Running head: TEACHERS' PERSPECTIVES ON EE IN MULTICULTURAL CONTEXTS

Teachers' perspectives on environmental education in multicultural contexts:

Towards culturally-responsive environmental education

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Abstract

This inquiry explores teachers' perspectives on enacting environmental education in a Québec urban locale with high student diversity. Participating in focus groups and interviews, teachers from three schools discussed their experiences incorporating environmental education into their multiculturally-diverse classrooms. Challenges included value clashes, a lack of common lived experiences, and reconciling contradictory educational perspectives and political policies, which often placed teachers in paradoxical positions. Findings suggest moving toward practices of culturally-responsive environmental education that demand more than awareness but include interactive dialogue. Teachers need support from beyond the classroom and the capacity to develop curriculum facilitating the inclusion of students' culture.

Keywords: Multiculturally-diverse contexts, teacher perspectives, environmental education, culturally-responsive curriculum, curriculum development

Graphical Abstract

Highlights

➢ Teachers from schools with significant linguistic and ethnic diversity participated.

➢ Teachers faced challenges in considering multicultural diversity as an asset in EE.

➢ A move towards culturally-responsive EE needs to build on local, external resources.

➢ Teacher capacity must include co-creating curriculum incorporating student diversity.

1. Introduction

Our modern world is marked by two major concerns: the impact of globalization and apprehension concerning the sustainability of the environment. In response to progressively more pluralistic societies, schools are taking on an explicit role in preparing future citizens for diverse societies (Hoosain & Salili, 2010; Knoester, 2012; Sleeter & Soriano, 2012; Wee, Harbor, & Shepardson, 2006). Similarly, issues of environmental instability and worldwide environmental degradation have resulted in a call for greater emphasis on environmental education (EE) (Sauvé, 2009b) in order to create and maintain optimal and sustainable relationships between the public and the environment. Therefore, EE has emerged as an international pedagogical trend (DEH, 2005; Hamzah, 2008; Pizmony-Levy, 2011; Ravindranath, 2007; Wood, 1989).

Until recently, limited attention has been paid to the interconnectedness between cultural diversity and environmental sustainability (Nordström, 2008). Yet incorporating both pedagogical strands into one curriculum could provide students with a more holistic education that avoids fragmentation and shallowness that leaves students disempowered and unprepared to becoming global eco-citizens (Fien & Tilbury, 2002; Stibbe, 2004).

This paper explores teachers' understandings of, and perspectives on, enacting EE in a multicultural context, and argues that a fuller, more coherent incorporation of student diversity into EE would benefit student learning. We advocate moving towards culturally-responsive teaching and learning practices in EE. Generally, research on blending these two traditions has examined student experiences (Lundholm, Hopwood, & Rickinson, 2013). However, understanding teacher perspectives is critical given that EE is laden with normative ideas, shaped by teachers' values. Additionally, student learning and understanding are dependent upon both the manifest as well as the hidden curriculum (Erickson & Schultz, 1992).

To explore and illuminate teacher views and experiences, we solicited teachers who self-identified as active in implementing environmental activities in three elementary schools in a major city in Québec. These schools were composed of student populations with a high degree of linguistic and ethnic diversity, and these teachers were interested in adapting EE to their diverse classrooms. Teachers in Québec operate in an ambiguous curricular context: EE is considered a transversal subject, intersecting across the curriculum (Sauvé, Berryman, & Brunelle, 2003), yet few teachers have any formal training in this content. Recognition of cultural diversity is implicitly shaped by Québec's intercultural policy that seeks to promote shared values and recognize diversity while preserving and promoting the French language and culture (Ministère de l'Éducation, 1998); however, this takes place in a larger Canadian context that is shaped by a multicultural approach to policy (Taylor, 2012). Some research suggests that, contrary to its intent (Kymlicka, 2012), intercultural policies may, in fact, promote assimilation rather than pluralism (Angelides, Stylianou, & Leigh, 2004; Bereményi, 2011; Leeman & Pels, 2006). Nonetheless, it must be noted that in other international contexts, multiculturalism has been accused of the same trend (Hajisoteriou, Neophytou, & Angelides, 2012). In order to situate our findings, we outline the benefits of promoting culturally-responsive EE (CrEE), and highlight issues of terminology and practice given the curricular context in Québec. However, this context does provide some insight into educational systems across the globe.

2. Situating EE in multiculturally-diverse contexts

2.1. Benefits

For quite some time, there have been critical calls for EE to more fully incorporate a multicultural dimension (Gigliotti, 1990; Running Grass, 1994) by respecting and encompassing alternate ways of knowing and seeing the world. But Agyeman (2003) suggests that little has

been done to generate specific genres aimed at understanding, characterizing and supporting diversity within mainstream EE. EE has been accused of being a curriculum for the privileged, affluent, and suburban (Running Grass, 1995). More often than not, other cultures and perspectives have been excluded or marginalized (Martin, 2007; Taylor, 1996). "Both our understanding of environmental issues and the proposed solutions are culturally limited to and by the perceptions of the dominant group" (Marouli, 2002, p. 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 (Running Grass, 1994). These issues are vital given that half of the world's populations under the age of 25 live in urban areas (UN Habitat, 2010). In addition, immigrants who inhabit cities far from their home countries may not feel a connection to their concrete, high-rise neighborhoods (Nordström, 2008).

Underlying this paper is the perspective that EE enhances 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 (Sauvé, 2009b). This is supported by the nonacademic and academic outcomes of EE: achievement motivation; awareness of social activism; critical thinking, problem solving, and decision-making skills; civic and environmental engagement; positive environmental attitudes, behaviors, interests and values; student–parent environmental communication; and systems reasoning (Ladwig, 2010). Reaching out to culturally diverse populations, utilizing their indigenous knowledge and perspectives has been shown to interrupt the reproduction of social inequalities, colonialism and oppression in such countries as New Zealand (Patrick, 2010), Australia (Aveling, 2010), Canada (Neil, 2000) and Japan (Nomoto, 2009). Research internationally shows that education systems that embrace linguistic diversity are most beneficial to student learning, fostering academic achievement, self-

esteem and confidence (Cummins, 2007; Falbo & de Baessa, 2006; Kymlicka, 2003). Nieto

(2002, 2004) reminds us that linguistic diversity, along with race and ethnicity, is integral to a

multicultural approach.

