for changes in attitude toward the natural world. A student who expressed concern for animals and plants and who reported that they participated in dramatic play with animal games was seen as expressing empathy with the natural world. A student showed emotional affinity with nature if they expressed a love of nature, or reported feelings of freedom in nature, feelings of safety in nature, and feelings of oneness with nature. Students answered questionnaire items with yes or no, and were then given an opportunity to explain why or why not.

A 16-item animal identification test measured student knowledge of native animal species. Students were shown a picture of a local animal and asked to name it.

Finally, interest in the natural world was measured in a three-question interest interview where the child was asked what he or she is interested in learning more about, and why, and to describe a favourite place and a favourite activity. The interviewer looked for common or changing themes in the responses.

Data was also collected though a community mapping activity before and after the intervention. Students were instructed to draw a map showing special places that they could go to around the school. When the maps were finished, students participated in a semiformal interview with the teacher where they were asked to identify all the features on their map. Maps and interview transcripts were analyzed for a number of natural and non-natural features identified, and the geographic range covered by the maps.

Data Collection and Analysis

The study looked for changes in knowledge, interest and attitude toward the environment over time. Data was collected using the attitude questionnaire, animal identification test, interest interview and community mapping instruments before and after intervention.

Quantitative data was collected from the animal identification test, attitude questionnaire and community mapping, and was analyzed through descriptive statistics to determine if a change did in fact occur. Open-ended questions from the attitude questionnaire, and qualitative information from the interest interview, were analyzed for common themes. Those themes were then analyzed to determine if there were any patterns to the responses.

Group data was analyzed to determine if change did in fact occur and to describe the characteristics of that group change. Data from a low, mid and high student was then extracted and analyzed in relation to the class average to determine whether the effect was more or less significant for low, mid and high students.

Because research emphasizes the powerful outcomes of time spent in wild nature with an important adult, our program design involved frequent outdoor experiences led by the kindergarten teacher. There were two components to the outdoor experience. The class frequently visited and explored natural environments within walking distance of the school. We also designated a more distant, wilder location (15 minutes away by bus) as Our Special Place and visited it several times throughout the duration of the project.

Outdoor experiences in the surrounding environment happened daily. They were initially scheduled into a block of time each day to create a habit of outdoor learning time. As outdoor time became entrenched in the day, access to the outdoors became more spontaneous and flexible.

Planned outdoor activities were drawn from resources, such as *Five Minute Field Trips: Teaching About Nature in Your Schoolyard*

(Thomson and Arledge 2002); *Sharing Nature with Children* (Cornell 1979); *Place-Based Education* (Sobel 2004). Planning was informed by Wilson's (1986) guidelines: begin with simple experiences, provide frequent positive outdoor experiences and focus on experiencing versus teaching.

The schoolyard at Coulee School offered many rich opportunities. Off the gravel of the play structure, there is a terraced, bushy memorial garden, big poplar trees, long grass and ready access to fields. A 15-minute walk north of the schoolyard offers a hay field and slough. Activities in the schoolyard and at the slough were planned with "wildness in mind" in order to maximize the positive influence of wild nature mentioned in the literature. Over the course of the five-month study, a new subdivision being built north of Coulee expanded toward the slough and blocked the walking path for two weeks. The new construction presented an unexpected opportunity for conversation and questions.

Remembering the role of a significant adult in shaping environmental responsibility, we carefully considered the teacher's contribution to the children's experience. The teacher enthusiastically supported the children's budding sensitivity for wild places, demonstrating personal interest and enjoyment, and modelling care and respect for the natural environment (Wilson 1986; Sivek 2002). In order to broaden the network of important adults, parents and other community members were invited to join as assistants and fellow nature-learners (Kals, Shumacher and Montada 1999; Chawla 2006).

Five times over the course of the project the class visited Our Special Place, an intact buffalo jump surrounded by native grassland called "Women's Coulee." We timed our visits so that students could experience the coulee across the seasons: late fall, winter and spring. Our activities at the coulee mirrored our daily outdoor activities within Coulee; however, the trips to the coulee were far richer and more spontaneous because of its diversity and wildness. On one trip the students were able to study large, perfectly formed snowflakes that covered the ground. On another the group startled a female great horned owl from a nest that we had assumed to be empty. One boy said to his teacher on the bus ride back to school, "Feel my heart. It's still going really fast." On a return trip, with binoculars to study the owl, the students found prairie crocuses blooming.

