

Implementing a Made-in-New Brunswick Outdoor Environmental Education Program: A Case Study of Salem Elementary School

Natalie Y. Gillis
Brock University

Abstract

An increasing amount of academic literature has documented a growing disconnect between youth and the outdoor/natural world, particularly when it comes to their formal education. This disconnect has been called “nature deficit disorder” (NDD), a term that highlights the importance of interaction with the natural world for a person’s health, development, and well-being, as well as environmental sensitivity and responsibility. This paper argues, using a New Brunswick-based case study, that outdoor learning facilities and environmental education at our schools can combat the detrimental effects of NDD. Salem Elementary School in Sackville, New Brunswick, is used as a case study. To combat NDD by increasing student interactions with the natural world, a community-based partnership developed and implemented an outdoor learning facility and outdoor education program. The paper uses qualitative research methods to document the implementation and outcomes of the program through a year-long observation of the project. The paper also offers recommendations for schools wishing to develop their own outdoor education program and for the Department of Education and faculties of education.

Résumé

De plus en plus de publications universitaires se penchent sur l’élargissement du fossé entre les jeunes et le monde naturel, notamment lorsqu’il est question de leur éducation formelle. On nomme ce fossé « trouble de déficit de la nature », expression qui met en lumière l’importance des liens entretenus avec le monde naturel pour la santé, le développement et le mieux-être d’une personne, ainsi que la sensibilisation et la responsabilisation à l’environnement. Le présent article soutient que, à l’aide d’une étude de cas du Nouveau-Brunswick, des espaces d’apprentissage en plein air et une éducation environnementale offerts par nos écoles peuvent combattre les effets néfastes du trouble de déficit de la nature. L’école élémentaire Salem située à Sackville, au Nouveau-Brunswick, sert d’étude de cas. Pour lutter contre le trouble de déficit de la nature en accroissant les liens des élèves avec le monde naturel, un partenariat communautaire a vu le jour, ce qui a permis la mise en œuvre d’un espace d’apprentissage en plein air et d’une éducation environnementale. L’auteure se sert de méthodes de recherche qualitatives afin de documenter la mise en application et les résultats du programme au moyen d’une évaluation d’une année du projet. En outre, l’article contient des recommandations pour les écoles qui souhaitent élaborer leur propre programme d’apprentissage en plein air ainsi que pour le ministère de l’Éducation et du Développement de la petite enfance et les facultés d’éducation.

Introduction

Salem Elementary School, situated in Sackville, New Brunswick, Canada, partnered with professors from Mount Allison University's Geography and Environmental Department and outside community groups, including Ducks Unlimited and the Regional Centre of Expertise on Education for Sustainable Development Tantrammar to see what could be done to enhance the school's outdoor space and to incorporate outdoor education into its curriculum. The program was first initiated by parent groups at the elementary school and by members of the Geography and Environment Department at Mount Allison University. Administrators from the school understood the concerns about NDD, especially for young children, and wished to foster their students' interactions with the natural world by providing increased opportunities for learning outdoors. During initial discussions between students and teachers from the elementary school and professors from the Environment and Geography Department at Mount Allison University, it was made evident that an outdoor learning facility would be well received by members of the school community and would provide an enhanced learning and teaching environment. This prompted the first application to the New Brunswick Environmental Trust Fund in 2012–13; a grant was subsequently awarded to Salem Elementary School for the construction of an outdoor learning facility. It is important to note here that no school district operating funds were used in the development of this project.

Numerous studies illustrate the growing disconnect between people and the natural world, specifically among children; many researchers are calling for significant changes in the education system to combat this trend. This paper is a “real-time” case study of an outdoor education program at a small elementary school in Sackville during its first year of implementation. The paper provides an analysis of the benefits and challenges to student and teacher learning and assesses the factors that contributed to the program's successes or shortcomings. The methodology used in the assessment is qualitative interviews with educators from Salem Elementary School, members of the school administration, and the designated outdoor educator for the project. This methodology allows those using the outdoor education facility and program to directly discuss the benefits of the program while also commenting on the challenges they faced.

