

2017

Playing Naturally: A Case Study of Schoolyard Naturalization in Cape Breton

Emily Root
Cape Breton University

Kathy Snow
Cape Breton University

Catalina Belalcazar
Cape Breton University

Bettina Callary
Cape Breton University

Follow this and additional works at: <https://digitalcommons.cortland.edu/reseoutded>



Part of the [Environmental Education Commons](#), and the [Leisure Studies Commons](#)

Recommended Citation

Root, Emily; Snow, Kathy; Belalcazar, Catalina; and Callary, Bettina (2017) "Playing Naturally: A Case Study of Schoolyard Naturalization in Cape Breton," *Research in Outdoor Education*: Vol. 15 , Article 3.

DOI: 10.1353/roe.2017.0001

Available at: <https://digitalcommons.cortland.edu/reseoutded/vol15/iss1/3>

This Article is brought to you for free and open access by Digital Commons @ Cortland. It has been accepted for inclusion in Research in Outdoor Education by an authorized editor of Digital Commons @ Cortland. For more information, please contact DigitalCommonsSubmissions@cortland.edu.

Playing Naturally

A Case Study of Schoolyard Naturalization in Cape Breton

Emily Root
Kathy Snow
Catalina Belalcazar
Bettina Callary

Abstract

Transforming schoolyards into naturalized areas enhances play and nature connection (Dyment, 2005), increases repertoires of outdoor activities, and promotes resilience (Chawla, Keena, Pevic & Stanley, 2014). Employing photovoice and conversational interviews, this study examines children's perceptions pre- and post- playground naturalization at an elementary school in Cape Breton, Nova Scotia, Canada. Themes from data analysis include: engagement with nature, and desire for more nature; physicality and movement; built and natural play features; and risk, rules, and well-being. Drawing on existing literature in the fields of schoolyard greening and naturalization, the study discusses benefits and complexities for future consideration in similar contexts.

Keywords: playground naturalization; schoolyard greening; nature play; child-nature relations

Emily Root, Department of Communities and Connections, Cape Breton University; **Kathy Snow**, Department of Education, Cape Breton University; **Catalina Belalcazar**, Bachelor of Arts Community Studies student, Cape Breton University; **Bettina Callary**, Department of Communities and Connections, Cape Breton University.

Address correspondence to Emily Root, Cape Breton University, 1250 Grand Lake Road/P.O. Box 5300, Sydney, NS, B1P 6L2, Canada. Phone: 902-563-1889 Email: Emily_root@cbu.ca

Introduction

Children need access to nature in the outdoors. Yet, amidst increasing technological entertainment, organized programming, and the resulting decreased time for free play in the outdoor world, children often remain disconnected from nature.¹ Schoolyard greening and naturalization initiatives are attempting to confront this disconnect. However, such initiatives are not prolific in Cape Breton, Nova Scotia, Canada.

In response to the evident disconnect between children and nature, the Hillview (pseudonym) Elementary Home and School Association (HHSA), in Cape Breton, undertook an ambitious project to naturalize the schoolyard in 2014. Their aim was “to support active, healthy living; healthy childhood development; partnerships and social cohesion; community facility development; and improved knowledge/environmental stewardship through connecting children and families with outdoor activities, gardening, and facilitating engaging experiences with nature” (HHSA, 2017).

As the naturalization initiative began to take shape, the HHSA became interested in understanding and documenting the ways that students perceived and engaged with the original playground, and how those perceptions and use would change once the naturalized space had been installed. Equipped with these research queries, members of the association reached out to researchers at Cape Breton University to establish a research partnership.

Following a large-scale fundraising initiative, the playground was fully transformed. Grassy knolls replaced flat concrete areas; wooden features (both built and more natural) replaced tired commercial play structures; and trees and gardens added shade, greenery, and contemplative spaces. To accommodate a variety of student and parent interests, well-used playing fields were left intact and several smaller commercial play features were added.

1. The authors acknowledge that multiplicity exists within academic scholarship about what counts as “nature” or as “natural.” However, a full overview of that debate is beyond the scope of this article. We use the term “nature” as it is typically understood in common discourse of children, that is: grass, trees, puddles, birds, flowers, etc. It refers to elements that contrast built/synthetic features such as concrete walls, paved ground, brightly painted metal structures, etc. Furthermore, we contend that nature is more plentiful in the outdoors than indoors, and that nature tends to be sparse in conventional schoolyards.