We made changes within the classroom to support our outdoor experiences. Curricular instruction integrated environmental themes. Because we were employing a place-based education model, we were eager to allow our curricular decisions to evolve with the place, interests and growing knowledge of the students.

The program was aligned with the requirements of the Alberta Education curriculum for kindergarten. The provincially mandated program objectives were reviewed before implementation and categorized on a scale of one to three according to projected ease of integration. The teacher kept a journal to record the process of integrating objectives, as this was one of the major implementation concerns for teachers of place-based education (Smith 2002).

The space and routines in the classroom were also redesigned to support the children's outdoor experiences. Following their explorations, students came into the classroom to record their observations and research their questions. Reference books were readily available. Art materials were on hand to encourage students to represent their nature discoveries with their own hands and in various media. Nature journalling became a regular part of the experience as it "is hands-on learning at its best" (Leslie 1996, 37).

The room decorations reflected a focus on our natural place and nurtured the natural human penchant for displaying nature in homes and interior spaces (Flannery 2005). Natural materials were used as much as possible. Students were given an opportunity to share nature treasures on a well-lit discovery table at their viewing height.

Outcomes

The five-month place-based environmental education trial in the kindergarten class at Coulee School yielded a number of powerful results. Quantitative and qualitative data indicate that the implementation resulted in student growth in knowledge, interest and attitude toward the natural environment.

Asked to identify the photographs of 16 local native animals in a pretest and post-test, the group increased their correct answers by 32 per cent. This increase in animal knowledge is a very powerful first step especially in the light of the work of Lindemann-Matthies (2005) who found that the more plants and animals children could identify in the field, the more appreciation they would show for all kinds of plants and animals.

An attitude questionnaire, administered as a pretest and post-test, measured the students' empathy and emotional affinity with the natural world—their concern for animals and plants, participation in animal make-believe, love of nature, feelings of freedom in nature, feelings of safety in nature and feelings of oneness with nature. A response of "no" to the question: Is it a good idea to pick wildflowers? was marked "positive" because it showed empathy for and an emotional affinity with nature. Positive

student responses on the attitude questionnaire increased 23 per cent on the post-test.

When students were invited to explain why and why not on their answers to the post-test attitude survey, an interesting change emerged. Many students took longer to answer the questions than they had on the pretest, now having to sort out an issue that was no longer obvious to them. For example, on the pretest many students quickly and confidently stated that the spider should not be put outside, but should be killed. On the post-test students talked about the fact that spiders might bite or make a mess with their webs, explained methods for picking the spider up and considered carefully before giving their response. Some students felt the need to explain behaviours that they now felt were inconsistent with what we had been learning. When asked if it was a good idea to pick wild flowers, some explained that they did pick wild flowers, but only in places where there were lots of flowers.

For both pre- and post-tests, students drew a map showing special places that they could go to around the school. Pre-test maps showed a fairly equal representation of natural and man-made features. On the post-test, however, 83 per cent of the features drawn on the post-test maps were natural. There were no animal drawings in the pretest maps, but animal drawings were included in almost all of the post-test maps. The scope of the maps also expanded. Pretest maps were almost all restricted to the boundaries of the schoolyard. The post-test maps showed a much wider geographic scope, indicating a broadening view of the world around the school and an expanding awareness that other creatures live in the places close to us.

Conclusion

The environmental education trial at Coulee School kindergarten allowed us to study how extended outdoor experiences within a place-based environmental program can influence awareness of and empathy toward the environment. Throughout the project we observed students exhibiting a genuine, excited sense of connection to the natural world and an eagerness to learn more. These are important first steps toward realizing the vision for Coulee School— developing leaders in environmental stewardship.

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From the Bookshelf

Play

by Stuart Brown
Avery, 2009

Reviewed by Rebecca Ghelfi

Rebecca Ghelfi has been a teacher since 2006 with the Calgary Board of Education. She teaches Grades 3/4 in a high needs area and is faced with new challenges and opportunities for developing meaningful programming for her students every day. She loves working with children and feels privileged to watch them as they explore their world and learn how far they can push themselves.

As early childhood educators, we often ask ourselves what do we need to do to support our students in their growth and development? What more can we do to help shape their understanding of the world around them and to engage them in meaningful and purposeful learning activities? With so much pressure on teachers and students to perform at a higher level year after year, it is easy to lose sight of one of the most important aspects of child development: playfulness. What does it really mean to play? How can we ensure that our students have opportunities to learn through play and express themselves in dynamic ways?