Nature Deficit Disorder

Children spend a significant portion of their day in schools, and these institutions are meant to teach the skills and tools necessary for life, including intrinsic values beyond that of the curriculum. Therefore, education that fails to adequately teach children about the natural world, or even provide them with the opportunity to spend time outdoors, contributes greatly to the development of NDD in children. The implications and consequences of NDD span many facets of well-being, including social, physiological, and physical health. The two main implications discussed in this paper are physical and mental health.

Current school reforms have been described by Louv as less than nature-friendly. He argues that North American schools are increasingly focused on test scores and academic performance and on subjects such as math and science. Researchers addressing this “death of natural history” (Louv 99) and NDD are calling for increased experiential education, which has dramatically declined in schools in the past years. Not only the curriculum, but the actual structure of classes encourages children to sit at desks for hours a day, learning little about the specific environment around them, which unfortunately may be

limited to manicured grass fields and asphalt. This lack of interaction with diverse ecological systems creates a disconnect between the science they are learning and the real world.

Furthermore, according to Louv, youth are spending approximately 95 percent of their days indoors and approximately 40 percent of their days in front of some form of screen such as televisions, computers, smartphones, or tablets. Such activities not only reduce time spent outdoors, they tend to send detrimental messages about nature. Studies have linked increased screen time to a variety of long-term health, emotional, and cognitive development consequences. The American Academy of Pediatrics and the Canadian Pediatric Society have recommended that youth aged fourteen and below should have their screen time limited to no more than two hours per day (Lipnowski and LeBlanc). Reports have demonstrated that children, as they grow older, increase their time spent participating in sedentary lifestyle activities, supporting the need to reduce screen time at an early age (Basterfield et al.).

The media also contributes to NDD by misleading people into thinking that outdoor environments are unsafe (Louv). The data over time does not suggest that there has been an increase in abductions—yet the frequent media reports of individual cases lead adults to believe it is better to keep children indoors for safety reasons despite the benefits of children being outdoors. Furthermore, the media portrays the natural world itself as a dangerous and scary place. As Louv has demonstrated, even educational material about the natural world is usually chosen because it is dramatic and extreme.

Spending increased amounts of time indoors has been shown to have physical health implications. One of the most worrying findings is that NDD can contribute to the high rate of childhood obesity. The World Health Organization (WHO) has reported that globally over 42 million children under the age of five were classified as overweight in 2010. In a 2012 report, the province of New Brunswick indicated that 24.0% of youth aged twelve to seventeen are overweight or obese. According to Kuo, “Environments with less green are associated with greater rates of childhood obesity, higher rates of 15 out of 24 categories of physician-diagnosed diseases, including cardiovascular diseases; and higher rates of mortality in younger and older adults” (4).

Although organized sports are now common for children, they cannot compensate for sedentary lifestyles (Louv). It is argued that children need to spend more time outdoors, not involved in organized sports. Time spent running, biking, or exploring nature reduces the electronic screen time and combats some of the negative effects of NDD, including low health scores.

Spending time outdoors has other benefits for physical health: “Greener environments enhance recovery from surgery, enable and support higher levels of physical activity, improve immune system functioning, help diabetics achieved healthier blood glucose levels and improve functional health status and independent living skills among older adults” (Kuo 4).

NDD can also affect mental health. Researchers have identified parallels between humans who lack interactions with nature and animals in unfit habitats. Specifically, humans in unfit habitats, like animals, increase antisocial behaviour and decrease prosocial behaviour (Kuo). Studies comparing people who have more access to parks and green spaces with those with less access have demonstrated clear differences in social, physical, and physiological health (Kuo). Kuo noted that individuals who lack interactions with the natural world suffer from increased sadness, higher rates of clinical depression, and the symptoms of attention deficit/hyperactivity disorders, while also being more prone to anxiety and stress.

Education for Sustainable Development

Education for sustainable development (ESD) is a fairly new concept that focuses on educating citizens about the four main frameworks of sustainability: environment, society, culture, and the economy. ESD attempts to prepare people to meet the various complex environmental, social, and economic challenges today and in the future (Sauvé; Council of Ministers of Education Canada [CMEC] *Education for Sustainable Development*). Sustainable development advocates for the need to meet “the needs of the present without compromising the ability of future generations to meet their own needs” (CMEC *Education* 10). ESD provides opportunities for developing this type of understanding of the world, by encouraging and promoting active citizenship and educating students about the current complexities facing our world. Pedagogy within the field of ESD also promotes notions of creativity, critical thinking, flexibility, and fostering a sense of personal responsibility toward our planet.