This case study explores elementary school student perceptions and experiences in their playground both before and after it was transformed into a more naturalized space—to a space constructed with “nature in mind.”²

Review of Literature

Benefits of Outdoor Play

Human affinity for the outdoors is historically rooted and genetically programmed (Roszak, Gomes, & Kanner, 1995). In general, when given the option, children often choose to be outdoors (Schultz, Chiver, Tabanico, & Khazian, 2004). We argue that educators and parents should honour and nurture this natural affinity because of the many significant benefits to children’s health and overall development that are associated with spending time in nature and interacting with other living organisms. For example, natural green areas encourage unstructured play and promote both physical activity and motor skill development (Chawla, Keena, Pevac, & Stanley 2014; Hamarstrom, 2012; Lucas & Dymont, 2010; Taylor, 2011). Further, nature buffers the impact of life’s stresses, helping children deal with adversities (Wells & Evans, 2003), and leads to a strong sense of self and sense of belonging (Austin, Martin, Mittelstaedt, Schanning, & Ogle, 2009). Access to nature even benefits children’s sense of wonder, motivating lifelong learning and overall well-being (Taylor, 2011). Some scholars suggest that children with access to nature possess a positive environmental ethic and are more compelled to protect natural environments (Moore & Cosco, 2000; Shultz et al., 2004). Nature access has also been linked with positive socialization because it tends to promote: collaborative play (Chawla et al., 2014; Natural Learning Initiative [NLI], 2012); the development of gender-neutral and non-competitive interactions (Lucas & Dymont, 2010); and independence, autonomy, and confidence (Dymont & Bell, 2007; Fjortoft and Sageie, 2000; Schultz et al., 2004; White & Stoecklin, 1998).

2. We used the phrase “built with nature-in-mind” to refer to features and structures that were either a) not very-natural but nonetheless drew children towards surrounding nature, or b) structures/features built with materials that were less-processed or less-synthetic than typical similar commercial structures (i.e., a climber built with rough-cut logs in comparison to a painted steel structure).

Trends of Nature Disconnection at Home and School

Despite the benefits that children reap from being engaged in nature, contemporary physical and social play environments tend to encourage sedentary and indoor lifestyles—ones that are thus disconnected from the outdoor world (Hamarstrom, 2012; Muderrisoglu & Gultekin, 2015; Rautio, 2012). Children are increasingly enticed by electronic technological innovation, and this greater screen time means that they are becoming less familiar than previous generations with the outdoors (Clements, 2004; Hamarstrom, 2012; NLI, 2012). In Clements' (2004) research, 85% of surveyed mothers identified watching television and playing video games as the primary reasons that their children chose to stay indoors. Seventy-seven percent also expressed that their child's time in contact with nature was largely restricted to school hours since they were not able to spend parent-child time together in the outdoors (Clements, 2004). Children's disconnect from nature means that they are developing unfounded fears about nature, they are lacking opportunities to be physically active, and they are generally uneducated about the natural world and its importance (Chawla et al., 2014; Clements, 2004; Lucas & Dymont, 2010).

Because children spend large portions of their young lives in formal educational environments, schools and educators may have some responsibility to reconnect children to nature (Lucas & Dymont, 2010; Muderrisoglu & Gultekin, 2015; Wee, Mason, Abdilla, & Lupardus, 2016). However, barriers to nature engagement exist at schools as well. Many primary schools are located in urban or semi-urban neighbourhoods, which reduce children's access to natural or wild spaces (Taylor, Wiley, Kuo, & Sullivan, 1998; Tranter & Malone, 2004). School grounds are often fenced off for safety, and are predominantly made of cement (Lucas & Dymont, 2010). Furthermore, educators who may be interested in planning outdoor field trips often face seemingly unsurmountable red tape, including paperwork, liability issues, safety inquiries, parental worry, and high costs (Dymont, 2005; Wee et al., 2016). The fact is that students often spend rainy days indoors, and are limited on sunny days by fenced-in yards that are concrete-dominant. This reality leaves educators with limited ways to help reconnect children to nature (Chawla et al., 2014).

Possibilities for Children to Encounter Nature

Parental organizations, schools and boards both in Canada and worldwide have been moving towards playground naturalization as part of the progressive education movement of the 1930s. According to Evergreen, a Toyota

sponsored fund for school naturalization, as of the year 2000 approximately 10% of Canadian schools were involved in school playground naturalization projects of varied scales (Raffan, 2000). Schoolyard naturalization³ occurs when the community works to improve the physical playground environment and re-establish abundant nature (Lucas & Dymont, 2010). It refers to the transformation of barren, cement-dominant, and rather uninviting school playgrounds into more natural environments by adding trees, hills, logs, rocks, ponds, gardens, and other natural elements (Dymont & Bell, 2007; Lucas & Dymont, 2010). Thoughtfully designed, multipurpose uses for school ground structures, fields, and natural features have had positive impacts on the ways that children use the space, as well as on the value they place on the natural environment (Wee et al., 2016). In greened school grounds, children appear to be engaged in greater physical activity, and they have increased opportunities to diversify their play (Dymont, Bell, & Lucas, 2009; NLI, 2012; Mygind, 2007; Schneller et al., 2017). Natural play spaces at school help children to maintain a connection with nature from a young age, promoting future generations who are interested in preserving nature (Moore & Cosco, 2000; Schultz et al., 2004).

