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**Immigrant children promoting environmental care: Enhancing learning, agency and integration through culturally-responsive environmental education <sup>1</sup>**

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### Abstract

This paper examines the potential of culturally-responsive environmental education to engage immigrant early adolescents. Our study suggests that environmental involvement can become a means and an end for children to bridge their school and home in agential ways. Drawing from a multi-phase study involving focus groups with children, parents, and teachers from three culturally-diverse schools in Montreal, as well as a green action research project, we examine children's role as environmental educators and ambassadors. The role of environmental ambassador allowed children to take on positions that departed from conventional parent-child social scripts, and enhanced the communication between school-student-home, between generations, and spoke to their sense of place. We contend that culturally-responsive environmental education offers a unique space for enacting democracy, knowledge creation and integration, but this opportunity is often squandered. Bi-directional, responsive, and consistent home-school-community-place relations need to be actively supported.

**Keywords:** environmental education, immigrant children, learning, culturally-responsive, agency, intergenerational

## Introduction

Renewing the ways that schools relate with communities is central to creating optimal and sustainable relationships between people and the environment (Gruenewald and Smith 2008). Formal Western education systems have largely delivered environmental knowledge and awareness to students in a unidirectional manner, ignoring notions of family origins, cultural understandings, and place (see the special issue of *Children, Youth & Environments* in 2011 devoted to place-based education). Research indicates, however, that environmental learning is a process that benefits greatly from the active engagement of students, and that the consideration of culture, context and place provide for meaningful and transformative environmental education (EE) (Chawla and Derr 2012; Lundholm, Hopwood, and Rickinson 2013; Scott 2011).

This paper examines the opportunities for engaging immigrant early adolescents in a school-based EE curriculum project. Historically, children's potential for promoting change has often gone under-recognized and under-utilized; even less acknowledgment has been made of the role immigrant children play in their families' geographic, linguistic, and cultural adaptation process. Yet, in alignment with the rights outlined in the United Nations Convention on the Rights of the Child (UN 1989), education should be aimed at 'respect for the child's parents, his or her own cultural identity' (Art. 29d) and the 'development of respect for the natural environment' (Art. 29e). Children have a primary right to 'express those views freely in all matters affecting the child' (Art. 12). It is particularly important at this juncture to explore the implications of these dual educational aims in shaping the future, given the increased diversity of cities in the Western hemisphere and the growing concern around environmental degradation and the disconnection of people from their natural surroundings (UN Habitat 2010). This study explores the potential of

children's environmental involvement as a context for supporting early adolescent immigrants' development and agency, strengthening the linkages between the home, school and sense of place, and crafting the emergence of new knowledge. The bringing together of divergent interests and values provides a space for individual and collective learnings around sustainability (Wals 2007).

### **Early adolescence and culturally-responsive EE**

In transitioning from childhood to adulthood, a personal investment in insuring the well-being of others and a respect for the environment can become key drivers for early adolescent development (Den Ouden and Wee 2012). Not only do early adolescents have the capacity to grapple with issues of rights, responsibilities, and feelings of belonging with the human and biotic community, but they also grow through these interactions (AuthorA 2010; Cobb 1977). They can discover themselves and carve out their place in the world by awakening to the natural environment (AuthorA 2008; Hayward 2012). Environmental involvement allows young people to explore and to define themselves with respect to the social, relational, and physical environment. It also provides a context to take personal ownership of issues, choosing significant goals, and integrating action for the common good into their sense of identity (Chawla and Cushing 2007). This means that it is not enough for students to understand; they must enact agency and epistemological empowerment. Pro-environmental behaviour comes from creating opportunities that provide for learning about, through, and from environmental action.

Along with active involvement, we know that effective EE needs to connect learning to the life-worlds of students' homes and local communities (Chawla and Derr 2012), situating EE in a sense of place. Research shows the importance of valuing young people's lived experiences,

starting with the home, which is argued as the ‘primary shaper of what children, knowingly and unknowingly, take to school’ (Payne 2010, 228). Yet, more often than not, schools through the ‘implicit’ curriculum (Eisner 1994) have considered students to be passive recipients of knowledge, empty vessels to be filled. Children’s prior knowledge and perspectives have generally been excluded or marginalized (Martin 2007). This omission has substantially been addressed in multicultural education (Akkari and Gohard-Radenkovic 2002; Banks 1999; Nieto 2004) but less so by EE educators (Bruyere, Wesson, and Teel 2012). ‘Both our understanding of environmental issues and the proposed solutions are culturally limited to and by the perceptions of the dominant group’ (Marouli 2002, 28). Inner city issues common to people of color or immigrants such as persistent poverty, poor health, or polluted environments are framed as social rather than environmental problems and inequality (Brulle and Pellow 2006; Morello-Frosch 2002; Running-Grass 1994).

Respecting and encompassing alternate ways of seeing and knowing the world are part of responding to the increase of diversity globally, and the fact that western science’s value-free approaches to EE have been inadequate (Nordström 2008). Research on opportunities for blending Western and Indigenous knowledge and philosophies of nature are promising (Lowan-Trudeau 2015). Grappling with how immigrant youth’s perspectives, lives and clashing discourses and cultural identities can inform EE is crucial.