In his book *Play*, Stuart Brown addresses the importance of play in our lives and stresses that "play is the vital essence of life. It is what makes life lively" (p 12). It seems like such a simple concept, but play is more complex than one might think. As Brown unpacks the idea of play, he makes the valid point that it is easy to confuse play with similar activities that may look and sound the same. Participation in the arts is often considered a form of play (for example, painting or playing a musical instrument). However, it is easy to lose sight of the playful intent of art or music and turn either of them into work by focusing too much on the end product, creating a feeling of competition and taking away the joy of participating for the pure fun of it. To be truly playful, Brown stresses the need for activity to be purposeless and done for its own sake. Brown defines play as "an absorbing, apparently purposeless activity that provides enjoyment and a suspension of self-consciousness and sense of time" (p 60). I remember playing kick-the-can in our backyard when I was a child, and how the hours would fly by. In what seemed to be only minutes, the sun had gone down and our parents were out searching for us as we hid from each other among the trees and bushes, intent on completing our game. With the incredible pressures placed on educators to teach increasingly heavy curricula, there seems to be little time for freedom to play in our classrooms, yet as Brown suggests, this is not as impossible as it might seem. Although play needs to be free, there is still a need to provide a supervised and structured environment. "Part of the license to play freely comes from being in an environment that is structured enough to provide a feeling of safety, so that the child is confident that nothing bad is going to happen" (p 97).

Incorporating play as a daily part of classroom life, and not just in prekindergarten and kindergarten programs but in older grades as well, is an essential part of allowing children the freedom to explore and manipulate their environment. Brown states: "Play isn't the enemy of learning, it's learning's partner. Play is like fertilizer for brain growth" (p 101). Anyone who has observed the innocence and genuine enjoyment of discovery evident when children play can attest to the truth of how play helps to engage children in their learning. Children generally engage in play much more easily than adults, but as the years pass, and obligations begin to pile up, the importance that we place on play for youth, teenagers and ourselves gets pushed to the side in lieu of more important things. Brown emphasizes, however, that it is vitally important for adults to make time for play in their daily lives. As educators, we role model so many things for our students to guide them along their own learning path, we need to take time for ourselves. Join the kids in their basketball game or go down the slide at recess. The students will begin to recognize that play is a valuable and important part of our lives, providing fulfillment for all ages. Brown's book advocates that play be a natural and essential part of all of our lives that provides us with the key to sustaining social relationships, develops creativity and fosters the imagination.

Throughout his book, Brown emphasizes how we need to fully embrace play in our own lives in order to fully allow children to play. He provides a balance between explaining a theoretical analysis of play, and lighthearted accounts of play activities in schools and adulthood and also in the animal kingdom. He provides a pleasant reminder of why

we need play in our lives and examines it as a natural process. For professionals, *Play* serves to emphasize how important it is to allow students to play, not to distract from learning, but to support and naturally enhance learning. *Play* reminds us to be playful in our own lives. If we cannot embrace or live playfully, how can we recognize its potential in education?

As I finish writing this, the rain is pouring down, as it has been for last four days. I am reminded of how excited I got as a child when it rained. My favourite thing was to spin in a circle on the sidewalk and watch the raindrops fall around me. Finally, when I was dizzy enough, much to the consternation of my mother, I would jump into every puddle that I could find, just because I wanted to. So now, as an adult, rather than look outside and think of all the ways that the rain is putting me behind schedule, I am going to put on my galoshes, grab a raincoat and spin in circles while catching raindrops and playing in a few puddles. Just because I want to.

Guidelines for Contributors

Early Childhood Education is published to

- promote the professional development of educators in improving practice in early childhood education and
- stimulate thinking, explore new ideas and offer various points of view.

Articles from all educators are welcome. Classroom teachers especially are invited to consider writing about topics that interest them. Submissions are requested that will stimulate personal reflection, theoretical consideration and practical application. Teachers appreciate articles that present differing perspectives; innovative classroom and school practices; recent literature reviews; trends and issues; research findings; descriptions, reviews or evaluations of instructional and curricular methods, programs or materials; and child-related humour.