Seeking Children's Perspectives and a Unique Context

Research has shown that naturalized school grounds are “broadening the idea of community development to include interpersonal and place-based relationships” (Austin et al., 2009, p. 438). While greening initiatives aim to provide alternatives to increased urban sprawl and offset children’s tendency to choose indoor, sedentary activities, there is limited research considering children’s perceptions of the impact and implications of school ground naturalization initiatives (Fjortoft & Sageie, 2000; Hamarstrom, 2012). Understanding children’s perceptions of naturalized playgrounds is important for continued successful implementation of such spaces (Muderisoglu & Gultekin, 2015; Tranter & Malone, 2004). Moreover, this understanding is vital because, we argue, children are autonomous people who have the right to assess and call to modify the spaces at their schools, where they spend most of their waking hours.

3. Terms such as “schoolyard greening,” “naturalization,” and “restoration” are used variably to describe playground transformations. Following [name of school]’s example, our study uses the term “schoolyard naturalization” to describe what was done to modify that school’s outdoor playing areas. However, literature citations maintain original, related terms.

Furthermore, as a place-based learning initiative, it is also important to explore specific environments to provide practical, research-based recommendations to communities. There is no research on naturalized playground initiatives in the relatively small post-industrial community of Sydney in the Cape Breton Regional Municipality in Nova Scotia, Canada. There remains little understanding about the impacts of this type of initiative in Sydney.

Statement of Purpose

Guided by the collaborative interests of the Hillview School community and the researchers, the purpose of this study is twofold. First, we aim to explore the benefits and complexities of a naturalized schoolyard with a specific focus on students' experiences and perceptions. Second, we aim to document and share the story of this schoolyard naturalization process with the school community and broader local and educational communities. Our intent is to provide a case study that may support and inform future schoolyard naturalization projects in our local community. We also intend to expand the literature about schoolyard naturalization to include the unique context of a post-industrial community situated in Atlantic Canada, which may be relevant to communities comprising similar demographics.

The Case of Hillview Elementary School, Cape Breton Island, Nova Scotia

Cape Breton Island is located on the northern tip of Nova Scotia (NS), Canada, and is best identified by its rugged landscape. With the highlands on the north of the island (the highest elevations found in Atlantic Canada), a large saltwater lake at its centre, and a jagged coastline, the place fosters a sense that one is standing on a rock that has been forcefully thrust out of the sea. Just over 70% of the island's population lives in the Cape Breton Regional Municipality, seven formerly independent towns that, on account of the area's population decline, are now amalgamated into one region with a centralized government. The area has seen a decline in population with the closure of the industrial activities it was once famous for: steel production and mining. In fact, visitors to the area from as late as the 1990s would likely remember it as home to the tar ponds, one of Canada's most notorious environmental disaster sites.

Much, however, has changed. The tar ponds are gone and, over the last

decade, the area has become Canada's largest environmental remediation project to date, redeveloped as a large central community park. The development of, and support for, local organizations such as The Atlantic Coastal Action Project (ACAP) Cape Breton and New Dawn Centre for Social Innovation signal the strong local commitment to ongoing socio-ecological revitalization efforts. Perhaps these instances of positive community transformation foreshadowed the inspiration of members of the Hillview Home and School Association (HHSA) to begin to re-imagine their children's play area at school.

Hillview Elementary is a kindergarten to grade 5 school⁴ with approximately 285 students. Most (though not all) students at the school are Euro-Canadian and come from middle and upper-middle class families who have lived in the area for multiple generations. The children arrive predominantly by bus from a large, partially rural, catchment area. Many of the children have parents or grandparents that earned their incomes from the island's former industrial activities. The school is located in a residential area with limited green space. The construction is typical of 1950s architecture in Canada, with a large school footprint that is surrounded mainly by concrete used for playing sports such as basketball, soccer, and ball hockey. Prior to the naturalization project, the play areas for the children also consisted of a climbing structure, a grass covered soccer field, and a series of benches, which were placed alongside the fence.

The move to develop a naturalized playground was facilitated by funding raised by the dedicated HHSA, and was supported by the principal and in turn, the school board. The total estimated cost of the project, including in-kind donations, was \$150,000–200,000. This funding was generated through grants from the Community Health Board, the municipal, provincial, and federal governments, Atlantic Canada Opportunities Agency (ACOA), Toyota Evergreen foundation, TD Friends of the Environment Foundation, Rotary, the Sydney Credit Union, and Nourish NS, as well as through the generosity of local small business and community members (HHSA 2017).

The transformation took place in three stages. In the first stage (2014–15), students, staff, and community members engaged in a consultation process with a professional natural playground designer to envision a new playground. At this stage, the school removed hazards and broken play equipment from the yard, replaced basketball nets, and installed new

4. Like all elementary schools in the district, Hillview Elementary transitioned from a K-6 to a K-5 school. This happened midway through the naturalization project.

play structures (some of which were built with “nature in mind.”) In the second stage (2015–16), they added natural play elements (log walk, boulders), repaired the soccer field, initiated tree planting, began work on an outdoor classroom, completed fence art, and installed hill slides and a tire climber. In the final stage (2016–17), they continued the development of the outdoor classroom, in addition to carrying on with planting. They also created butterfly gardens in the final stage (HHSA, 2017).