This inquiry considers that culturally-responsive environmental education (CREE) would enhance immigrant young people’s own development and integration, serving to reconnect people to their environment as well as to each other, creating community and a sense of belonging (AuthorA and AuthorB 2013). Integral to CREE is a realization that nurturing inter-linkages between people-society-environment-community can provide for personal as well as

social change (Sauvé 2009) given opportunities for reciprocal learning and change (Mannion and Adey 2011). In recognizing the benefits of diversity, CREE promotes the creation and implementation of curriculum that reflects the cultural, ethnic and linguistic voices of current urban landscapes. This perspective emerges from our own complicated sense of intersectionality, whose overlapping social identities represent both privilege and marginalization. Our experiences as Caucasian, French/English, immigrant, working/middle class, as women and mothers position us as both insiders and outsiders to our linguistic and cultural contexts.

Teachers or environmental educators have often assumed that immigrant parents are too stressed and busy to be concerned with EE. Adults in the school milieu provide knowledge to the child, generally disregarding the student's family environment (Ruiz-Mallen et al. 2010), relegating it to the null curriculum (Eisner 1994). However, there is growing evidence that parents do want their children to experience the environment much as they did in their countries of origin (Bruyere, Wesson, and Teel 2012), strengthening their sense of connection to place, or to learn more about their home culture through the environment (Williams 2008). The environment can be an additional context for parents to teach children (Barraza 2001), inculcating and socializing them with their own knowledge, values and beliefs.

The conventional view of knowledge transmission assumes that most adult-child learning interactions and communication are unidirectional and human-based. A growing body of literature provides evidence that effective EE promotes intergenerational and bi-directional learning, including the environment (Mannion, 2012). Children influence the knowledge, attitudes and behaviours towards the environment within their family (Leeming et al. 1997; Legault and Pelletier 2000; Vaughan et al. 2003). For instance, parents of children who had received EE on wetlands scored significantly higher in their environmental knowledge than those

parents of children with no formal education on this topic (Damarell, Howe, and Milner-Gulland 2013). In the context of intergenerational learning, young people's involvement also contributes to change, knowledge being marked by both continuities and discontinuities (Hammad 2011). Connecting with the natural environment also facilitates the adaptation process for immigrant families. Physical outdoor activities and visits to natural areas provide opportunities to reconnect with practices from their countries of origin. This can be healing, mitigating the stress of adjusting to a new country, which often involves learning a second or third language, conforming to new educational standards, and negotiating unfamiliar social environments (Hordyk, Dulude, and Shem 2015). Little research includes a focus on children's perceptions about this process in culturally-diverse contexts (Chawla and Derr 2012).

This inquiry is based on an understanding of the dynamic human-environment relationship, in that the contextual interactions between children and their environments are central and key components to their development of identity and social responsibility. In this way, we draw upon ecological systems theory (Bronfenbrenner 1979, 1986). We also incorporate the concept that individuals are complex adaptive agents (AuthorB and Other 2010) that shape and reshape the environment based on their engaged learning, and are, in turn, shaped by the environment. Environmental care can be greatly enhanced by creating socially-mediated opportunities with connections to the local physical environment and through 'involvement in shared action' (Sauvé 2009, 320). As Duvall and Zint (2007) point out intentionally facilitating intergenerational learning includes supporting environmental sharing, hands-on activities, and action-oriented experiences for students and parents.

We highlight this bi-directional transaction between children (as complex adaptive agents) and the environment (their families and physical environment) as they are shaped and changed



by their environmental involvement, and, in turn, influence and affect their families, school, and other local contexts. This paper posits that environmental involvement creates a space that offers immigrant children an opportunity to take on a pro-active role in bridging public and private spheres and concerns, with the potential of generating transformative learning in the area of the environment.

### **Methodology**

In order to bring sense to the teacher, student, and parent experiences regarding environmental education in highly diverse contexts, we used mixed-methods, influenced by bricolage (Denzin and Lincoln 1994; Kincheloe 2001; Rogers 2012), in that we tinkered with a variety of research methods in order to patch together a fuller understanding of what was happening. We assumed a closely-interlaced multi-perspectival, and multi-methodological approach to the inquiry, deliberately and explicitly incorporating practices. A bricolage standpoint presents unique possibilities for knowledge construction and social action. ‘The more perspectives one can bring to their analysis and critique, the better grasp of the phenomena one will have and the better one will be at developing alternative readings and oppositional practices’ (Kellner 1999, 7). Consequently, our research design and focus evolved in response to our emerging findings; our interest in the interrelationships between school-student-home-community itself resulted from the initial data. This paper draws, therefore, on the quantitative and qualitative sources of data gathered from children, teachers and parents over two school calendar years that were relevant to the issues surrounding the creation of CREE curriculum. The research was gathered by a multicultural and bilingual team, with the lead author Caucasian having grown up in Asia, who is trilingual.