The United Nations declared 2005–14 the Decade of Education for Sustainable Development (UNESD) and has promoted the following goals of ESD: “Reorient curricula, from preschool to university, to a focus on sustainable development, and reform education as a vehicle of knowledge, skills, perspectives and values needed to build a sustainable world” (CMEC *Education* 9).

From this we can understand that ESD and UNESD encompass a wide range of subtopics that have the ultimate aim of providing a more holistic education that focuses on real-world issues and concerns. The UNESD represents important progress for educational frameworks and it encourages other nations to educate their citizens on the concepts of sustainability while also preparing them to be active members of society on the local, regional, and national scale (UNESCO; Binstock).

Several governmental and non-government organizations have conducted research on the status of ESD and environmental education (EE) within Canada. Learning for a Sustainable Future, formed in 1991, compiles research and information on EE in Canadian education, as do other organizations such as the Canadian Network for Environmental Education and Communication and the Council of Ministers of Education, Canada’s (CMEC) Education for Sustainable Development Working Group (Cheeseman). In their publication *Learn Canada 2020: Joint Declaration Territorial Ministers of Education*, the CMEC announces its desire to incorporate EE into provincial and territorial curricula, presents EE as a necessity for the creation and development of holistic education for students, and provides various objectives.

While reports, objectives, and declarations are a step in the right direction, their development does not ensure implementation; there are several issues that inhibit students’ ability to engage with EE and ESD in today’s educational systems. One of the main challenges, to be further elaborated in this case study, is the lack of educators with experience in teaching EE and ESD, as there is little-to-no training provided on these topics in Canadian faculties of education (Canadian Council on Learning [CCL]). Other barriers to implementation are the belief that education should be confined to what is deemed relevant material, limited resources for schools and educators who wish to implement EE and ESD, and the structure of the education system, which currently places a large emphasis on standardized testing in the areas of literacy and numeracy (CCL).

In 2006, the New Brunswick Education for Sustainable Development Working Group assessed ESD within the province. Their report stated that the vision of the organization was that “of creating a culture of education for sustainable development in the province to support overall goals of the United

Nations Decade of Education for Sustainable Development, 2005–2014” (1). They found that while there are a number of key elements of sustainable development being addressed within both formal and non-formal sectors of education, there are still gaps. The report notes that based on their assessment, “The formal education sector has a great deal of gaps in its Specific Curriculum Outcomes; therefore it is recommended that the concepts identified herein be incorporated into both the Anglophone and the Francophone Specific Curriculum Outcomes as soon as possible” (11).

Salem Elementary School Case Study

The backyard area of Salem Elementary was identified as an area that could provide the perfect setting for an outdoor learning facility. The original backyard consisted of a pebble stone playground, walking trail, abandoned outhouse, and a soccer field that had extremely poor drainage, resulting in frequent flooding. Salem Elementary School administrators and parents worked with Mount Allison University faculty and students, as well as members from the various community groups, to design and construct a new outdoor educational space in the once underutilized back area of the school grounds. Funds were also raised for this outdoor classroom through donations from the local community, including the Rotary Club of Sackville, the Mount Allison Students Union Green Investment Fund, Renaissance Sackville, and even the faculty union at Mount Allison University.

Newly constructed components of the outdoor learning space included the creation of a new wetland area, designed and built by Ducks Unlimited, that allowed students to further understand habitats specific to the region of south-east New Brunswick, as well as a pirate ship classroom (situated on a strip of land in the middle of the wetland) that provided seating space for twenty-five students, as well as an outdoor, wall-less, roofed classroom with log bench seating and a chalkboard. The Sackville Community Garden built several raised-bed gardens in a previously unused space along the back of the school, and planted various vegetables over the summer, so that upon arrival back to school in the fall, students could study and harvest the plants. Additionally, new types of technologies such as a small wind turbine, solar panels, and outdoor science tables and kits were purchased for the school, allowing for increased opportunities for learning outdoors.

Students at Mount Allison University also assisted in the project, through the implementation of a special topics course taught during the winter 2015 semester. This course allowed for further interaction between Mount Allison students and the outdoor classroom project. The course, Education for Sustainable Development, allowed undergraduate students to pick a community project that fit within the theoretical framework of ESD. Two projects specifically focused on implementing ESD in the classrooms at Salem.