EE that is culturally-responsive to student diversity in the classroom can thereby become

more effective overall, since learning is greater when teachers *and* learners engage in a dynamic

process where curriculum is co-authored (Entwistle & Smith, 2002) integrating multicultural

knowledge and perspectives. Teaching develops best through processes of co-participation and

social engagement in authentic contexts and as a function of connections with others in

communities of practice (Wenger, 1998). Based on this reasoning, it is clear that there is a need

to better understand the significance and opportunities for EE in culturally diverse contexts.

Doing so, however, requires clarifying pedagogically and politically-laden terminology.

2.2. The tension between multicultural and intercultural

In an effort to address the gap between EE and the need to directly address growing student

diversity, two distinct approaches have emerged. The North American literature refers to

multicultural environmental education (MEE), a term coined in the 1990s. Running Grass (1995)

outlines some key principles:

- It is an educational process that helps individuals become aware of, understand, accept, and

  celebrate other cultures and their environmental traditions;

- It affirms the central idea that all cultures have a relationship with the natural world which

  they and all others can draw upon for understanding and inspiration; and

- It asserts that, beyond the development of environmental literacy, community

  empowerment and restoration are necessary steps and key goals and that a "non-

  advocacy" approach is impossible.

MEE is thereby conceptualized as taking a holistic, interdisciplinary approach aimed at problem solving and addressing community issues and needs, emphasizing environmental rights for all, and utilizing indigenous environmental knowledge and perspectives (Sauvé & Garnier, 2000; UNESCO, 1977). It is based on the premise that the world is experiencing an environmental crisis that requires questioning the status quo including the responsibility of Western culture for precipitating this crisis (Martin, 2007).

Nordström (2008) points to the ease with which multicultural education (ME) and EE can be integrated, since they share an underlying core. Each emphasizes values education and empowerment, finds common ground in treasuring diversity, respect, compassion, justice and equality (Nordström, 2008), and attempts to educate individuals into becoming informed, thoughtful global citizens (DEECD, 2009). However, Marouli (2002) found that MEE practice varied greatly. There was a lack of consensus on its meaning but it ideally emphasized social justice and global/local connections resulting in different instructional pedagogies.

Indeed, a review of the rich literature on progressive forms of ME and EE suggest there are multiple linkages between the two concepts. EE involves a multidisciplinary method of teaching and learning that educates individuals to become more knowledgeable about their environment and to develop responsible environmental behavior and skills in order to work for improved environmental quality (Nordström, 2008). Similarly, progressive ME prepares students "to know reflectively, to care deeply and to act thoughtfully" (Banks & Banks, 1995, p.152). To do so, teachers employ strategies that actively engage student learning processes. As well, ME insists teachers themselves become more self-reflective, aware of their own attitudes and behaviors towards diverse others.

However, internationally, the concept of multiculturalism has fallen into disrepute, and some claim it has suffered irreparable damage (Kymlicka, 2012; Maxwell, Waddington, McDonough, Cormier, & Schwimmer, 2012; Meer & Modood, 2012). In an effort to preserve a focus on diversity, interculturalism has been offered as an alternative, especially in Europe and South America. Though some claim that the differences between multiculturalism and interculturalism are minimal (Levey, 2012; Meer & Modood, 2012; Taylor, 2012), a few authors have outlined distinct differences. Ponciano and Shabazian (2012) differentiate the two in the following way: multiculturalism focuses on the creation of equal educational opportunities and positive attitudes toward differences, while interculturalism involves sharing and learning across cultures that promotes understanding, equality, harmony, and justice in a diverse society. "An intercultural environment is one in which there are authentic and meaningful exchanges of information… that transform all involved" (p. 23). They note that the intercultural approach explicitly acknowledges that no one individual fully represents an ethnicity or race, merely his or her own experience as a member of a group within his or her cultural context. Intercultural EE (IEE), therefore, attempts to connect members of the dominant group through dialogical exchanges with the knowledge reservoirs and expertise of diverse others, for example immigrant or refugee communities- the goal being sustainability (Müller, 2007). IEE has also been promoted as a way of decolonizing and Indigenizing issues in mainstream EE (Guerrero, 2003; Lowan-Trudeau, 2011).

One controversial, and often misunderstood, dimension to interculturalism is the emphasis on a stronger sense of the whole, in terms of social cohesion (Meer & Modood, 2012) and the co-construction of a common societal culture (Maxwell et al., 2012). This has often been interpreted as assimilationist, through this is an inaccurate interpretation (Kymlicka, 2012; Maxwell et al.,

2012; Taylor, 2012).[1] In terms of IEE, however, this movement towards unique communities, contributing to a collective good, strongly relates to additional tenets outlined by Running Grass (1995) concerning CrEE:

- It adopts an inclusive approach that addresses the different needs of participants based upon and shaped by how and where they live;

- It includes family and community institutions directly in the development and implementation of curricula and programs; and

- It includes the promotion of ecosystem, communities, and individual health as inextricably linked and a society at peace with the natural world and with itself.

In the context of education policies in Québec, the applicability of MEE terminology is particularly problematic; however, other educational systems have experienced similar challenges.