### *Research context*

The larger backdrop of this study was a project to create CREE curriculum that reflected children's voices and supported teachers so that they could respond more appropriately to their culturally-diverse reality. Three elementary schools in Montreal were identified by the environmental school board liaison as schools with highly diverse populations that were implementing EE. Immigrants and non-permanent residents comprised close to 70% of the student population; children in the classrooms had connections with over 20 countries, and 95% of them spoke a language other than French at home. As first-generation immigrants, most children came from households where parents struggled to adapt to their new homeland, given language, economic and cultural barriers (Crowe 2006; Rousseau et al. 2007). Half the households in two of three neighbourhoods where the schools are situated live below the low-income cut-off line; 40% of residents 15 years and older have no high school diploma. It is noteworthy that in Canada, education is provincially-mandated. In Québec this takes on a unique meaning given education's central role of retaining and maintaining a distinct French identity and status relative to the rest of English-dominated Canada. Provincial government educational policies have focused on integration into an essentially francophone Québec. This means, for instance, that since 1977, newcomers are required to attend French school, constituting an additional challenge for integration.

### *Methods, participants and phases of research*

In the first phase of the research inquiry, in order to gather children's and teachers' collaborative thinking on a CREE curriculum, we held focus groups with children and then with teachers. A

socially oriented method for capturing real-life data that takes advantage of the power of group synergy (Morgan et al. 2002), focus groups with children were particularly effective in gauging their views. We held sessions in four classrooms, ranging from grades four to six (children were between the ages of nine to twelve years). We divided the student participants into groups of five to seven, resulting in 15 focus groups, each facilitated and recorded by the researchers or the research assistants. All data was gathered in French, the language of instruction. Focus groups were scheduled over two class periods, lasting on average 90 minutes. Open-ended questions were posed, which included, ‘How does your family take care of the environment?’ and ‘From whom do you learn about the environment?’<sup>2</sup>

We also included a multiple-choice questionnaire that assessed: children’s sources of learning about caring for the environment (which included parents, teachers, and media); how much they shared knowledge about the environment at home; and with respect to four aspects, how they liked to learn about the environment (outside activities, special projects, reading, etc.). Ninety-six students completed the questionnaire, including 53.1% girls and 46.9% boys.

The three focus groups held with teachers paralleled those conducted with the children. We included questions on teachers’ views of EE as a way of valuing children’s culture of origin (see AuthorA and AuthorB 2013 for an in-depth description of these findings) and how they perceived the school-student-home relationship (the focus of this paper). Each focus group session was scheduled either during a pedagogical day or a free afternoon arranged with the school principal, and lasted approximately 90 minutes. Seventeen teachers participated. Eighty-

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<sup>2</sup> Please note that questions and excerpts from transcripts have been translated from French into English for this article.

five percent of the teacher participants identified as white ‘francophone de souche’<sup>3</sup> and 95% were female. Teachers had between five to twenty-two years of classroom experience and ranged in age from early 30s to mid-50s. They all had been trained in local university teacher education programs.

In phase two, we carried out an action research project in one of the three schools with the green committee (GC), consisting of 18 representatives selected from each of the grade four to six classes (AuthorA and Other 2015). During the 28 sessions held over eight months, we further explored the nature of the school-home relationship, and the views that shaped this relationship. Sources of data that emerged from this phase of the research study were: 1) pre-and post-questionnaires completed by GC members and 2) the data that emerged from a project of beautifying the school entrance. The children from the GC invited parents to work with them on this greening venture. Five parents participated on the planting day, eight children interviewed their parents on their own environmental involvement, and four parents partook in a follow-up interview.

To deepen our understanding of parents’ perspectives, we also drew from five focus groups carried out with parents attending a ‘French as a Second Language’ program in the community center connected to the school. Each focus group lasted approximately 60 minutes, and included questions on parents’ views on the flow of environmental information and communication between the school-student-home, the extent the school takes into account their culture of origin, parents own interest in the environment, and their perceptions of children’s roles. In addition to

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<sup>3</sup> This widely used phrase refers to French-speaking individuals who can historically trace back their Québec lineage since at least 1760. This term renders invisible the status of Indigenous peoples in Québec.

illuminating the questions posed by this research project, the data from these focus groups contributed to the development of an adult CREE curriculum guide.

The following (Figure 1) summarizes the various sources of data and the research phases.

-- Insert Figure 1 here --

The study adhered to the *Tri-Council Policy* (CIHR, NSERC, and SSHRC 2010) guidelines that regulate research conducted in Canada. Ethics clearance was received from the University Human Research Ethics Committee and the school board, which required approval from each school principal.

### ***Data analysis***

The focus groups and the individual interviews were transcribed for analysis. Thematic coding (Guest, MacQueen, and Namey 2012) was done using an inductive process, whereby the research team generated working themes collectively as we combed through the data projected on a large screen. A thematic concern captured something salient about the data with regards to the research questions, and represented some level of meaning within the data at a semantic level. Once the provisional thematic codes were developed, they were applied to the data using *HyperResearch*, a code-and-retrieve computer data analysis program, employing the constant comparative method (Strauss and Corbin 1998). It is important to note that parents generally had a rudimentary knowledge of French or English though their children were multi-lingual. This challenge to speaking and understanding the languages of the researchers can be seen as an important limitation to the quality of the data.