Research Design

Methodology

It was the significance of the context that compelled the selection of case study methodology (Merriam, 1998; Stake, 2010; Yin, 2009) for this research; although there is a great deal of literature available around the impact of naturalization on school grounds, there is little that explores naturalization in a post-industrial, economically vulnerable, municipality. Case study methodology seeks to develop a deep understanding of one or several specific units or cases as opposed to a broader but shallower understanding of a number of cases. While this paradigm may limit true generalizability of the research, case studies do offer rich, deep, and complex narratives about specific social contexts that can also be more generally relevant (Hammerley, Foster, & Gromm, 2000). The investigation lent itself to an inductive approach, which allowed us to gain holistic insights on the multiple realities that were constructed by the individuals involved.

Data Collection Methods

Prior to data collection, we received ethics approval from both the Cape Breton University Research Ethics Board and the Regional School Board. We obtained written informed consent from the children’s parents, and oral consent from the children themselves. We made it clear to the children and parents that despite having parental permission, only those children who were interested themselves in participating would be interviewed. No inducements were offered to anyone, and both parents and children maintained the right to have the child withdraw from the study at anytime. They were informed that a limit to this right to withdraw would occur once the data was aggregated for analysis. We maintained anonymity and confidentiality of the participants, and security of the data. We refrained from taking photographs of any child and we blocked out any images of other children

that may have inadvertently been photographed by the participants prior to storing the photographic data.

The study included two phases of data collection: Phase One took place prior to the schoolyard transformation, while data collection in Phase Two occurred following the reconstruction and naturalization of the playground. In Phase One, we employed photovoice (Strack, Magill, & Mcdonagh, 2004) and one-on-one conversational (semi-structured) interviews with 15 children evenly dispersed between grades 2, 4, and 6. During Phase One, student participants, whose initial invitation to participate came from their classroom teachers, were provided with digital cameras and individually took 10 photos of their current playground. We instructed them to focus on areas in which they enjoyed playing. During the interviews, students reviewed and told stories about their photos to explain their playground experiences and desires.

Ten participants returned for Phase Two: These returning students had been in grades 2 and 4 at the time of Phase One and had advanced to grades 3 and 5. In this second phase, they participated in one of two focus groups in which we asked students to reflect on their play experiences in, and desires for, the newly transformed playground. We asked questions that were as open-ended as possible about their play experiences so as to avoid prompting for responses specific to naturalization. The one-on-one interviews in Phase One, and the focus groups in Phase Two, were audio recorded and transcribed for data analysis.

Clearly, the data collection methods in Phase One and Phase Two were varied. The reason for this variation in method was a combination of a time constraint and our commitment to being respectful of the school's (our community partner's) needs. As community-based researchers, we felt that it was most appropriate and respectful to work within the forum that the school was able to offer to us for data collection during Phase Two, which occurred at the very busy end-of-year time. We acknowledge that this inconsistency may be perceived by some to be a limitation to the study's findings. However, we felt that the data available to us was of merit and that it did not strongly impact our overall findings.

Data Analysis Methods

In this study, we drew on constructivist grounded theory (CGT) (Charmaz, 2006) as a specific method of thematic data analysis only. While CGT was not an entire methodological framing for our study, nor did we seek to generate a concluding theory, we chose to follow some aspects of CGT's data

analysis protocol. For example, we recognize that sensitizing concepts from our professional knowledge, and from prior literature reviews, impacted our ongoing subjective analysis of the data. Furthermore, as is congruent with CGT, we remained attentive to our ongoing analysis of the data, beginning with conversations at the inception of the project. We formalized our analysis with both initial and focused thematic coding (Charmaz, 2006) of the transcribed data, resulting in a collection of meta- and sub-themes that were supported by participant quotations. Notably, the collaboration of four researchers during our ongoing analysis, and our commitment to continuously reviewing and reaching consensus about the codes, themes, and interpretation, increased the trustworthiness of our data analysis.

Results

Nature Connections

Several themes characterize the ways children connected, or did not connect, with nature during their outdoor play. In both Phase One and Phase Two, children expressed desires for more natural features. Their comments conveyed both intentional and unintentional engagement with nature, which was manifested through their description of a variety of play formats.

Desire for more nature. The children's reflections in Phase One (prior to playground naturaliz) clearly articulated their desires for more nature in their playground. Several children noted the limited number of existing natural elements, such as "only one tree [in a particular area]," and that "there is tons of space, but there is not enough grass; it's mostly concrete." Children articulated their desires for more grass, flowers, trees, and "a peaceful garden with a stream." One student suggested that, "People would enjoy [the playground] if there was more sand to dig in."