2.3. The collision of multicultural and intercultural EE in Québec and elsewhere

Since the 1960s, educational policies have reflected a focus on integration into an essentially francophone Québec. Since 1977, newcomers are required to attend French school. In response to increasing diversity due to immigration, the Ministry of Education (1998) adopted an intercultural education policy, which states, "Curriculum and school life must both reflect the heritage and shared values of Québec and be open to ethnocultural, linguistic and religious diversity" (p. 24). The Commission scolaire de Montréal (2006) passed its own intercultural policy which identifies the need for "trained staff in interculturalism to reflect the composition of the school population, for the integration of students from all backgrounds, as well as education for democratic and pluralist citizenship of all students" (p. 2, translated). In 2011, 60% of all

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[1] These authors also point out that multiculturalism has also been accused of being assimilationist.

students in this school board were either born elsewhere or had immigrant parents (CGTSIM, 2013).

Interculturalism in Québec has been criticized for promoting a hegemonic Eurocentric worldview that leaves limited space to ethnocultural minorities. Policies that emphasize unilingualism (in this case French) have been shown to be subtractive, stressing replacement of home languages and cultures by the host country's (Cummins, 2007). Some research suggests that the dynamics of language and power in Québec have translated into assimilation and an intolerance of differences by teachers (Breton-Carbonneau & Cleghorn, 2010). Salée (2010) comments that policies fail to "develop the foundations of a more generous and open citizenship" (p. 147).

Clashing positions regarding interculturalism are not unique to Québec. Angelides et al. (2004) found that Cypriot classrooms functioned as kettles of cultural assimilation since the Ministry of Education and Culture endorsed policies to fulfill orders placed by the state. However, during this time, multiculturalism and interculturalism were used interchangeably in the formal text of the Cypriot curriculum. Only in 2008 did policy shift solely to interculturalism (Hajisoteriou at al., 2012). This transposition of terms was also present in Québec classrooms. In our experience, teachers used the terms interchangeably, leading to contradictory practices (which will be discussed in section 5.2.2). Bereményi (2011) also noted strong contradictions between school intercultural policies and classroom practices regarding the education of Roma children in Spain. The most critical stance was taken by Leeman and Pels (2006). They contend that national educational efforts to promote social cohesion, do, in fact, promote assimilation through an emphasis on common values and norms, rather than promoting a reflective stance on inequalities and cultural pluralism in Dutch society. "Education policy is showing a swing from

diversity to 'civilization'" (p. 72). It is clear that the formal and informal socio-political context

strongly impact the enactment of curriculum by teachers (Cornbleth, 2008; Erickson & Schultz,

1992).

We join Marouli (2002) who concludes that the name MEE may need to be "(re)considered"

(p.40) given specific cultural contexts. She contends that the term is too North American-centric.

And, in light of the politically-charged debate distinguishing interculturalism from

multiculturalism, and the lack of clarity on their relative merits and superiority (Kymlicka, 2012;

Wieviorka, 2012), we advocate refocusing on multiculturally-diverse contexts to explore

teachers' perspectives, and avoid linking to conceptually fuzzy notions. In this paper, we will be

using the term culturally-responsive environmental education to describe curriculum that

involves many culturally, ethinically, racially, and linguistically diverse voices in co-creating and

co-implementing curriculum (Akkari & Gohard-Radenkovic, 2002; Lewis & James, 1995). It is

an approach that recognizes the inter-linkages between people-society-environment-community;

its ultimate goal is the harmonious development of societies aimed at creating a sustainable

future for all by facilitating personal as well as social change (Sauvé, 2009a). In particular, this

study attempted to: 1) understand the strategies of teachers adapting EE to their multicultural

milieu and 2) their views on enacting an EE curriculum in their highly diverse classrooms as they

participated in a project to create a curriculum website for doing EE in a multicultural context.

4. Methodology

4.1. Research context

The larger backdrop of this study was a project to develop an EE curriculum with

multiculturally-diverse students, teachers, a community-based environmental organization, and

members of a university research team. This paper focuses specifically on illuminating the

perspectives of teachers. Three schools were initially identified by the environmental school board liaison as schools with multicultural populations that were already implementing EE. Similar to the USA and the UK, EE has been integrated into the curriculum as a cross-curriculum subject-area, recognized as one of the 5 general domains of education under the heading *Environment and consumption* (Sauvé et al., 2003). Since it is not mandated as a core subject, and because elementary school teachers in Québec are generalists, EE varies greatly from teacher to teacher, despite school boards having staff to promote activities and offer training programs.

In each school, immigrants and nonpermanent residents comprised close to 70% of the population; in the classrooms, children had connections with over 20 countries, with 95% of them speaking 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 and cultural barriers (Crowe, 2006; Rousseau et al., 2007).

4.2. Methods and procedures

We selected a qualitative methodology since this approach is conducive to exploring and illuminating meaning attributed by participants to certain events, actions, relationships or social phenomena. It also facilitates the identification of unanticipated trends (Maxwell, 1996). We utilized both focus groups and individual interviews. As a socially-oriented method for capturing real-life data (Morgan, 1997), the focus group: 1) elicited perceptions and ideas in implementing EE curriculum in a multiculturally-diverse context; and 2) allowed teachers to collectively generate ideas and solutions. Focus groups also take advantage of the power of group synergy, collective and collaborative thinking, and problem solving (Krueger & Casey, 2000). Each focus group session was scheduled either during a pedagogical day or a free

afternoon arranged with the school principal. Lasting on average 90 minutes, the focus group

explored the following open-ended questions: [2]

∞ What EE activities do you carry out in your classroom?

∞ What are some of the things you observe about teaching EE in a multicultural classroom?

∞ What do you like/find difficult about adapting EE to your multiculturally-diverse

classroom?

We then asked teachers to individually identify some of the most successful EE activities they

used in the classroom. In sharing their perspectives, they also discussed what made these

activities successful in a multicultural setting. The lead author and an educator from a

community environmental organization, along with a graduate student, facilitated the focus

groups. All sessions were digitally recorded and transcribed. Seventeen teachers in grades 3 to 6

from three different schools located in the same borough participated in the focus groups. They

were all teachers who: had been identified because of their interest in EE activities in their

classrooms; expressed a desire to adapt their EE curriculum to their highly diverse context; and

wished to contribute ideas and practices to a website for other teachers and educators to access.