### **Findings**

Overall our study suggests that immigrant children's promotion of environmental care takes on a particular meaning in culturally-diverse contexts. Environmental involvement becomes a means and an end for young people to develop and connect their school-home-community-place in agential ways. Drawing on the data from children, parents, and teachers, we first describe the children's role as environmental educators using the metaphor of bridge between home-school-environment. We then examine the theme of role reversal since being environmental educators allow children to take on roles that diverge from the conventional parent-child social scripts. Finally, we discuss the potential of children's involvement in environmental care to strengthen the communication between school-student-home-place, and to environmental learning more broadly.

### *Children as bridge*

A springboard that shaped phase two of the study was the initial data from the children's questionnaire: 84.5% of the respondents stated that the family was the *most important* place to share their learning about the environment (See Table 1). However, the teacher was identified as the *most important person* (43.5%) from whom they learned about the environment, with their mother and father being occasional (16%), and sharing at home happening only *sometimes* (41%). We found it intriguing that children highly valued the home as a place for sharing, but their primary source of environmental information remained the school. From previous work in culturally diverse contexts, we knew that parents had knowledge to share (Chawla and Derr 2012) and we were curious why this was not happening.

-- Insert Table 1 here --

In phase two, the questionnaire data from the members of the GC suggested that children prioritized environmental care within the family (See Table 2). In the pre-test, children identified impacting their class as primary (with 93% responding *very important*). Only 46% of the young respondents saw this as important in the family context. However, after the project, they indicated that their greatest responsibility lay within the family (92%).

-- Insert Table 2 here --

Teachers remarked extensively in the focus groups on the unique role of immigrant children in how they connected with parents and exchanged environmental knowledge and practices. In fact, children acted as ‘the bridge between the school and the family.’ Several teachers elaborated on this distinctive role of children in immigrant contexts. ‘The child in a cultural community is the connection; you could almost say the child is the translator.’ Children were a means of connecting with parents who otherwise were difficult to reach because of language barriers or lack of availability. One teacher explained how children helped them communicate with parents. ‘We’re Francophone, but he just speaks Hindi. What can we do? I speak to the child and I say “Explain to your dad in your language” and he explains... directly, then and there.’ Teachers often depended on the children to communicate with the parents.

Teachers found children were especially effective in reaching parents with knowledge about the environment and environmental care. One explained, ‘As long as the child believes it, the information will be transmitted to the home and then it should get done.’ Reflecting on the experience of involving parents in the school beautification project with the GC, another teacher commented, ‘You know that the child really wanted to be there, because the parent made the effort to come. So it would have been easy to keep them afterward or, if the child is enthusiastic

and wants to do it, the parent won't be far behind.' Children's emotional connection with parents placed them in a unique position to convince parents of sharing how to care for the environment.

Parents also generally agreed that children were effective in connecting them more robustly with the school, especially around EE issues. Many welcomed and appreciated the active role of children in transmitting the practices related to caring for the environment, explaining that, 'When we are young, it is easier to learn things, to learn new things.' Children had the capacity to absorb environmental information; 'they are like sponges.' Parents valued their children bringing home information about the environment and modeling pro-environmental behaviours that were fitting for the environment of their new homeland. One parent explained, 'I have to practise at home to keep it in my head. It's more effective for me.' Given language barriers and lack of time, parents also felt the school should play a leadership role in promoting environmental care. 'I think that in school they should do more to raise the awareness of the children, because they are the foundation of the future.' Below, we examine the type of role played by students.

### ***Role as educators***

Specifically, children transferred information about the environment to their home and actively educated their families about environmental practices. One teacher encapsulated this perspective. 'The child plays the role of interpreter, intermediary. The school teaches the child ... it is the child who will provide this information to the parents.' As one student shared, 'I read a book about insecticides and I spoke about it to my mother.' Beyond interpreting, children also educated their families, which resulted in behaviour change. One student observed, 'I showed my father how not to be mean to animals, like my tarantula. He almost threw her in the toilet, and I



told him and he didn't.' Another explained how she would explain to her parents the reasons for taking care of the environment. 'I taught my mother how to plant plants and take care of the environment. Because she wanted to cut down little trees and I told her no, because we would be able to eat apples.' In both these examples, children applied their knowledge about environmental care to convince parents about the value of pro-environmental behaviour.

Children experienced satisfaction from having an impact on their parents' behaviours. 'My father doesn't use his car very much because I spoke to him about pollution.' In response to a GC focus group question on how children felt about having influence at home, one student responded, 'I felt really great when they started to recycle. Like cutting down a tiny bit on the number of people who pollute.' Adopting and being successful in their educational role positively shaped children's feelings of self-efficacy and agency. 'I felt kind of happy giving them information.' Another explained the feeling of knowing more than her parents. 'I like it because it's as if I am the one who knows; often our parents know more than we do. So when we know lots of stuff about the environment, it feels good.' Another expressed joy in this way:

I feel very happy because, before, I didn't know about the environment. But now I have learned things about ecology and it is always in my head and I feel happy.

Thanks to me, my parents know more about the environment!

The sense of satisfaction children had about this educational role cannot be underestimated, especially at a time when developmentally they are building their identity.

In the GC, persuading parents to adopt practices of environmental care was considered a responsibility.

We have to find the strong points of the Green Committee, like ‘Mom, Dad, look! If we improve the condition of the neighbourhood, more people will like it, and people will admire it.’ Everyone has to speak to their parents, or the earth will be more polluted.