During Phase Two, children revealed that they still desired more nature. In contrast to Phase One, where their capacity for imagining diverse play was limited, in Phase Two they described how they envisioned using the new features they desired. Several children longed for trees that were big enough to climb. One child imagined her dream playground with "an edible apple tree somewhere grassy . . . and shady . . . We can pick those apples and use them for the breakfast program." Suggestions also included new ways to use existing natural features, such as making a skating rink where the ice naturally occurs, and turning the gazebo into a campsite.

Finally, in Phase Two, many of the children expressed a desire to "use the new playground, not [just] at recess." One suggested that "Teachers

could use outdoors for actual subjects, maybe like we are doing weather in science and maybe we could go outside and see different things for science.” Another stated, “We haven’t done anything yet, but we’re going to do a volcano soon.” In other words, the students seemed quite keen for increased opportunities to be in the outdoors even during their curricular studies.

Engagement with nature. In both Phase One and Phase Two, children shared anecdotes that highlighted the ways in which they engaged with nature. In some instances, their engagement with the natural world seemed to be intentional, while in others it was more incidental or unintentional.

In Phase One, children described several types of occasions when they engaged with natural features or spaces. They described resting and quietly talking with friends near grassy hills and shady trees, and explained that they would often seek trees for shelter from the rain and sun. Several children appreciated the aesthetics of natural features, such as the treetops (beyond the fence), the colourful garden, and the “pink pollen that looks pretty.” They described key natural places intimately, such as a particular favourite tree branch for swinging, a landmark tree that serves as “home base” for tag, and bushes that are home to caterpillars and moth eggs. Snow play (fort building, sliding, and balancing) was also a key winter activity with an obviously naturally occurring feature.

In Phase Two, the children’s statements revealed that they persisted with the many nature-oriented activities they had engaged in prior to and during Phase One, such as “babysitting baby caterpillars,” seeking quiet grassy spaces in the shade for solitude and friendship, and creative snow play in the winter. However, new nature-oriented activities also seemed to emerge in the children’s descriptions of their naturalized playground experiences. They described new imaginary games such as “playing store” with props such as bark, sticks, and rocks. One child enthusiastically described using logs and rocks for Parkour. Several children discussed using logs for walking, balancing, and sitting. They also reported that walking the track was fun because it was built with stones and bridges, and they found running to be more fun because of the new hills. Many of them also referenced the new natural features as being important landmarks in games of tag or as meeting points for informal clubs or social groups.

Play Features

The children identified the playground’s features with which they played. We noticed that some of these features were not intentionally built for play and others were built intentionally for play.

In Phase One, the children spoke at length of features in their playground that were not intentionally built for play, on which they played nevertheless. These features did not encourage the children to engage with nature. Examples included stairs and railings, dumpsters, ledges, school walls and doors, and the fence: “Sometimes we just kind of sit on the railing there, by the stairs” and “Sometimes we’ll hide behind the dumpsters.” The results from Phase Two indicate that the children relied much less on these features, instead focusing their attention on naturally occurring elements such as the trees, the hill, a large rock, and the snow in winter: “The hill in the front, we always make slides on that in the winter time,” and “You know that rock that’s kind of tilted? That’s our meeting place.”

In both Phases, the children spoke about features that were intentionally built for play, but in which nature was not a primary focus. Examples included the soccer field, the basketball court, and the jungle gym. Regarding the grassy field, one child said: “We play soccer here. It’s a big wide and open space to play games.” Another child said, “Here is the small jungle gym. Here is the place you climb off and you can hide here and there. You can climb up on these [pointing at the monkey bars], but be careful not to fall off!” Before the schoolyard naturalization initiative, in addition to the basketball hoops, there was also a funnel ball bucket raised to approximately 10 feet. This was removed in the naturalization process. Of the bucket, one child said, “Nobody uses that. You throw a ball up in it, it falls out one of these holes, but it’s way too high for everybody. No one can really use it, all I use it for is playing pole tag.” In Phase Two, the children spoke favourably about the new features that were built for play, with nature in mind. The changes to their playground encouraged more diversity in play, and the children discussed how strategically placing equipment led to using natural features more often. For example, one child said: “With the new slide, more people play on the hill.” Another child said, “Normally we play with the logs, we walk across them or sit on them.”

Movement

The children mentioned various ways in which they moved in their playground both before and after the greening initiative. In particular, the children spoke about being active, playing skill-based games, and being still (or an absence of movement).

In Phase One, the children took pictures of areas in which they liked to be active: pavement, branches, hills, and the field, on which they would

skip, swing, slide, or tumble, respectively. In particular, the children seemed to yearn for more intentionally built environmental features for active movement. One child said, “You’re not allowed to climb on the benches, but people try to climb them a lot. It’s fun when there’s snow along the side of the fence. People try to balance there, and it’s almost like rock climbing.” Another child said, “We play a game called ‘Conspiracy’ where you can only take three steps and then you have to throw the ball. The game is played here because you can hide behind the dumpsters.” We noticed from the children’s comments during Phase Two that the new features helped them to be more active. As one child said, “I like running around and going over the bridge, around the log, then up the tire track and down the slide.” Another child concurred: “I like running on the track, and when I get to the top of the hill, I don’t stop running, I just jump and then it makes me feel like I’m flying!” It was apparent that while the children found ways to be active before the playground naturalization, they were also able to be active in engaging with the new features.

