

## School Greening and System Change

This casebook example explores the programs and activities that are helping to protect and/or enhance greenspaces as settings for public health and well-being. Taken from *Leveraging the Benefits of Greenspace for Environmental and Public Health Benefits: A Casebook of Ontario Initiatives (2017)*

### Summary

Social values are converging that link equitable and accessible opportunities for children's active play with the individual and social benefits of green spaces. This shift is represented by the gradual expansion of school greening programs. Creating a green school ground is not as easy as pulling up the asphalt and planting some trees and shrubs, however. It requires system-wide changes not only to playground design and maintenance, but also to the larger socio-political context in which the school is embedded. While local champions are vital to the success of school greening and often lead the initial stages of projects, in the end professional design and implementation as well as supportive school policies are required to support student engagement with green spaces over the long term. The struggle to transform all schools into 'green' schools, and to realize the myriad of social, environmental and health benefits associated with such a transformation, mirrors the larger social dynamics at play.

### Introduction/Background

Social values are converging that link equitable and accessible opportunities for children's active



**Figure C-1.** Asphalt Daycare Playground in Toronto

play with the individual and social benefits of green spaces. This shift is represented by the gradual expansion of school greening programs and increased concern over the lack of attention being paid to children's landscapes, particularly in urban and suburban areas. These programs link diversity in school ground design and vegetation with both pedagogy and improvements in children's social, mental and physical health (Toronto District School Board (TDSB), 2004; Dyment, 2005; Evergreen, 2016a). Greening programs include naturalization, habitat restoration, tree planting and/or food gardening. They may focus on a single feature (e.g. greening a school yard; creating theme, sensory and/or

food gardens; enhancing canopy cover; creating spaces for outdoor learning) or the structure and function of the entire school (e.g. ecoschools, forest kindergartens).

Physical health concerns related to our 'sedentary society' have motivated an increased interest in children's environments, including school facilities and schoolyards. The right to play is recognized as a basic entitlement for all children (United Nations, 1989). This right to play has additional benefits in a 'green' setting, particularly since children spend "the majority of their waking hours in the school setting" and have limited access and opportunities for active play in areas other than playgrounds during school breaks

(Kreimler et al., 2011, p.27). As urban densities increase, many children (particularly those in apartment buildings) have limited opportunities for unscheduled active play in green spaces outside of school hours. Indeed, a 2012 study by Active Healthy Kids Canada (AHKC) found that only 14% of children regularly spend their after-school leisure time playing outside. Their 2014 study reinforced this message by finding that only 7% of 5-7-year-old Canadian children - and 4% of 12-17 year olds - meet physical activity guidelines (AHKC, 2014).

Creating a green school ground is not as easy as pulling up the asphalt and planting some trees and shrubs. It requires system-wide changes not only to playground design and maintenance, but also to the larger socio-political context in which the school is embedded. In recognition of the many challenges inherent in school ground greening programs, as well as the benefits that school greening programs can offer, the non-profit charity, Evergreen is one of several organizations in Ontario (including conservation authorities and the Ontario EcoSchools Program) that supports a wide range of initiatives to encourage and expand this work. Evergreen takes a multi-level, systems-based approach to the issue of school greening in order to create the conditions necessary for green school spaces to flourish.

### **Health and Well-being**

The benefits of green school grounds, over and above physical exercise, include the provision of shade to reduce ultraviolet ray exposure, more diverse opportunities for motor development as well as social

and mental health improvements (Fjortoft, 2004; Maller and Townsend, 2005; Dymont and Bell, 2007). Research has also found that play opportunities in traditional asphalt playgrounds (also the low-cost option, see Figure C-1) are strongly gendered. They are associated with a kind of vigorous, rule-bound and competitive play that fosters and rewards a relatively narrow range of social skills (e.g. a hierarchical social dynamic of exclusion and dominance; see Evans, 2001; Gagen, 2000; Martensson et al, 2014) that encourage stereotypical play choices (Paechter and Clark, 2007). In this recreational paradigm, girls and younger children tend to be 'pushed' toward more social and sedentary activities in the fringes of the play space (Paechter and Clark, 2007; Dymont et al, 2009; Baines and Blatchford, 2011; Martensson et al., 2014). Dymont and Bell (2007) note that school yards can thus be considered 'moral geographies' (from Fielding, 2000, p. 230) where a myriad of community values are manifest.

As opposed to asphalt lots and grass sportsfields, green school yards encourage more non-competitive, open-ended, creative and imaginative play and reduce bullying and boredom (Figure C-2; Dymont and Bell, 2007). Trees, shrubs, sand, rocks, paths and logs create a multitude of opportunities for children to interact with the environment using the natural materials at hand. Jumping, climbing, running, hiding, socializing and role-playing are all encouraged. This diversity of the physical space welcomes and engages children of all shapes, sizes, interests and abilities (Bell and Dymont, 2006; Dymont and Bell, 2007). Green school grounds are investments in

holistic education (social, mental, physical, emotional, spiritual) that have particularly strong benefits for early child development.