Children spoke about needing to sensitively approach parents. ‘We’re going to speak to them sweetly and nicely, and say “I want to talk about the environment. I’m going to tell you things.” Sweetly and nicely, and then he’ll listen. Otherwise he won’t.’

Communication about the environment also served to strengthen parent-child bonds.

Mothers spoke about their daughters sharing what they had learned at school. During one focus group, mothers shared notes on the environmental information their daughters brought home.

*(mother 1)* And she makes comments about waste, really, as soon as she gets in. We must not waste water when we’re brushing our teeth. Turn off the tap...

*(mother 2)* My daughter is the same.

*(mother 1)* She says, ‘Mom, if we waste a lot of water, the earth will suffer.’

*(mother 2)* Yes, they are already learning that at school.

Another mother spoke enthusiastically about welcoming her daughter’s sharing of her concern for the environment at home.

I’m excited because from what I know with this generation, they don’t have much involvement with the environment so when she comes home with this information, it makes me feel happy, at least she is taking the interest to know what is going on around her. With that, she started to recycle a bit more...when I’m lazy she says no, you have to put that in the recycling. She teaches everyone too, a bit.

Parents recognized that children’s eagerness and role-modeling would rub off on the behaviour of other family members. But, children taking on an active role within their homes meant that

they departed from the more conventional cultural and social roles played by early adolescents in their countries of origin. The following section examines role reversal.

### *The question of role reversal*

Parents, teachers and students understood and appreciated that children's increase active role in the home as environmental educator and as a bridge between home-school-environment challenged traditional ways of thinking and relating. While acknowledged and welcomed, it could also be unsettling.

Teachers were most vocal about the challenges that children's participation posed for families, considering the variety of ways that families are organized and function (Epstein et al. 1993). 'I get the impression that there are some parents who do not communicate much with their children, other than for really basic things: get dressed, brush your teeth [...] For me, the transfer to home is not a given.' Teachers recognized that in some homes, children's decision-making was more limited than in other Québécois households. 'Some students are not necessarily making decisions at home, but there are others who will manage to raise their parents' awareness.' Another teacher commented, 'The child translates and things like that. We can make use of the child, but he does not necessarily have the chance to express himself, to play that kind of role in the family.' Thus, some teachers qualified the metaphor, specifying variability across contexts. 'Right, well, depending on the situation of each student, the bridge might be a little bridge, a suspension bridge, a new bridge, a toll bridge.'

Some teachers claimed that a child taking on a more active role regarding family practices about the environment was not always possible. 'It depends on the community, and it depends on the child. I think there are communities where the parents are more receptive than others.' One

teacher expressed grave concern about the responsibility placed on children, stating bluntly that the burden could be too much.

I really think that it is too much to put on the child. There are children who arrive here at 7 in the morning and leave at 5:30 in the afternoon. That is a really long day. It doesn't make sense, and I think that if we give them this—they're just 10 years old! We can't place the entire responsibility for their parents' integration on their shoulders.

Indeed, parents recognized that the active role of children contrasted with conventions in their countries of origin. One explained the difference with her own upbringing: 'When I was little, I didn't have the right to explain things to my parents. Explaining was their right... When I was little, I didn't have the choice to say anything, but kids here have explicit rights.' Another stated, 'There is a role reversal; it's the opposite. In my country the parents make the decisions but here you have to be open...to the kids because they are going to school they have more ideas and they learn things that I wouldn't know.' Having children hold environmental knowledge that they did not possess was a shift that parents did not necessarily find easy. In returning to school herself, one mother noted that this helped her to be more receptive to her children's new role and position within the family.

I accept that my child brings home new values because prior to having been at school, I probably would have been negative about it and wanted to keep my own experience. Now being in school and knowing what's going on out there has enlightened me a bit. I try to be open to whatever she says. Most of the time the things she comes home with are really good information.

Despite parental support, children found it challenging to do environmental activities with parents. Parental work schedules made it problematic for parents to participate and attend school environmental events. ‘I’d like to recycle and compost. I don’t recycle because of my dad. He doesn’t have time to go to the Éco-quartier to get a bin. He works in a restaurant and sometimes he comes home at midnight.’ Parents also commented on their lack of availability and flexibility during school hours, and their long hours at work. ‘When you work all hours, 12 hours, you don’t have time to spend talking to your kids.’ Some parents expressed regret about this and a sense of being overwhelmed, but they also articulated a sense of relief that children were taking on additional roles. ‘I don’t have time. I work. I’d like to do lots of things. I tell my kids to do it for me.’ Parents were struggling to adjust economically to make ends meet, and were being placed in new social positions; children, in an effort to compensate and support their parents, were taking on the role of transmitting information and enacting practices for environmental care.

### *Enhancing bi-directional communication through environmental care*

In taking on these new roles, could immigrant early adolescents’ involvement in promoting environmental care strengthen the relationship between the school-student-home-community-place and inform environmental education? The answer is yes, but unfortunately, we found that this potential was frequently squandered. Too often the flow of communication was unidirectional, with children bringing information about environmental care to families, but little flowing in the other direction. Yet, effective EE connects to children’s lived experience (Chawla and Derr 2012), particularly in CREE. A CREE approach promotes environmental care through the co-creation and co-implementation of curriculum with culturally, ethnically, racially, and

linguistically diverse voices (AuthorA and AuthorB 2013).