Focus groups were composed of 3 to 6 participants, depending upon the school. Eighty-five

percent (2 out of 17) of the participants were white "francophone de souche" [3] and 95% were

female. The ethnocultural homogeneity of teachers in this study is representative of the profile

within the school board. Teachers had between 5 to 22 years of classroom experience. They

ranged in age from early 30s to mid-50s. They all had been trained in local university education

programs. None had received extensive specialized training in working in multiculturally-diverse

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[2] Please note that questions and excerpts from transcripts have been translated from French into English for this manuscript.

[3] This phrase refers to "old stock" Québec lineage.

contexts or EE, though all had participated in at least two professional development workshops on these issues.

In order to capture deeper teacher reflections, we individually interviewed interested participants, as well as school principals. These were carried out as conversations to uncover the underlying meaning of their views (Kvale, 1996). Questions allowed us to explore themes that had emerged from the focus groups, including conceptions of EE, how it relates to preparation for and practice in multiculturally-diverse contexts, and teachers' relationships with students' home cultures and with parents. Questions included:

- Why do you teach in a multicultural setting?

- What are the challenges you encounter in teaching EE in a multicultural classroom?

- Have you been trained to teach EE in a multicultural setting?

- How do you think EE could be a way of valuing students' origins?

Finally, teachers were shown a Venn diagram presenting EE and ME (since, as mentioned in section 2.3, the term "multicultural" was often used by the teachers themselves) as two overlapping concentric circles, and asked to comment on the interface. Interviews lasted between 45 and 60 minutes and were digitally recorded and transcribed. Amongst the eight individual interviews, five were conducted with teachers and three with school principals. Three additional teachers who initially volunteered to be interviewed were on maternity leave when the interviews were conducted, and therefore, could not participate.

Throughout, the study adhered to the *Tri-Council Policy* (CIHR, NSERC, & SSHRC, 2010), guidelines that regulate research conducted in Canada. These guiding principles promote the core values of respect, concerns for welfare, and justice. Participants were free to decline to participate without adverse consequences, and to withdraw or limit their contributions at any

time. Neither principals nor the board liaisons were informed of teacher participation status.

Individuals were fully informed of the conditions and extent that participation might entail.

Confidentiality within the focus groups was maintained at the group level; traditional notions of

confidentiality for individual interviews were upheld. Ethics clearance was received from the

University Human Research Ethics Committee and the ethics committee of the school board,

which also required initial approval from each school principal.

Focus group and interview transcripts were rendered into text for analysis. Open and axial

coding procedures (Strauss & Corbin, 1998) were used and coding was done at the level of units

of meaning using *HyperResearch*. In developing the codebook, we began with focus group data,

followed by the interviews. Appearance of the codes across all three schools was necessary for

retaining them in the analysis.

5. Findings

Emerging from the data is a sense that teachers practicing EE recognize that the context in

which they are working requires embracing diversity, yet their own values, lack of preparedness

and inadequate support highlight the difficulties of adapting EE to their multiculturally-diverse

classrooms. Below, we present the predominant themes under two main headings: (1) strategies

in enacting EE in a multicultural context; and (2) challenges to adapting EE to multiculturally-

diverse classrooms.

5.1. Strategies in implementing EE in a multicultural context

Given that teachers were initially identified because of their interest in adapting EE to their

diverse classrooms, teachers were fairly articulate on how to do EE. Mostly, they identified it as

best located in the classroom since this is the context where they have the most control and

influence. The highest reported priority for teachers was to *promote behavior change* so that

children felt they could make a difference. Actions tended to be small but developmentally appropriate. Many activities applied to the every day lives of children, teachers, and parents. Generally, these involved establishing repetitive routines for recycling, composting, and re-use to become common practice; in other words, "It's a task that has to be repeated every day" (focus group, school 2).

Central also were *experiential strategies*, which ranked as the second highest strategy. Teachers found that learning was most effectively done through manipulation and action. One focus group participant (school 1) stated, "For example, we have a composting bin in class and we show what goes in and what happens." Another teacher spoke about the value of having doves in her classroom so that children could connect with animals, and learn about habitats and reproduction.

Teachers also identified encouraging *critical thinking* as a way of engaging children in an area that is perhaps more flexible than other subjects such as mathematics. One teacher explained how in EE students could engage with the topic, giving them freedom to explore, through discussion or research: "The children need to be able to reflect." Suzie [4] (school 1) explained, "You can give them lots of time. If nothing else, you can start them off with a question, leave them with it, and come back to it at the end of the week. Meanwhile, it's been percolating."

Alongside views on how to teach EE, there was some awareness of the effectiveness of incorporating multicultural linkages into their teaching. In one focus group (school 2) a teacher recalled, "This morning, we talked about questions concerning Islam... it was delicate but good... particularly affects certain students and they make additional efforts to speak in class."

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[4] All names are pseudonyms.

Taking *a transdisciplinary* approach, teachers were able to *respond to emergent opportunities* to discuss the environment so the topic could be embedded fluidly into every subject and could be incorporated into the class's everyday practices. Another teacher in a focus group (school 2) described how she saved time doing so. "For me, it has to be integrated, especially in a multicultural context, because people don't necessarily have the time. It can be integrated with science, but also with French." Teachers valued the *transdisciplinary* nature of EE, integrating it across the curriculum.

Bringing *student and teacher experiences into the classroom* and connecting EE to what both liked created more satisfying learning experiences. Santiago (school 3) explained the importance of starting from the children's background.

> The basis of teaching is to connect with the children through their own experiences. "What was it like before you came here?" That also gives the other children an opening, some basic knowledge about each other's culture, and me too.

His statement highlights how using this approach creates connections and understanding with the teacher as well as amongst students. One focus group participant (school 2) commented, "You have to make a connection with what [background] they are. That also gives them the pride of explaining to the others, of sharing who they are."