The ultimate goals of the Salem Elementary School case study were to design and implement an effective outdoor learning environment for teachers and students, and enhance student learning experiences leading to and fostering greater connections with the natural world. Case study analysis provided a unique opportunity to study, first-hand, many of the theoretical frameworks discussed in the academic literature, and to identify and discuss background information, including community collaborations, development of grant proposals, teaching methods, scientific and environmental engagement, physical activity, and so on, allowing for a holistic understanding and assessment of the implementation of the project.

Qualitative Interview Methodology

To assess the implementation of the Salem Elementary School outdoor classroom project, qualitative interviews were conducted with educators from the school to allow for greater exploration and understanding of the educators' perspectives on the outdoor classroom. Each interviewee was interviewed only once. In the interviews, educators were asked to elaborate on their own personal experiences and the benefits, challenges, changes in student learning, and the importance of community partnerships. One of the limitations of this study is that, due to its time frame and the willingness of educators to participate, only six educators were interviewed, including one member of the administration and the assigned outdoor educator. However, it is important to note that the responses gathered were extremely rich, insightful, and highly useful to the overall assessment of the project.

Qualitative Interview Results

The first question in the interviews was about the use of the outdoor space at Salem Elementary School prior to the construction of the outdoor education facility. Specifically, the educators were asked if they had taught outdoors prior to its construction and, if so, to provide examples. Overall, interviewees stated that the types and frequencies of such lessons "depended on grade." Interviewee 1 noted that outdoor lessons were most common in grades 3 and 4, as in these grades the curriculum contains specific science units on soil and habitats. Physical education also provided opportunities for teachers to take students outdoors, with interviewee 3 saying the outdoors provided opportunities for walks and other forms of physical activity. Interviewee 4 gave several examples of outdoor activities, stating: "Yes, for the most part I have taken students outside to support our different units in our science curriculum." These activities included using magnifying glasses and hula hoops to observe insects, studying habitats, observing plant and trees, and analyzing soils. Additionally, this interviewee took students outside blindfolded to teach them about their various senses, especially sounds, using sounds found within the natural world such as birds and streams; to teach some art classes, including visual (use of pinhole cameras) and language arts; and to enhance their vocabulary through outdoor scavenger hunts. These sample responses show that there was some use of the outdoors prior to the construction of the outdoor educational space, but that the frequency and occurrence depended on factors such as the individual teacher and the curriculum. All of the responses noted the limited time and the poor quality of the outdoor environment for such activities, including flooded spaces, lack of seating, and harsh weather.

The interviewees praised the work of the outdoor educator, such as resource creation and the organization of equipment. Overall, the interviewees felt that the outdoor educator was very helpful to them, and one interviewee indicated that the implementation and success of the project might not have been achieved without the help of the outdoor educator.

The effect on student learning was also explored within the qualitative interviews. The interviewees noted that they did see overall positive effects upon student learning. Specifically, interviewee 1 noted that students were now taking greater ownership of their work and wanted to investigate more, and that this type of experiential learning encouraged greater problem-solving skills in the students. Interviewee 3 discussed how the incorporation of the outdoor learning facility provided students with hands-on learning opportunities and noted that the students were remembering those teaching moments better, and making greater connections with what they were learning. One interviewee also noted that the outdoor learning facility "forced teachers to stretch and think more about what they can do" in terms of curriculum delivery and teaching.

Interviewees also frequently discussed the enthusiasm of students for these new outdoor educational opportunities, with many students asking their teachers if they could go outside more, as they wanted to learn all of their subjects outdoors. Interviewee 4 also noted the ease of teaching outdoors in many cases, noting that sometimes they just took chairs outdoors and simply had students read, which “they love.” These interviews provided opportunities to further understand the versatility of the outdoor learning facility for all types of teaching and learning.

To fully assess the implementation of the outdoor learning facility at Salem Elementary School, it was equally important to provide opportunities for interviewees to discuss the challenges they faced. Specifically, interviewees were asked how the outdoor environment challenged their own abilities to teach and to deliver the prescribed curriculum outcomes. All of the interviewees noted that weather and overall environmental conditions interfered with their ability to teach outdoors. Many interviewees noted that they had made plans to go outdoors, but often these sessions were cancelled due to weather. New Brunswick saw an unprecedented thirteen snow days in 2014–15, which interviewees noted also affected the ability to spend time outdoors.