The children discussed at length playing games that involved skills such as throwing or kicking a ball (basketball, soccer), ball-handling (mini-sticks), or gymnastics. In Phase Two, in addition to these skill-based games, the children recounted using the new features to do Parkour: “We use the rocks that we can do Parkour over,” and “I like the natural elements used for Parkour. We usually balance on the logs.”

In Phase One, the children elaborated on activities in which movement was absent. These were often typical indoor activities that they had taken outside, like colouring or reading. Furthermore, they were often not engaged in activity at all: “Sometimes we sit behind the dumpsters”; “A lot of times, we sit on the ledge by the cars, to just talk”; “Usually trucks and trains pass by. Sometimes my friends just sit there and watch them.” In Phase Two, there was only one quote regarding the absence of movement, and it was in reference to the playground pre-naturalization “The old playground was very boring. There was almost nothing to do, unless you liked to kick around the ball or play basketball, which I didn’t. I just sat on the bench and coloured.” This could indicate that the children were more active post-naturalization.

Risk, Rules and Well-being

Prior to the playground naturalization, the children’s comments frequently displayed tensions between the children’s desire for free play spaces and the school’s safety rules. For example, in one student’s discussion of a small alley used to connect one play area to another she stated, “This was where

we used to go up, but someone got hurt, so they put a board there so no one can get through.” Another student acknowledged the need for rules to ensure safety while at the same time identifying her and her classmates’ blatant disregard for the rules: “It’s not that safe to be there. It says ‘Don’t touch’ and you’re not allowed over there, but everybody is over there.” Students were safety aware to the extent that they also identified safety issues in the designed play equipment as well: “The lily pad things to get up to the playground, I find that we need something else there, because those are not safe.” Further, students referenced that muddy shoes posed an inconvenience, resulting in school rules to stay on the pavement during wet days.

Post-naturalization, the number of comments about safety declined, and these changed in tone. Students’ comments illustrated a greater awareness of the school outdoor environment in relation to issues of safety and well-being: “People are leaving food outside and then the seagulls are coming down, and there are too many seagulls,” which leads to the rule, “No food outside: because they’re leaving litter outside.” Several students also expressed appreciation for time outside to breathe fresh air, stating that it made them feel calmer.

Discussion and Conclusions

Teachers, administrators, and other educational staff, (who care deeply about student well-being and schooling experiences), have recently faced a significantly contentious climate in Cape Breton and throughout Nova Scotia. Following several intense rounds of contract negotiations, which pitted teachers against government and union representatives, teachers were bound by a controversial legislated contract in the spring of 2017. Moreover, school boards in our region seem to face financial austerity, as evidenced by many school closures and reduced teaching and support positions in the region. More broadly, throughout North America, barriers to outdoor learning in public schools proliferate and include (perceived) high costs, lack of availability of buses, safety and liability concerns, lack of adequate training for teachers, and increased policies promoting standardized tests and narrow curriculum outcomes.

We contend that the Hillview Elementary schoolyard naturalization serves as a surprising and encouraging exemplar amidst this challenging context. Overall, as outlined below, our findings indicate significant positive outcomes for children of Hillview Elementary, and our study raises important questions for future consideration.

Benefits

Enriched nature encounter. Many of the themes related to children's encounters with nature corresponded with newly implemented natural play features and the consequent ways in which the children moved throughout their transformed playground. Students often develop connection to the natural world using "movable natural materials such as sticks, branches, leaves, and stones [that] provide endless opportunities to engage in imaginative play, such as building shelters and huts" (Lucas & Dymont, 2010, p. 183) We noticed that at Hillview Elementary student play became more diverse, and students could picture themselves engaged in new activities. Of significant note is that their nature engagement became richer, and their desires were often more complex; they expressed interest in growing food, for example, and requested opportunities to learn curriculum outside. This aligns with White and Stoecklin's (1998) contention that "children judge the natural settings not by its aesthetic, but rather by how they can interact with the environment."

Ethic of care. Regular contact with the natural world fosters an affinity for, and love of, nature, as well as a positive environmental ethic (Moore & Cosco, 2000; Schultz et al., 2004). This fact held true in the case of students at Hillview Elementary Students' care for the immediate world around them was more evident following the naturalization of their playground. For example, they displayed concern about litter in their schoolyard, they valued fresh air, they related to and cared for small creatures such as insects, and they imagined potential ways that natural spaces might support the school community in the future. We encourage educators to respond to and build on these emergent attitudes of environmental caring to foster an enduring socio-ecological responsibility among students.