Below, we describe how parents and teachers sometimes included promotion of environmental care as a *new* way to behave as part of the integration process. Our study suggests that when provided with the opportunities to acknowledge and make connections with environmental practices from their homeland rather than environmental values as a novel way of being, the environment represents a powerful context for bi-directional communication between school-student-home-community-place that strengthens relationships on many levels. It provides a rich context for the co-creation and co-implementation of curriculum that characterizes CREE.

Initially, parents remarked that the environment was a greater concern in Québec than in their home country. As one parent reflected, ‘I find that here in Québec, in general, there is a lot of work on the environment, compared to my country.’ Thus, learning about pro-environmental behaviours and valuing the environment was part of this parent’s integration process. This was also reflected in this dialogue between parents in one of the focus groups.

*(interviewee)* Do you think your child helps you integrate into Canadian society?

*(participant 1)* Yes, we have many plants now.

*(participant 2)* Yes, if I forget for the recycling, she knows more than me.

A teacher reflected on the integration process and the role of environmental care, ‘By learning the 4Rs, they can encourage their parents to re-use and avoid waste, to understand the danger of cutting down trees without replacing them.’ Underpinning both these statements was a Euro-centric perception on what constituted environmental care.

We found that underlying teachers’ comments was often a presumption that environmental values were new, and distinctly North American (AuthorA and AuthorB. 2013.). They often remarked that immigrant families’ preoccupation with basic needs meant they could not afford to

be environmentally concerned. Parents, in turn, felt that they lacked the knowledge and therefore the responsibility to teach their children about the environment, and that this belonged to the school. However, we contend that this perception was related to how environmental education was being framed.

For instance, we observed that environmental care was often reduced to the limited dimension of recycling. Children commented, for instance, on the litter in their home country as an indication of a lack of concern for the environment. 'In my country, people throw a lot of garbage on the ground.' But when parents were asked about recycling in their home country, the question proved irrelevant. 'We didn't have recycling; we reused almost everything...I had it all, I was always outdoor.' Thus if environmental care was approached more broadly, alternate cultural constructions would be possible, allowing immigrant families to make a contribution to this principle and practices within Québec society. There would not be this impression that environmental care originated from a North American pre-occupation. This is ironic, given that North America represents only 5% of the world's population, yet consumes 20% of the world's energy and 15% of the world's meat, producing 40% of the world's garbage (Elert 2012).

Given the opportunity to interview their parents, several children from the GC discovered that their parents were engaged in the environment in their home country when they were younger. 'I did not know my father was also in a green committee. I did not know he also liked nature.' Making these connections between what they were learning was important in school, and their parents' behaviour, was reassuring. 'And I like doing it with my parents because they know things. They might not be able to say it in French, but they can say it in our language. But at least they know things!' Bi-directional conversations about environmental care helped children to strengthen their relationship with their parents. 'I liked that she knew things that I

also knew.’ One parent shared that, ‘When we have time to talk, she likes talking about the environment and she likes sharing what she has learned.’

When students connected their home life with the environment, for many, it triggered memories of their home country, where they generally had greater direct contact with nature, strengthening a relationship with place. One student recalled enjoying the planting activities because, ‘I like it because in my country there is a lot of farming, so we have to get our hands in the soil. So I’m used to it. I like it.’ Another boy noted, ‘I like getting my hands in the dirt. I was used to it in my country. It’s fun. It reminds me of when I lived there.’ Children would make repeated references to their home country without prompting, and their comments often reflected an interconnection between environmental issues and events. ‘In my country there are lots of trees and fruits. I am from Sri Lanka. There is still a war. There is water, the tsunami came.’ Another observed, ‘In the summer in the Philippines, we go to the mountain to get vegetables. I am here since 2008. Here sometimes, we go to the lake and pick-up garbage laying around.’ The topic of the environment allowed them to link memories and experiences from their home country to their country of adoption, creating a valued and coherent narrative story to their lives.

One teacher encapsulated the potential of EE for immigrant children:

These children already have an awareness, a life experience related to the catastrophes their home countries face, partly due to climate change. They also have a great desire to communicate their life experiences. Certain aspects of environmental education become rallying points.

She recognized, however, that this would largely depend on teachers’ acknowledging and valuing children’s experiences and their cultural contexts. ‘The need is to fully grasp the child’s prior knowledge to ensure their understanding.’ Teachers recognized that ‘opportunities to



communicate with the child needed to be created.’ As discussed in an earlier section, since parents were busy with long hours at work and were also confronted with language barriers, teachers were challenged with coming up with innovative ways of engaging parents. As shown in the experience with the GC’s planting activity, despite repeated attempts to invite parents to school activities, they were not able to participate. Students explained this absence by referring to their parents’s long work days; however, sadly, there was also a note of feeling ashamed to present their parents at school.

It depends, because there are parents who work full time, and they won’t be able to come. There are parents who do not speak French, and they won’t be able to understand. There are children who are embarrassed; they are afraid their friends will say, “Oh, your parents are weird.” They’re afraid to bring their parents to school. They don’t like it.