In 2005, the term 'nature deficit disorder' was coined by Richard Louv to describe the impact of human alienation from nature, particularly on children. Similarly, Pyle's (1993) 'extinction of experience' hypothesis draws attention to the idea that as populations of people have less direct contact with nature, this creates a "cycle of disaffection" towards nature (Soga and Gaston, 2016, p. 94) that has implications for not only human health and well-being but also future investments in preserving natural spaces and vital ecosystem services. Thus, concerns over children and nature are both immediate and intergenerational.

### **Actions**

In Canada, the major champion of school ground greening is the non-governmental organization, Evergreen. Evergreen recognizes that successful school greening programs are embedded in a larger systemic shift toward programs, policies and practices that recognize the value of vibrant ecological setting in support children's social, emotional and physical development. School greening is both a response to, and a symptom of, the shrinking domain of children's spaces that is occurring worldwide (Loebach and Gilliland, 2016).

Evergreen has invested significant resources in building Canadian capacity to design, maintain and use green school grounds (Evergreen, 2016a). Given their size, these spaces are disproportionately challenging to create. They require sophisticated designs to be resilient



**Figure C-2.** School Greening Project at *École élémentaire publique Marie-Curie* in Ottawa (Evergreen, 2016b).

enough to survive the rigour of year-round use, and hardy enough to survive the love and interest of hundreds of small hands and feet. While local champions are vital to the success of school greening and often lead the initial stages of the project, in the end professional design and implementation as well as supportive school policies are required to create green school grounds that are sustainable over the long term. Evergreen has created a vibrant domestic and international network of design professionals trained green school ground design. They publish

design manuals (Evergreen, 2004) and were founding members of the International Schoolground Alliance. Evergreen creates partnership with school boards and have helped draft school board policies related to school greening, landscapes and child development. They work extensively to provide practical and motivating teacher training related to the effective use of outdoor spaces for learning. Evergreen also provides grants to assist motivated school communities to create new green school grounds. Remarkably, there is currently no institutional funding for school greening, despite its many benefits for children. Funding for this work is one-off and idiosyncratic.

### Discussion

Embracing school greening has the potential to inspire positive changes in social values. They require a commitment to community engagement, planning, investment and programming in order to realize their full benefits. Even modest investments in school greening are associated with a variety of positive outcomes and they are increasingly supported by government and non-governmental

agencies and programs. Holmes and Collyer (2006) recommend that communities “start small and do it well” (p.i). The struggle to transform all schools into ‘green’ schools, and to realize the myriad of social, environmental and health benefits associated with such a transformation, mirrors the larger social dynamics at play.

As Canadian politicians and leaders lament the lack of a culture of innovation in our society, they may be well-advised to look beyond universities and business start-ups to the design of early childhood, primary and secondary school structures and curriculums. School greening programs encourage creativity, imagination, role-playing, open-ended play and collaborative play while connecting students to the mental and physical health benefits of natural systems. They unleash the imagination (see Box C-1) and thus invest in our collective capacity to tackle challenging issues. Investments in school greening may help close the loop in this innovation cycle, while also creating the conditions for a healthier, more resilient and just society.

### Box C-1. Imagination

In her book, *Tackling Wicked Problems through the Transboundary Imagination*, Dr. Valerie Brown highlights the critical role of imagination in working through complex issues that defy complete definition and for which there can be no final ‘solution’\*. The majority of critical social-environmental issues are such ‘wicked problems’.

Brown et al. (2010) point out that “imagination is associated with creativity, insight, vision and originality; and is also related to memory, perception and invention. All of these are necessary in addressing the uncertainty association with wicked problems in a world of continual change” (p.5). Creating spaces and opportunities to foster the imagination is thus critical to efforts to address environment and health issues.

\* See the seminal paper by Rittel and Weber, 1973, for a definition of ‘wicked problems’.

### ***Discussion Questions***

1. What is system-level change and why is it important for school greening programs?
2. Do you agree that the engagement with traditional playgrounds is strongly gendered? Why or why not?
3. Do you think that open-ended, imaginative and/or collaborative play at schools may lead to more innovative thinking later on?
4. What are your favourite memories of play as a child? How were those activities linked to the physical spaces that you were playing in?

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#### ***For More Information about the Case, See:***

Evergreen. 2016. Greening School Grounds.  
[www.evergreen.ca/our-impact/children/greening-school-grounds/](http://www.evergreen.ca/our-impact/children/greening-school-grounds/)