Interviewee 4 noted other challenges, such as “having to book the space in advance and collecting materials to head outside,” and that, once outside, there was potential for students to become distracted by their outdoor surroundings.

All of the interviewees cited the work of the outdoor education coordinator, including assistance with teaching, lesson plan development, and the organization of materials and resources, as an important resource. An interview with the outdoor educator provided further insight into the specific role of the outdoor educator and the overall success of the project. The outdoor educator was a key informant, as she provided the researcher not only with a first-hand account of her experiences, but an overall evaluation of the implementation of the program, including her own ideas on the benefits and challenges of the project.

The outdoor educator identified her position as important to the success of the project, as it was “important to have someone in there who doesn’t have any other jobs/tasks on their plate.” Beyond organization, she developed several unit plans (two to three per grade) for the teachers at the school. Originally, it was believed that the outdoor educator position would last for only one year; however, additional external funding extended and expanded this position for the 2015–16 school year. This was extremely beneficial to all those involved in the project.

During the qualitative interview, the outdoor educator explained her duties and responsibilities, which included coordinating with school administration and Mount Allison partners to see “what direction they wanted to take the outdoor education in its first year.” They concluded that the major goal of the first year of implementation would be to “compile equipment and resources, get teachers outside more, and develop teaching and lesson plans.” She was also responsible for finding and purchasing, via grant money, various materials and equipment for the facility. The outdoor education coordinator position was meant to ease the transition into teaching outdoors, providing teachers with lesson plans, equipment, and materials so that they could in future teach outside regularly. Other components of the position included regularly teaching lessons outdoors, approaching teachers and asking them what they wanted her to do to assist them in teaching outdoors, researching curriculum guides and other resources to see what was needed for achieving the curriculum outcomes, and working with the Mount Allison faculty and students and keeping them involved in the program, as well as reaching out to community

groups and members to see what they could potentially offer to the program. The role of the outdoor educator was extensive and wide-ranging, and clearly required its own position within the school.

The outdoor educator also spoke of the challenges; in particular, she highlighted a slight misunderstanding of her role. She felt that she was not used to her full capacity by educators, and that often she had to seek out teachers to see if they wanted her to teach anything, rather than teachers coming to her. For example, she explained that when she e-mailed educators at Salem to explain her role and the times when she was available to assist with teaching outdoors, she “maybe only heard from two people at the most; it’s been more me going to them.” This could be due to the fact that the outdoor education program was new to the school, and teachers did not know how to use the additional skill set offered by the coordinator. An additional challenge noted by the coordinator was the limitations imposed by winter weather, as discussed by educators.

Toward the end of the research period, the outdoor education coordinator at Salem Elementary planned an “outdoor learning day” that was held on 22 May 2015. On this day, all of the students and classes spent the entire day outdoors, learning all of the subjects they would normally learn indoors. Close to twenty volunteer educators and scientists came to the school to participate in the event. This day was described as a watershed moment for the project and was a great success. After one year, the outdoor classroom project seemed to be an effective mechanism for teaching and learning within the school, bringing community members to the program. All of the grade 1 teachers agreed that, in the upcoming school year, they would spend the first hour of every day outdoors with the outdoor educator.

Analysis of Qualitative Results

Overall, the teacher feedback in the interviews was extremely positive, with only a few challenges being noted. The interviewees collectively agreed that the outdoor classroom provided significant benefits to Salem Elementary School as a whole, and to student learning. The interview responses demonstrated that the outdoor learning facility provided new teaching and learning opportunities for both educators and students, and that the students were enthusiastic about the outdoor learning facility, often speaking continuously about the things they had learned outdoors. Additionally, many interviewees noted that students seemed more focused and attentive and that, overall, teachers felt the implementation of an outdoor learning facility and outdoor education program was highly beneficial.

When asked about achieving prescribed curriculum outcomes, interviewees noted that the curriculum outcomes could be effectively taught in the newly constructed spaces, and even that educators could achieve curriculum connections more effectively when outdoors. The outdoor education program at Salem Elementary School and the outdoor learning facility helped the curriculum “come alive,” indicating that the facility and program is a powerful teaching resource for education. From this, we conclude that the implementation of the outdoor classroom was beneficial, as witnessed in the excitement of students and the feedback from educators about the benefits of the program to their curriculum delivery and teaching.