Teachers shared ideas on the format and content of curriculum to more effectively reach out to students in a culturally diverse classroom. They reflected on teaching approaches and the importance of being open to learning from students. "One learns as much from them, because they have really rich life experiences. I always have the impression that I learn at the same time that I teach… really it happens at two levels." Teachers talked about integrating it throughout all subjects and throughout the calendar year.

Of particular significance was providing experiences for students to have direct contact with nature, as many students in this urban context did not have many opportunities to go outdoors with their parents. With parents being stressed and overburdened, working long hours, there is little time for families to enjoy outdoor activities. Students mostly lived in triplexes or apartments in overcrowded neighbhourhoods where there are few green spaces. Teachers spoke about students living vicariously in the natural environment via books and TV. They commonly agreed that children in their classes were often disconnected from nature. "They feel as if they don't live in nature, because they're always glued to their televisions. They live in the city" (Claire, school 3). Thus, teachers believed that students had little connection to and awareness of the impact of the environment on their lives. Marie (school 2) described this reality, "Since we are in the city, it is difficult for children to have direct contact with nature and to develop an emotional link with nature. Very often they have never left their cement neighbhourhood."

Several teachers recognized that taking cultural diversity into account would be an opportunity to reach out to students and parents. Moreover, teachers identified this as an advantage of working in a multicultural setting. "I find that we are more valued here compared to other environments. For these parents, education is really important."

With regards to parents, teachers recognized children's role as a liaison and intermediary between the school and the home in unique ways. One focus group participant (school 1) noted

> The child is between the two: what she or he sees and learns at school, [what] she or he learns with parents. For the parents, it will take them a long time to detach themselves from their past and to say, "Okay, here… this is where I am."

To strengthen the connections between school and home, teachers identified the need to develop ways for students to interact as much as possible with their parents in the context of EE. In order

to have a real impact, several teachers recognized their role as including helping children become active and participative members of society, particularly in creating linkages with parents in the home. In one case, a focus group participant (school 2) recalled her involvement in establishing a school vegetable garden for parents to care for during the summer months.

> During the summer it's the parents who are approached by the outreach worker
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> here who comes to the garden to take care of the weeding and watering. They get
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> the vegetables from the garden during the summer and they can take the harvest at
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> the end of the season.

This type of activity was an example of the possibilities of EE serving as a bridge between school and home. Students brought home their new environmental knowledge and also helped to reinforce pro-environmental behaviors. Suzie (school 1) explained how empowering this was for children. "You know, a feeling that 'I'm smart, that I know things my parents don't know.' Wow! That's a feeling of 'Yes, I'm making changes, but I'm smart.'"

In this way, *creating a common language* would be fundamental to implementing a CrEE curriculum. This meant not only supporting capacity in the French language, but also facilitating student acquisition of EE-context specific terms and promoting a shared meaning around environmental practices. Rosa (school 3) explained, "I'll say the same thing 4 times in different ways. So they can find one way to make connections." Teachers talked about adjusting their language by creating visuals for teaching concepts of EE. It required taking the time to create these common images. This was not easy, however, given the gap between teacher and student lived experience, to be discussed in section 5.2.2.

In general, there was recognition of the value of integrating cultural diversity with EE, though teachers' views of the linkages remained underdeveloped. When presented with the Venn

diagram described in section 4.2, and asked to describe how they saw the relative importance of each element and the interrelationships, we found that teachers hesitated in their responses. This type of reflection appeared to be unusual for teachers. In the next section, we turn to the challenges in enacting CrEE which featured prominently in the data.

5.2 Challenges to adapting EE in multiculturally-diverse classrooms

Both internal and external obstacles were identified as limiting the possibilities of adapting EE to their multiculturally-diverse classrooms. Two were related to *value differences* and *the lack of common lived experience with students,* while the other dealt with the *need for support and to reach out*.

5.2.1 Teacher values versus perceived student values

Perception of a clash between environmental values held by teachers and those of their students was the most prominent category in challenges. One teacher explained pointedly, "Their consumption habits are simply not the same. They don't have the same means, and their priorities are not the same."

Amongst the value clashes, there was a noticeable perception that environmentalism was a new concept to the students' families. According to a teacher in a focus group (school 2): "The environment is not necessarily a value in every social milieu… They have other things to think about before that." The statement conveys the view that caring for the environment was a luxury that immigrant families could not afford. Several teachers referred to a hierarchy of needs to explain that caring for the environment was secondary to meeting basic needs. "You know, I think that sometimes when you're in survival mode, environmental education just does not rate on the pyramid," stated Suzie (school 1). Teachers thought that, given the need to establish

themselves in a new country and economic constraints, families lacked the time to be concerned with the environment.

Teachers were aware that promoting conservation messages could create conflict within immigrant families who valued the trappings of a consumer culture as a sign of success. One focus group participant (school 1) stated the tension explicitly, "When they arrive here, consumption becomes a sign of integration and success. And then I come along and tell them that consumption is harmful to the planet." The principal (school 1) felt that the difference in values could also provoke resentment from teachers. "When I look in my school yard and I see people walking there, leaving stuff, just tossing everything on the ground, it shocks me. Does that bring people any closer together?" The response uncovered different views on responsibility and cleanliness of public spaces. Encapsulated in this viewpoint is a construction of the environment that considers it as distinct and secondary to immigrant families' economic concerns. Teachers espoused a view of the environment as a resource to be managed (Sauvé & Garnier, 2000) which they assume immigrant families were unable to do given their economic and living circumstances.

5.2.2. Lack of common lived experience with the students

Linked to the perception that teachers and students hold distinct and often clashing values with respect to the environment, teachers identified differences in background as challenging. Repeatedly, teachers mentioned not comprehending students' historical and cultural lived experiences. One teacher explained this difficulty frankly: "My students and I do not share the same cultural, social and economic experiences or references. We do not know the everyday realities of our students." Another focus group participant (school 1) similarly stated, "Cultural references, the shared experiences we just don't have [them]. When I talk about my childhood…

when I was little… I often look at them and see that it just doesn't connect. They do not have that experience." As an example one teacher commented, "If for him it was normal that there was a lot of garbage left on the street, when I talk about it, he does not understand the issue."