Increased and diversified physical activity. Following the playground naturalization, sport remained popular amongst many students who had already been engaged in that type of physical activity. Notably, however, there were more physical activities beyond sport that seemed to appeal to a broader range of students. Although the amount of physical space available did not change, the addition of the naturalized items meant that more of the area was appealing and inviting, which created more play space for unstructured movement (such as climbing) and games of low organization (such as tag). More students reported engaging in fundamental movement skills such as jumping and balancing. Dymont and Bell (2007) found that "simple design elements help to define and diversify a play space, and can dramatically shape the way that children move . . . improve motor fitness and stimulate movement" (p. 470). Our study also

found that the diversification of students' play repertoire was linked to a wider variety of natural elements available for play. This is important because "not only do different children prefer different types of environments, but also each child may prefer a different setting depending on his/her frame of mind" (Tranter & Malone, 2004, p. 151).

Complexities

While the benefits of the naturalized playground were made clearly evident in this case study, we were intrigued to encounter two issues that merit further discussion: 1) possibilities for greater formalized outdoor learning and 2) the issue of safety and risk amidst a culture of liability litigation.

Curricular outdoor learning. First, following the naturalization, the majority of students expressed a strong desire for more time outside and in particular for the opportunity to learn curricular objectives in the outdoors. Several students mentioned discrete class activities that they did, or anticipated doing, outside. The examples they mentioned included physical education class, a volcano science experiment, and a "staycation" event. While it was beyond the scope of our inquiry to discuss lesson and program plans with teachers, our impression from the students is that, as is also true of most schools in Canada, formal learning usually takes place indoors. An area that requires future research in this case is teachers' perceptions and experiences of integrated learning in the outdoors. We suggest that, with the clear success of the natural playground, the regional school board is well poised to support teacher professional development and policies in favour of formal learning in the outdoors. Questions remain about structural and systemic changes that would need to occur to enable this shift, as well as about mechanisms for providing staff training and resourced support.

Risk and liability. The second area for further consideration relates to safety, (perceived) risk, and liability. Teachers, administrators, and parents, as well as the students themselves, are all influenced by these factors. In North America, "safety" is often the purported limiting factor that prevents students from engaging in diverse outdoor activities during school hours. Amidst a growing culture of liability litigation, there are increasing systemic rules and norms that aim to limit students' exposure to even small levels of risk. While these begin as concerns by adults, students often internalize these concerns and become fearful of relatively benign activities. This attitude was reflected in our study by several pre-naturalization comments made by the student participants. Interestingly, the overall number of student comments about safety concerns was reduced following the nat-

uralization project at Hillview Elementary. While our data was not strong enough to make definitive claims about safety and risk, we feel that the data may indicate students' increased confidence to play in perceived risky environments following their year of playing in the naturalized environment. Emergent research comparing North American and Scandinavian approaches to outdoor learning emphasizes the important role of risk and complexity in children's play for positive social development (Bentsen, Jense, Mygind & Randrup, 2010). We hope that Hillview Elementary staff and school board administrators will contemplate these complexities as they continue to position their institution as a leader in outdoor play and learning.

Conclusion

We have only begun to see the changes in the school inspired by the transformation of the schoolyard. We observed indications of a complex web of transformations in school culture and student development. Key implications for students may be the enhanced opportunities for richer and more holistically integrated socio-ecological development and wellbeing. While for teachers, the opportunity to re-think and question current norms about the use of outside space has already begun. Furthermore, for the community, the beatification of the space (a project driven by parents) provides opportunity for community pride and rejuvenation. We celebrate Hillview Elementary—teachers, students, parents, staff, and administrators—for the leadership they have shown in the imperative work of fostering strong childhood-nature experiences.

References

- Austin, M. L., Martin, B., Mittelstaedt, R., Schanning, K., & Ogle, D. (2009). Outdoor orientation program effects: Sense of place and social benefits. *Journal of Experiential Education*, 31(3), 435–439. Retrieved from http://search.proquest.com/openview/263f15_b79e4389e04b8612fdc0b8efb0/1?pq-origsite=gscholar
- Bentsen, P., Jense, F. S., Mygind, E., & Randrup, T. B. (2010). The extent and dissemination of udeskole in Danish schools. *Urban Forestry & Urban Greening*, 9(3), 235–243. doi:10.1016/j.ufug.2010.02.001
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. London: Sage Publications Ltd.