These qualitative findings indicate that, overall, the implementation of the outdoor education program was highly successful; it provided increased opportunities for learning outdoors and enhanced the current curriculum by teaching it in a meaningful experiential setting. Minimal challenges were identified during the first year, with the main problem being the Canadian winter, a factor beyond anyone’s control. The additional challenges—such as the availability of equipment and materials, and

educators who were simply not fully prepared to incorporate EE and ESD into their teaching—are related to the program's infancy. Further analyses indicate that the community partnerships and internal support system within the school administration were also very important to the success of the outdoor classroom.

Recommendations

Based on the qualitative research findings from this New Brunswick case study, discussions with educators and administrators from Salem Elementary School and environmental educators, and the overall assessment of the implementation process, some general recommendations can be made regarding the use of outdoor learning facilities and outdoor education. The recommendations discussed in this section fall into two categories. First, there are specific recommendations aimed at individual schools looking to begin this process and enhance their environmental education program, with some guidance based on findings from this case study. Second, there are recommendations for the Department of Education for New Brunswick and various Canadian faculties of education that currently lack substantial incorporation of ESD and EE.

The first major recommendation is to have an assigned outdoor educator. This is especially important during the implementation of an outdoor education program. The role of the outdoor educator at Salem Elementary was wide-ranging in scope and included tasks such as assisting teachers with lessons, teaching lessons, and gathering materials and resources. Without a specifically dedicated individual whose sole task is organizing, creating, and implementing the outdoor classroom, teacher and students are unlikely to go outside as often as they did in the case study. Initially, teachers need a person to come to them offering to take students outside, asking what they need, and then delivering the necessary materials. In the case of Salem Elementary, the outdoor educator worked tirelessly throughout the school year to organize the learning facility resources and equipment, while also planning and developing a series of lesson plans for each grade. This demonstrates the importance of having an assigned outdoor educator who can focus on the outdoor learning facility and not on the other pressing responsibilities required of classroom teaching staff.

Salem Elementary School was able to hire an outdoor educator because of access to external grant money, in particular a grant from the New Brunswick Environmental Trust Fund. If external funds had not been available to fund this position, the overall implementation may have been very different. Therefore, it will be important for other schools looking to implement outdoor education programs to look for funding for an outdoor educator. Schools should be encouraged to look for external sources of money such as grants from the Environmental Trust Fund and other similar sources. This is related to further recommendations to incorporate ESD-related funding into provincial school board budgets, as discussed by the Working Group on Environmental Education in Ontario.

Schools looking to develop and implement their own outdoor education program should also note the importance of community partnerships and the role of internal school administrative leadership. This case study indicates that the interest must come from within the school, especially from an administrator, in order to get a large number of people involved in the project. Salem Elementary was extremely fortunate to have the enthusiastic support of the school administration, and many interviewees noted that this was very important to the overall success of the project. From this we can suggest that, if educators are interested in the development of an outdoor education program, they should begin by demonstrating to their administrative representatives the transformative power of outdoor education and the benefits to teaching and learning, as well as to the school environment.

The qualitative interviews further indicate that the partnership with Mount Allison University's Geography and Environment Department was highly important to the success of this project. Faculty from Mount Allison assisted Salem with formal grant application writing as well as providing research, guidance, and support throughout the entire project. The interviewees felt that without the partnership with Mount Allison faculty and students the project would not have been as successful, or perhaps would not have happened at all. Therefore, schools looking to implement their own outdoor education program should build community partnerships, especially with local universities or colleges. In addition to partnerships with Mount Allison, this case study involved collaboration with various community groups, including organizations such as Ducks Unlimited, the Rotary Club of Sackville, Renaissance Sackville, Mount Allison Students' Union Green Fund, and many others. All of these additional partnerships were vital to the successful implementation of the outdoor education program, and they demonstrate that if a school attempts to implement this kind of project solely on its own, it would be missing out on many meaningful community partnerships.