Lack of commonalities meant teachers were also unable to relate to their students. Several acknowledged that they did not deal with differences because of their own discomfort and fear about being insensitive towards religion, for example. One teacher (focus group, school 1) illustrated this gap with respect to child-parent relations.

> In a Québécois community, it's easier for me to imagine the relationship between
>
> the parent and the child and to infer things. I can say, "Oh yes, their dynamic must
>
> be like this." Sometimes, here, I find it more difficult.

Being unable to "imagine" the home context of their students and engage in deeper multiple/multiethnic perspective-taking (Hyun & Marshall, 1997) affected their teaching. They found themselves easily forgetting that the absence of common lived experiences meant that a simple word such as forest might not evoke the same image that they themselves held. In a focus group (school 1), a teacher explained

> Because I come from the Saguenay, I know what a forest is, and so I think everyone
>
> knows what it is. For them, a forest is the trees in Jarry Park, and Mount Royal is a
>
> huge forest. It's tough. It's really tough.

The repeated words at the end reflect teachers' difficulty in reminding themselves continually of the need to account for these differences. But the passage "Because I come from the Saguenay, I know what a forest is" also highlights this teacher's inability to imagine that forest may hold multiple meanings within multiple cultural contexts.

In identifying language as a barrier, teachers spoke about the challenge of representing concepts in ways that reached students. One teacher explained in a focus group (school 1), "We never know what it is that they picture in their heads. It's really hard to put ourselves in their place." Inadvertently, teachers might promote implicit culturally-constructed environmental messages that might be contrary to the student's prior experience of the environment, potentially creating a conflict for the student. Suzie (school 1) gave an example of this disparity.

> When you talk about the environment, you don't know whether they used to live in
> a crowded environment where there were lots and lots of people. And it's
> completely different. If, for the child, the street was full of garbage, and then I start
> talking about… We just don't know where they are coming from, so it can be hard.

Underlying this tension is a further realization that CrEE is rarely neutral, but deeply reflects values and socially-constructed belief systems.

Differences in teacher and student living conditions meant that teaching about environmental behaviors was perceived as somewhat delicate. Claire (school 3) gave an example of how she was confronted with this dilemma when visiting a student's "rundown apartment" while also teaching about water conservation and the importance of closing water taps to reduce consumption.

> The poor kid… I talk all day about turning off the tap, and he gets home and the tap
> is constantly running. Poor kid. I hope he doesn't feel too guilty, because I was
> really harping on it. I shouldn't do that… There he is, at home, and the tap is
> constantly running because there's no washer and it's not his fault that the landlord
> doesn't come.

Her word choice suggests a certain pitying attitude, as well as an oversimplification of EE at the primary level.

Teachers commented that the great difficulty of relating and understanding the past and present lived experiences of their students remained even after working in a multicultural context for many years. A focus group participant (school 1) affirmed, "It's still kind of mysterious." This suggests that reducing the gap may not simply involve gaining knowledge of cultural differences but learning to work with, and capitalize on them using these differences to enrich and expand the curriculum and student learning.

Underlying teacher views is a belief that families make little effort to socially integrate, which includes resisting learning to speak French. Several pointed to the obstacle that students were too closely connected to their country of origin regardless of whether they were recent or former immigrants. Claire (school 3) voiced her concern, and suggested that immigrants should receive a course on Québec values to integrate themselves.

> They've been here ten or eleven years but they still stick to their way of thinking, what they believe is right, their own values, and they have no consideration for ours… They're not given a Québec Values 101 course to take on how it works, how to integrate, how to behave in society.

Comments of this nature conveyed a certain patronizing undertone, where Québec culture was viewed as something that immigrants needed to adopt, rather than Québec culture adapting to changing demographics. This also reflects some of the tensions regarding the understandings of multiculturalism/interculturalism discussed in section 2.2 and 2.3. Teachers seemed uneasy with the lack of integration, as Suzie (school 1) reflected, "More than half of the school was born in Québec, but they really live the way they do in their country of origin. That's a little strange." In

these diverse schools, teachers were themselves a minority. In one school, Marie (school 2) commented on having for the first time in her class a "francophone de souche" like herself. "It's funny because she's the one who feels different from the others." While a teacher may be a minority in her class, she teaches her culture, the dominant culture that has the power.

In teaching EE in a multicultural context the focus of social integration is largely on assimilation to the culture in power. This can be disquieting when a teacher sees her role as an educator to teach about citizenship. Rosa (school 3) explained:

I think that, yes, my job is to teach math, French, the secondary subjects, but it's also to teach the pupil to become a good citizen… Your parents came to Québec… you need to learn to be a good citizen. But being a good citizen means having awareness, awareness of everything: multicultural, environmental, how to behave with people, what is done and what is not done.

Notions of "what is done and what is not done" are heavily value-laden. Claire (school 3) stated, "I think we could offer environmental education by talking about culture here in Québec." If teachers have a limited understanding and openness to other cultures, there is a risk that EE can become another means of promoting an exclusionary or marginalizing view of culture.

5.2.3. Teacher need for support and to reach out

Teachers identified several reasons for losing energy and enthusiasm when adapting EE to their multiculturally-diverse classrooms. Teachers recognized that teaching EE in this context would require more preparation and different approaches. Teachers agreed that they were not equipped to teach CrEE, having had little (to no) preparation in their pre-service education or in-service training. In half of the interviews, blunt words were used in response to the question about prior training, including "in no way", "no, not at all," and "no, never." Claire (school 3),

felt her pre-service training was inadequate. "It is a topic of general education, but we're not trained for it. It's too abstract."