Thus the involvement of children in engaging their parents was critical in supporting teacher attempts to make solid connection with home. As reflected by one teacher, the best way was to adopt diverse approaches. ‘If they develop daily actions at school they will certainly adopt some of them for home. If they are made aware, if they think about certain environmental questions, they may share their thoughts. Through the community, the students may experience certain activities with their parents.’ Creating a fertile context for CREE involved drawing on parents’ environmental knowledge and practices that respect their lived realities.

## **Discussion**

Our study suggests that teachers working in culturally-diverse contexts would greatly benefit from the involvement of children as co-curricular collaborators. The power of this collaboration,

and the subsequent ripples, has been underestimated on many levels. Not only can young people contribute to CREE, but, in turn, they can strengthen home-family-school-environment interchanges. These interchanges can promote environmental care intergenerationally. In turn, these interchanges also serve to enrich curriculum for all. As demonstrated in other studies (Ballantyne, Fien, and Packer 2001; Damarell, Howe, and Milner-Gulland 2013), when parents are involved with their children's EE, it not only enhances the program, but also has a positive impact on parents' and childrens' attitudes toward the environment. In this way, EE becomes a context for children to become effective complex adaptive agents that shape and reshape their home, school, and community environment based on their EE learning. When this EE curriculum is also culturally-responsive, it serves to positively impact on the integration process, while also contributing to a socio-ecological intercultural dialogue (Cutter-Mackenzie 2009; Nordström 2008). Knowledge bridge-building between the school-home-environment promotes dialogue about environmental practices and environmental stewardship providing for the ultimate goal of environmental education, 'fostering a culture of belonging and commitment' (Sauvé 2009, 320).

There are also larger social implications. Generally, within many societies, children are restricted in their participation in the public sphere. But as we have shown in this inquiry, immigrant young adolescents can take on a larger role within their families regarding the promotion of environmental care, bridging the school curriculum with practices at home (AuthorA and Other 2015). Dewey (1939/ 1991) would contend that this increase in active participation in a public arena is fundamental in establishing and sustaining democratic communities. Democratic communities emerge from 'the possession and continual use of certain attitudes, forming personal character and determining desire and purpose in all the relations of life' (226). We suggest that the promotion of active environmental care creates a focused and

specific public <sup>4</sup> that is strongly linked to the concerns of children and young people. This public commons gives children a space to gain voice and build identity, especially those from immigrant communities, and opportunities to begin to practice public engagement in their adopted homeland in ways that connect to place. This engagement builds a foundation for citizens' future capacity for public deliberation and judgment, since concrete conditions of everyday life are the necessary groundwork for civic engagement (AuthorA and Other 2015).

The promotion of environmental care through EE may serve to connect immigrant young adolescents to public life, reversing a widespread trend in North America (Hildreth 2012). This is particularly key given that ecological havoc is understood to be integrally linked with the structural forces that are increasing inequality and weakening democratic publics (Reid and Taylor 2003). Active participation in a democratic commons may also serve to integrate the parents of these immigrant young adolescents into the social, environmental and community fabric of their adopted country. Practicing environmental care provides families with public engagement opportunities without the hint of governmental politics, which may frighten those families who have emigrated for political and safety reasons; it may also serve as a process of building community, and plant local roots through creating shared environmental experience outside of the usual family survival activities.

It is for this very reason regarding the potential of environmental care to create a public commons that it is imperative that a broader conceptualization of EE be implemented in schools. By almost exclusively focusing on the 4Rs (Scott, 2011), educational institutions limit the capacity for EE to function as a public forum for citizen development. To transform everyday

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<sup>4</sup> Dewey (1927 / 1954) had earlier observed that the publics had become too large, too diffuse, and too scattered to enact collective judgment.

experiences of environmental care into civic engagement, curriculum needs to invite children and young adolescents (and their families and cultural communities) to reflect on felt difficulties about their local environments, frame their experiences in civic and social justice terms, co-create spaces for environmental social action, and guide their efforts to address public environmental problems. CREE serves to create an intercultural dialogical space that allows immigrant children and their families to retain their homeland attachments (by sharing their cultural environmental constructions, knowledge, and practices) while creating a new identity rooted in their local place and the new country environmental constructions, knowledge, and practices.

As this study suggests, we need to reconceptualise how schools promote linkages with place and communicate with the home- not directly but through children- without overburdening them with responsibilities beyond their capacities. Initiating discussions about the environment at home allows early adolescents to create spaces where adults and children can come together in dialogue, reflection and social learning, as well as participate in family decision-making processes, setting the stage for future community engagement (Percy-Smith 2006). This intercultural space would shape a civic commons where ‘institutions, collective memories, social networks, and skills that enable and inspire individuals to engage with each other in stewarding the common good’ (Reid and Taylor 2003, 75). Doing this in the context of CREE can also strengthen the bonds between the home and school, and between children being socialized in a new country’s culture and their parents representing their home country culture. In this way, we may also seek to find opportunities to overcome and accommodate the underlying sociological inequalities experienced by many first generation immigrants that create barriers to further parental involvement.