In addition to these recommendations for individual schools, recommendations can be made to the government of New Brunswick (especially departments concerned with education and the environment), as well as faculties of education in Canada regarding the need to further incorporate ESD practices and EE within the school curriculum. Previous sections of this paper briefly addressed the current state of ESD and EE within Canada and New Brunswick. An assessment report from the New Brunswick Education for Sustainable Development Working Group found that while there is some ESD within the current New Brunswick curriculum, it needs to be more fully integrated. On its Education for Sustainable Development website, the province of Manitoba provides a model for an education system that is leading the way in ESD. New Brunswick could fully incorporate ESD within its curriculum by having specific curriculum outcomes related to ESD for each grade level.

Furthermore, New Brunswick's Department of Education could develop a specific funding envelope for ESD in schools and for the implementation of outdoor classrooms, as is currently being done in Ontario (Working Group on Environmental Education). This recommendation would allow schools to apply for funding for ESD projects or to help with the construction and implementation of their own outdoor learning facilities. Such funding would allow many schools to achieve the benefits of outdoor education programs. This case study indicates that the grant money awarded to Salem Elementary School was integral to the development and implementation of its outdoor education program, and it did not reduce school spending on core programs. As previously noted, it also allowed the school to hire a dedicated outdoor educator, another key recommendation.

A 2012 report by the Council of Ministers of Education of Canada, led by Manitoba Education, in collaboration with the International Institute for Sustainable Development and Learning for a Sustainable Future at York University looked for evidence of ESD within Canadian faculties of education. The study undertook to "gain a better understanding of how [Canadian faculties of education] are incorporating ESD into their pre-service programs, research, and other activities" (CMEC *Education* 1). The methodologies for the study included a survey of faculty leadership and follow-up interviews. They received responses from thirty-six of the sixty-three institutions that were sent the survey. Based on their findings, the report suggests that Canadian faculties of education and the CMEC should consider some of the following actions:

CMEC and the faculties of education could review and build on work completed or underway at the national and international level.

Faculties could promote increased dialogue and networking on ESD in pre-service education [both within faculties and among faculties].

Faculties could consider implementing an ESD professional development workshop for educating faculty members and other staff.

Ministries and departments of education could be encouraged to share this report with teacher certification bodies; faculties of education, ministries, departments of education, and related certification boards could initiate a discussion of how best to incorporate ESD competencies into pre-service curriculum and teacher certification.

The Association of Canadian Deans of Education (ACDE) could open a dialogue on ESD within the Canadian research granting councils.

The [ACDE] could consider whether and how to add ESD to faculty review/accreditation criteria in cases where faculties are reviewed by external agencies for program content and delivery, or add ESD to internal reviews as part of the overall university quality assurance process.

In light of these report findings, the recommendations within this paper for increased incorporation of ESD are important. By providing training to future educators in the areas of ESD and EE, faculties of education will produce teachers who are more adequately prepared to incorporate ESD into their own classrooms and school, and this could potentially lead to increased incidences of teaching outdoors and outdoor education programs. While steps are being taken toward the incorporation of ESD into some faculties of education in Canada, there is still much that needs to be done, particularly in the Maritimes. Within the province of New Brunswick, none of the four faculties of education offer an ESD-related course, let alone a cross-curricular approach to ESD in other curriculum streams. One potentially interesting recommendation may be for these programs to partner with Mount Allison University and Salem Elementary School, which could offer practicum placements for pre-service teachers wishing to develop skills in ESD and EE.

Conclusions

This article has presented the analysis of a case study of the implementation of the outdoor education program at Salem Elementary School in Sackville, New Brunswick. This case study used qualitative research methods in the form of interviews to evaluate the overall implementation of the program. The results indicate that there is still much to be done to incorporate the notions of ESD and EE into educational systems, both at the national level and specifically within New Brunswick; however, the Salem Elementary School case study can be identified as a very positive step in this direction. The analysis demonstrates that the overall implementation of the outdoor education program at Salem Elementary School was highly successful, both in terms of increased opportunities for students to use the outdoor learning facility and the clear benefits to teacher and student learning. Several factors contributed to the success of this program, the major one being the employment of an assigned outdoor educator on the ground at the school, who provided support to teachers and developed curriculum resources. The importance of community partnerships between Salem Elementary School and groups such as Mount Allison University was another major finding. Internal support from the school principal, who championed this project, was also critically important to the success of the project.

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