Another reason was the absence of resources. "I find we often don't have the materials. We have to build everything ourselves. Some people give up because of that," explained Colette (school 2). Another, Suzie (school 1) explained that the need for a more adaptive approach was problematic: "People always think teachers have the exact approach, because the materials we teach are always prepared for us."

Teachers also recognized that while many specific strategies play out at the level of the classroom, several required transcending those boundaries. One teacher captured this sentiment: "You can't just stay within the four walls of your classroom. You can't do that anymore." Teachers identified the involvement of the whole school as important to support a more systemic instructional approach to EE. Many environmental activities such as recycling, composting, and gardening needed to be school-wide initiatives in order to succeed.

Structures such as green committees amongst the teachers or students across grade levels were key to creating awareness throughout the school, and to provide a context for developing the skills necessary to carry out environmental activities. Many participants identified the salient role of student green committees. "The Green Brigade was responsible for composting– collecting it, taking it outside" (Rosa, school 3). Having students from different grades in green committees made it possible to organize school-wide campaigns and to allow for broader outreach. Teachers recognized the value of having several colleagues engaged in environmental activities. Having opportunities to exchange between teachers was considered vital to sharing knowledge and resources. One teacher explained, "When I don't have the tools to deal with a situation, I ask for help. 'How can I broach such-and-such a situation?' It makes it more consistent. And the

message is clearer when it's consistent." In all cases, the capacities of the green committees varied, however, depending on the involvement and leadership of individual teachers, as well as administrative support.

To encourage and reinforce the value placed on the EE curriculum and initiatives at the level of the school required administrative support. It is, perhaps, not a coincidence that teachers in the three schools identified specifically the significance of the principal's backing. A principal committed to the environment served to mobilize teachers. One principal (school 3) explained, "The role is really to regularly motivate the entire staff." Support from caretakers was also identified as crucial. They often provided for the maintenance of equipment or space that was required for doing environmental activities on school grounds.

Transcending the classroom walls also included reaching out to the community and making linkages with the home. This was especially important when creating CrEE curriculum. But creating such linkages with parents was not straightforward. Teachers found it difficult to communicate with parents, given different cultural practices and norms, beliefs about teacher authority, and demanding economic realities. Suzie (school 1) explained how it had taken her time to feel comfortable working with parents with whom she did not share a cultural background. Frequently, these were parents who struggled to make ends meet. "They will work until 9 o'clock; they will not really be with their child. They have schedules that agree little with ours." Economic concerns were considered a barrier to teaching EE. "The value of the environment is not necessarily important for everyone. They are in survival mode... they have other worries to think about, " observed one focus group participant (school 2). Teachers talked about the need to convince culturally diverse parents of the importance of caring for the environment. "In any case, with environmental education, we've got more to do. So if the

parents are on side, we're more likely to succeed." The difficulty felt by teachers suggests there

is a need to build bridges of understanding between teachers, students and parents to help reduce

misinterpretations and misconceptions.

Included in transcending the classroom walls, teachers identified the value of partnerships

with external environmental organizations to support EE and noted that these were motivating

for teachers. Thus, all three schools had community environmental educators from either *Éco-

quartier* or *Vrac Environnement* coming into the school. Bringing in local organizations was also

a way of exposing students to resources in their community. Again reaching out to local

organizations was not routine. As one principal (school 1) explained, "Everyone works well

together. There is a fantastic relationship between the community and the organizations. But I'd

say you really have to want it. You have to be motivated."

6. Discussion and recommendations

Our study was based on the premise outlined in section 2.1 that adapting EE to

multiculturally-diverse classrooms is beneficial to enhance student learning, and is a key

competency to nurture in the current climate of globalization and environmental crisis (Marouli,

2002; Nordström, 2008). We also highly value and retain the foundational principle outlined by

Running Grass (1995) that all cultures can contribute meaningfully to EE. Ideally, CrEE should

involve many voices in curriculum development and implementation, given Robottom and

Sauvé's (2003) contention that the subject matters of EE are socially-constructed. While some

strides have been made in this area (see Cutter-Mackenzie, 2009; Hackbarth, 2011; Richardson,

2011; Williams, 2008), there is still a long way to go to achieve a rich culturally-responsive

curriculum.

This inquiry occurred in a particular time and place, under particular circumstances with unique individuals (Wolcott, 1990). Therefore, the themes could be viewed as atypical; however, limited transferability may be warranted, suggesting ways to move forward. In understanding teacher strategies in adapting EE to a multicultural context and teacher views on the obstacles encountered, we found that teacher strategies reflected aspects of progressive EE in extending beyond simple knowledge-awareness to emphasizing changes in behavior and nurturing of ownership (Hungerford & Volk, 1990). But espousal of the principles outlined by Running Grass (1995) or Maroulli (2001) to promote openness to all cultures and advocacy seemed limited. In the urban locale of our inquiry, teachers had difficulty in seeing how EE could be informed by their students' diversity in deeper and more meaningful ways. Conflicts between teachers' own values and the perceived values of their students, as well as a lack of common lived experiences, often resulted in judgmental comments by teachers. Instead of promoting inclusion, one can see how EE may become "patronizing," with teachers imposing ethnocentric values, a common critique of EE (Martin, 2007). Several teachers concentrated on the challenges of doing EE with immigrants given their family's poor economic circumstances and their linguistic limitations. Similarly, teachers' repeated emphasis on the "lack of a common language" discounted students' knowledge rooted in their mother tongue, and reflected a narrow understanding of a more culturally-responsive curriculum.

This is a reality that is not unique to our study. EE curriculum can run the gamut from emphasizing outdoor nature experiences for preschoolers (Wilson, 1993); to learning about sustainable practices using the *Learning Gardens* model, where elementary students grow, harvest and cook their own food (Williams, 2008); to an energy conservation program for high school students in partnership with local utility companies (Osbaldiston & Schmitz, 2011). It can

be limited to a focus on the 4Rs (reduce, reuse, recycle, reclaim) or involve social activism to achieve environmental justice (Running Grass, 1995). This broad spectrum is also present in multicultural curriculum (Banks, 1993, 1999), which can range from a superficial focus on festivals, food, folktales and exotic cultural practices to the more fundamental differences in ways of knowing and belief systems (Kymlicka, 2003).