**Conclusion**

This inquiry expands and enriches our knowledge about the potential for CREE to positively shape the development of young adolescents and their school and family relationships. Certain trends, especially the role of environmental care as a context for bi-directional home-school-community-place communication, public engagement and a new role for early adolescents as environmental ambassadors, could be tested in other educational milieus. These could be formulated into working hypotheses in future research projects, and investigated in multiple varied settings. Carried out by other investigators in different cultural contexts, these additional studies could assess the degree of fit our findings might have in other locales with different constituents.

By engaging with family members more actively and experientially, young adolescents may serve to go beyond influencing attitudes to actually shaping family, and ultimately local, environmental practices. In this way, environmental activism provides a context that evokes the ardent passions, emotions, and commitment of young people, transmuting the family into a place of transformative learning (Kovan and Dirxx 2003; Mannion 2012). Contemporary concerns of environmental, social imbalances and globalization offer opportunities to redefine the form and nature of EE, but our education system also needs to embrace this challenge.

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Figure 1. Summary of the data sources and the research phases

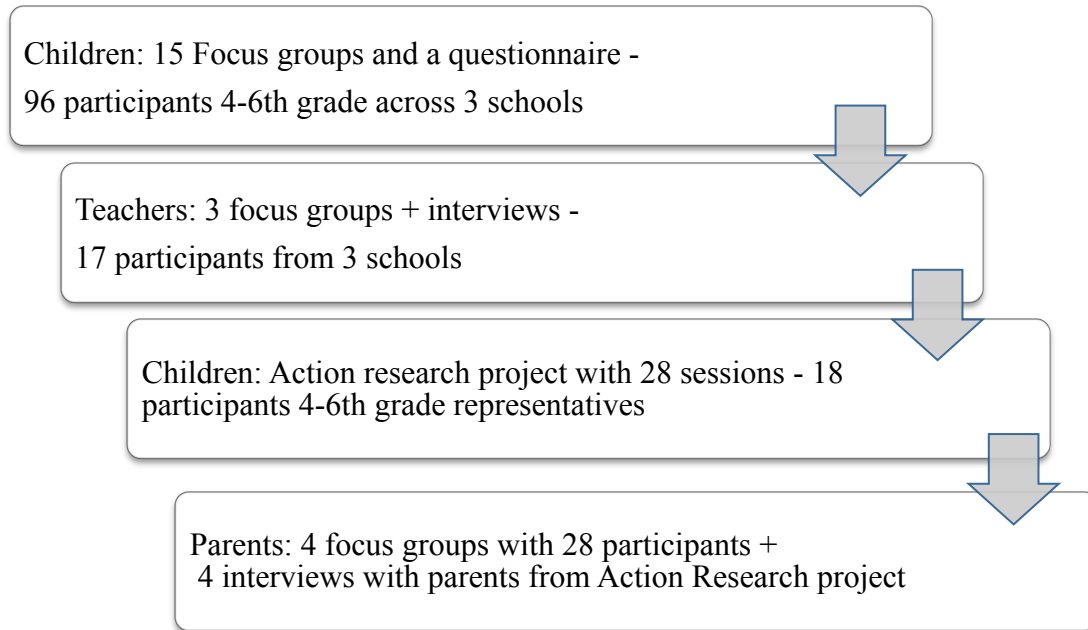


Table 1. Results from questionnaire in phase 1

	<i>Who thinks about caring for the environment?</i>	<i>When I learn things about the environment, it is important to share my knowledge with:</i>
Me	72%	---
My peers	52%	49%
My family	70%	85%
My teachers	56%	---
My neighbours	26%	9%
My community	9%	7%
I don't know	8%	---

<i>From whom do you learn things about taking care of the environment:</i>	Very Often	Often	Sometimes	Rarely	Never
My mother	16%	15%	41%	18%	11%
My father	16%	20%	26%	20%	18%
My teachers	44%	37%	18%	1%	0%
My peers	10%	17%	26%	29%	18%
Books	29%	24%	32%	10%	5%
My siblings	9%	12%	24%	15%	40%
In places of worship	17%	11%	13%	24%	35%
T.V.	26%	26%	33%	10%	5%

Note: n=97



Table 2. Pre and post responses to action research green committee questionnaire

*The Green Committee will (pre) /did (post) give me a responsibility:*

		Big	Medium	Little	Not at all	I do not know
In my class	Pre	93%	7%	0%	0%	0%
	Post	75%	8%	8%	8%	0%
With my peers	Pre	27%	47%	13%	0%	13%
	Post	50%	42%	8%	0%	0%
With my family	Pre	47%	27%	13%	7%	7%
	Post	92%	0%	8%	0%	0%
In my neighbourhood	Pre	71%	0%	14%	7%	7%
	Post	50%	42%	0%	0%	8%

*The Green Committee will (pre)/did (post) contribute to environmental care:*

		Totally agree	Agree	More or less	Disagree	Totally disagree
Of my class	Pre	73%	27%	0%	0%	0%
	Post	73%	27%	0%	0%	0%
Of my school	Pre	53%	33%	13%	0%	0%
	Post	91%	9%	0%	0%	0%
Of my neighbourhood	Pre	60%	7%	27%	0%	7%
	Post	91%	9%	0%	0%	0%
Of my home	Pre	87%	7%	0%	0%	7%
	Post	67%	17%	17%	0%	0%