Please submit manuscripts by e-mail as a double-spaced Word document. A cover page should include the contributor's name, professional position, degree(s) held, address, phone and fax number(s), and e-mail address. To ensure blind review, use only the article title in headers within the manuscript.

Manuscripts may be up to 3,500 words. References to literature made in the text of the submission must appear in full in a list at the end of the article. Literature not cited in the text but providing background material or for further reading should be similarly listed.

Photographs, line drawings, diagrams and poetry are welcome. To ensure quality reproduction, photographs should be clear and have good contrast. Drawings should be originals. A caption and photo credit should accompany each photograph. The contributor is responsible for obtaining releases for use of photographs. Contributors whose manuscripts are used will receive two copies of the issue containing the published article.

Following the review process and acceptance of an article for publication, authors will be asked to submit the article on a disk labelled with the word processing program used, author's name and file name as well as a short biographical sketch of each author and a recent photograph. Photographs and disks will be returned.

Early Childhood Education is a refereed journal published annually. Submissions are accepted on an ongoing basis. Although contributions are reviewed by an editorial review committee, the editor reserves the right to edit for clarity and space.

Manuscripts, disks and photographs, accompanied by the Copyright Transfer Agreement, may be sent to

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to the Early Childhood Education Council, The Alberta Teachers' Association (ATA), in consideration of publication. This transfer shall become effective if and when the manuscript is accepted for publication, thereby granting the Early Childhood Education Council, ATA, the right to authorize republication, representation and distribution of the original and derivative material. I further certify that the manuscript under consideration has not been published and is not being considered by another publisher.

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The Early Childhood Education Council of the Alberta Teachers' Association

A specialist council for ECS and Grades 1, 2 and 3 teachers

Joining the Early Childhood Education Council will permit you to

- belong to a professional organization that is interested in your work and area of specialization;
- participate in a provincial ATA organization concerned with educational issues relating to teachers of young children;
- contribute your opinion on matters concerning early childhood education;
- meet other professionals interested in and involved with early childhood education;
- participate in activities sponsored by the ECEC regional for your area;
- attend the annual Early Childhood Education Council conference to glean new and exciting ideas and to share your concerns with colleagues;
- receive *Issues, Events & Ideas,* a newsletter published several times a year, featuring council news and ideas for classroom use; and
- read *Early Childhood Education,* a journal published once a year, to keep informed of current early childhood research and writings.

Early Childhood Education Council, ATA Membership (ECS–3) Application Form

A. Name _____

Address _____ Postal Code _____

Alberta Teacher Certificate No _____

Local Name and Number _____

B. Category of Membership in the Alberta Teachers' Association (check one)

❑ Active ❑ Associate ❑ Student ❑ Life ❑ Honorary

❑ I am not presently a member of the Alberta Teachers' Association

C. Membership Fee Enclosed (check one)

❑ Regular $25 (1 yr) ❑ $45 (2 yr) ❑ $65 (3 yr)

❑ Student $11 ❑ Affiliate $27 ❑ Subscription $30

Please enclose cheque or money order payable to the **Alberta Teachers' Association** and mail to:

The Alberta Teachers' Association, Barnett House
11010 142 Street NW, Edmonton, AB T5N 2R1

Council Notes

Constitutional Objective

The objective of the Early Childhood Education Council of the Alberta Teachers' Association is to improve practice in early childhood education by increasing members' knowledge and understanding of this specialty.

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Membership

Total membership of the council is currently 1,350.

Conference and Other Programs

The council organizes an annual conference for its members on early childhood education. Attendance at annual meetings over the last several years has averaged 700. For information on the 2011 conference, contact Rebecca Ghelfi, phone 403-777-8250, e-mail ececconference@gmail.com.

Several regional organizations of the council carry on programs for members in their areas. The council supports these regionals. It also occasionally offers workshops and other activities in areas where regionals have not been organized.

Publications

The Early Childhood Education Council publishes a newsletter, *Issues, Events & Ideas,* and a journal, *Early Childhood Education.* Members of the council receive these publications as part of their membership. Nonmembers wishing to receive copies of these publications may obtain them by paying the subscription rate of $30 (Canadian funds) annually and writing to the Early Childhood Education Council, ATA, Barnett House, 11010 142 Street NW, Edmonton T5N 2R1.

Website

The council maintains an Internet site at http://ecec.teachers.ab.ca.

Personal information regarding any person named in this document is for the sole purpose of professional consultation between members of The Alberta Teachers' Association.

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