Perhaps one of the most important conclusions to draw from this research is that doing culturally-responsive EE would require changes that involve both teachers and the broader educational and political community. When intercultural policies and integration are fuelled by an ongoing concern to safeguard and preserve a national identity, culture, and language, this can translate into mixed messages in the classroom (Allen, 2006). Given the international trends discussed in section 2.2, implementation of a policy that reflects cultural responsiveness will remain challenging. In the context of globalization and mass migration, this double bind deserves special attention. Kymlicka (2003) contends that creating a genuinely multicultural state that recognizes linguistic and ethnic diversity requires citizens to individually be responsible for embracing linguistic and ethnic intercultural diversity; this responsibility also extends to teachers. To enhance student multicultural environmental learning, teachers must transcend their own limiting and potentially biased beliefs and attitudes.

Perhaps part of reconciling mixed messages received by classroom teachers, school board administrators and policy makers involves renaming this instructional approach, as advised by Marouli (2002). The notion of CrEE may be an option as long as it retains the core principles outlined by Running Grass; it may serve to avoid the confusion around the highly contested terms of interculturalism and multiculturalism (Kymlicka, 2012).

Another recommendation from our study would be building teacher capacity to co-create curriculum to accomplish the inclusion of family and community in curriculum development (Running Grass, 1995). This is linked to being comfortable responding to EE learning opportunities, considering that EE itself is so multidimensional (Blanchet-Cohen, 2010). As our study suggests, teaching EE requires being creative with, and responsive to, the social and environmental diversity in their particular locale. Studies suggest that effective and creative teachers are those who develop curriculum to respond to their contexts (Beck & Kosnik, 2001; Clemente, Ramirez, & Dominguez, 2000; Eldridge, 1998; Bramwell, Reilly, Lilly, Kronish, & Chennabathni, 2011).

One strategy to facilitate curriculum co-creation could be for teachers to position themselves as collaborative action researchers (Stringer, Christensen, & Baldwin, 2010) who collect information regarding the linguistic, cultural, religious, and ethnic conceptions of the environment, both in and out of the classroom, incorporating common themes in classroom activities and redesigning curriculum relevant to this milieu. When children's lives are brought into the classroom, it signals to them that their experiences and thoughts are valued and significant, building their self-efficacy. With teachers encouraging children to share past and current lived experiences in class, children can actively become engaged in environment curriculum development that is meaningful to them. Students also bring a more critical eye to what, how and why they are being taught, focusing teachers on what could be improved, and how students may approach their own learning differently (Roberts & Bolstad, 2010). Providing space for student-teacher negotiation in working through clashes between teacher and student environmental viewpoints promotes learning, as indicated in a comparative study between Sweden and the UK (Lundholm et al., 2013). Indeed, this would warrant further research,

perhaps an ideal context for more participatory culturally-sensitive EE research that is called for by Agyeman (2003).

Implications regarding an integral aspect of teacher education and professional development would be encouraging self-reflection, and the formation of teacher critical consciousness. This would help in addressing the hidden curriculum where conflicts between teachers and student values (Entwistle & Smith, 2002) often impede learning. Teachers in this inquiry were caring, committed individuals who were attempting to broaden the horizons of their students and to make a positive impact on the world. However, this does not negate the fact that they, like all of us, especially educators from privileged backgrounds, are the products of their own cultural histories (McIntosh, 2003). One strategy to better equip educators could be to create opportunities for in-service teachers to engage in reflective dialogue (Connelly & Clandinin, 1995) and critical questioning (Udvari-Solner & Keyes, 2000) about their multicultural environmental teaching practices. The value of teachers working together was often mentioned in the inquiry. McHargue (1994) found that collaboration enhances problem solving and creativity, with collective wisdom surpassing individual expertise. Further research would be required to pilot different models with teachers and how these could enhance student environmental learning in multicultural contexts.

Finally our study recommends that CrEE requires transcending classroom walls. This relates to the principle that advocacy and community empowerment are central to achieving environmental justice (Running Grass (1995). Indeed, teachers need support and resources from their school and the community. In cases where teachers have little linguistic and cultural diversity, as is currently the case for the majority of elementary teachers in Québec, partnerships with diverse cultural and linguistic organizations and ethnic communities support student-teacher

environmental learning. By facilitating authentic and meaningful exchanges between parents-communities-environmental organizations-teachers-students in transformative ways that honor the differences of each other, teachers expand their own knowledge and capacities and can be more inclusive of their students' cultural and environmental lived experiences and subjective knowledge.

Reaching beyond their classrooms is a way of implementing the central idea that every culture has a relationship with the natural world, which we can all draw upon for understanding and inspiration (Running Grass, 1995). In addition, these initiatives can build a cohesive web of healthy community and environmental relationships. As shown in our study, the involvement of partners outside the classroom walls depends heavily on the motivation of individual teachers and the principal's enthusiasm. Moving towards supportive institutions is also part of creating an empowering school culture and social structure.

In conclusion, as argued herein, a coherent curriculum that enacts CrEE can enhance student learning and preparedness for the growing diversity in urban centers and the environmental crisis of the 21st century. Teachers need to be better equipped to embrace ethnic and linguistic diversity and promote EE in their classrooms. Making this a priority and a reality requires not only building teacher knowledge and capacities, but also providing the resources and support to transcend classroom walls. Strengthening the connections between teachers, students, parents, and diverse actors in the community will ultimately help reduce the gap children feel between home and school culture. As teachers and students begin to see themselves as part of a much broader picture globally, we can gain new insights to the potential for education to cultivate eco-citizens who live in harmony with each other and nature.

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