- Chawla, L., Keena, K., Pevec, I., & Stanley, E. (2014). Green schoolyards as havens from stress and resources for resilience in childhood and adolescence. *Health & Place*, 28, 1–13. Retrieved from: <http://dx.doi.org/10.1016/j.healthplace.2014.03.001>
- Clements, R. (2004). An investigation of status of outdoor play. *Contemporary Issues in Early Childhood*, 5(1), 68–80. Retrieved from www.cie.sagepub.com
- Dyment, J. E. (2005). Green school grounds as sites for outdoor learning: Barriers and opportunities. *International Research in Geographical and Environmental Education*, 14(1), 28–45. doi:1038-2046/05/01 0028-18
- Dyment, J. E. & Bell, A. C. (2007). Active by design: Promoting activity through school ground greening. *Children's Geographies*, 5(4), 463–477. doi: 10.1080/14733280701631965
- Fjortoft, I. & Sageie, J. (2000). The natural environment as a playground for children: Landscape description and analysis of a natural landscape. *Landscape and Urban Planning*, 48(1–2), 83–97. doi: 10.1016/S0169-2046(00)00045-1
- Hammersley, M., Foster, P. and Gomm, R. (2000). Case study and theory. In: Gomm, R., Hammersley, M. and Foster, P. eds. *Case Study Method: Key Issues, Key Texts*. pp. 234–258. London: Sage.
- Hamarstrom, J. C. (2012). Perceptions of naturalized playgrounds: A qualitative study. All Graduate Theses and Dissertation (Master's thesis). Retrieved from <http://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=2246&context=etd>
- Hillview Home and School Association [HHSA] (2017). Unpublished internal report.
- Lucas, A. J. & Dyment, J. E. (2010). Where do children choose to play on the school ground? The influence of green design. *Education*, 38(2), 177–189. doi:10.1080/03004270903130812
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass Publishers.
- Moore, R. & Cosco, N. (2000). *Developing an earth-bound culture through design of childhood habitats, natural learning initiative*. [Conference paper at People, Land and Sustainability: A Global View of Community Gardening, University of Nottingham, UK, September 2000]. Retrieved from www.naturalearning.org/earthboundpaper.html
- Muderrisoglu, H. & Gultekin, P. G. (2015). Understanding the children's perception and preferences on nature-based outdoor landscape. *Indoor and Built Environment*, 24(3), 340–354. doi: 10.1177/1420326X13509393
- Mygind, E. (2007). A comparison between children's physical activity levels

- at school and learning in an outdoor environment. *Journal of Adventure Education and Outdoor Learning*, 7(2), 161–176. doi: 10.1080/14729670701717580
- Natural Learning Initiative (NLI). (2012). *Benefits of connecting children with nature, why naturalize outdoor learning environments* [Brochure]. Retrieved from: https://naturalearning.org/sites/default/files/Benefits%20of%20Connecting%20Children%20with%20Nature_InfoSheet.pdf
- Raffan, J. (2000). *Nature nurtures: Investigating the potential of school grounds*. Retrieved from <https://www.evergreen.ca/downloads/pdfs/Nature-Nurtures.pdf>
- Rautio, P. 2012. “Being nature: Interspecies articulation as a species-specific practice of relating to environment.” *Environmental Education Research*, 19(4), 445–57. doi: <http://dx.doi.org/10.1080/13504622.2012.700698>
- Roszak, T., Gomes, E. & Kanner, A. (1995). *Ecopsychology*. San Francisco, CA: Sierra Club.
- Schneller, M., Duncan, S., Schipperijn, J., Nielsen, G., Mygind, E., & Bentsen, P. (2017). Are children participating in a quasi-experimental education outside the classroom intervention more physically active? *BMC Public Health*, 17(1), 523. doi: 10.1186/s12889-017-4430-5
- Schultz, P., Chiver, C., Tabanico, J., & Khazian, A. (2004). Implicit connections with nature. *Journal of Environmental Psychology*, 24(1), 31–42
- Stake, R. E. (2010). *Qualitative research: Studying how things work*. New York, NY: Guilford Press.
- Strack, R. W., Magill C., & McDonagh, K. (2004). Engaging youth through Photovoice. *Health Promotion Practice*, 5(1), 49–58. doi: 10.1177/1524839903258015
- Taylor, A. (2011). Reconceptualizing the “Nature” of childhood. *Childhood: A Global Journal of Child Research*, 18(4), 420–433. doi: 10.1177/0907568211404951
- Taylor, A. F., Wiley, A., Kuo, F. E., & Sullivan, W. C. (1998). Growing up in the inner city: Green spaces as places to grow. *Environment and Behavior*, 30(1), 3–27. doi: 10.1177/0013916598301001
- Tranter, P. J., & Malone, K. (2004). Geographies of environmental learning: An exploration of children’s use of school grounds. *Children’s Geographies*, 2(1), 131–155. doi: 10.1080/14733280320001688813
- Wee, B., Mason, H., Abdilla, J., & Lupardus, R. (2016). Nationwide perceptions of US green school practices: Implications for reform and research. *International Research in Geographical and Environmental Education*, doi: 10.1080/10382046.2016.1207995

- Wells, N. M. & Evans, G. W. (2003). Nearby nature: A buffer of life stress among rural children. *Environment and Behavior*, 35(3), 311–330. doi: 10.1177/0013916503035003001
- White, R. & Stoecklin, L. (1998). Children's outdoor play and learning environments: Returning to nature. *Early Childhood News*, 10(2), pp. 24–30.
- Yin, R. (2009). *Case study research: Design and methods*. Thousand Oaks, CA: Sage.