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***Education Experts' Workshop:  
Implementation of the Bondar Report (2007)***

***White Paper***

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**Ryerson  
University**

**Faculty of  
Science**

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## Contents

<b>1.0 Introduction</b>	<b>4</b>
<b>2.0 Background</b>	<b>4</b>
<b>3.0 Education Experts' Workshop: Implementing 2007 Bondar Report's Intended Outcomes in 2015</b>	<b>5</b>
<b>4.0 Roundtable 1</b>	<b>7</b>
<b>4.1 Common Issues Identified at Multiple Tables</b>	
<i>4.1.1 Policy Awareness and Share Vision</i>	
<i>4.1.2 Barriers to Implementation</i>	
<i>4.1.3 Standardized Testing</i>	
<i>4.1.4 Outdoor Education</i>	
<i>4.1.5 Other Concerns</i>	
<b>4.2 Individual Concerns</b>	
<i>4.2.1 Teachers</i>	
<i>4.2.2 Principals</i>	
<i>4.2.3 Faculties of Education and Ministry of Education</i>	
<i>4.2.4 NGOs</i>	
<b>5.0 Roundtable 2</b>	<b>15</b>
<b>5.1 Accountability</b>	
<i>5.1.1 Measuring Progress (Suggestions Made in Acting Today, Shaping Tomorrow)</i>	
<b>5.2 Moving Forward</b>	
<b>5.3 Next Steps</b>	
<b>6.0 Wish Lists</b>	<b>20</b>
<b>6.1 Teachers</b>	
<b>6.2 Principals</b>	
<b>6.3 Faculties of Education and Ministry of Education</b>	
<b>6.4 NGOs</b>	
<b>7.0 Outsider Opinion</b>	<b>22</b>
<b>7.1 School Board Made of Elected Officials</b>	
<b>7.2 Standardized Testing</b>	
<i>7.2.1 Issues with Standardized Testing</i>	
<b>8.0 Potential Questions for the Next EEW Meeting</b>	<b>24</b>

## ***Education Experts' Workshop: Implementation of the Bondar Report (2007)***

### **1.0 Introduction**

It was apparent that all members of the Education Experts' Workshop understood/understand the importance of an environmentally educated population. This notion, however, is not always fully understood by the majority of the population or is ignored and overlooked for reasons such as financial and political gain. As the old adage "You can't teach an old dog new tricks" claims, teaching the older population about their impacts on the environment can be, at times, near impossible. Therefore it is of crucial importance that we empower and engage our youth to pick up the sword and become the environmental champions we need to save our planet for future generations. In the world we live in, especially in densely populated cities, providing this empowerment can be difficult as a connection to nature and the natural environment can seem a very distant concept. Coined in 2005 by Richard Louv in his book *Last Child in the Woods*, we now have children suffering from "nature deficit disorder": a disorder brought on from children spending an ever decrease in time outdoors. Surprisingly, this deficit is also linked to behavioural problems. So the question becomes not only who is responsible for the education of our youth, but how do we accomplish it appropriately across all demographics from those living in densely populated cities to those living in rural areas.

### **2.0 Background**

Anthropogenic force has long since been recognized as a major contributor not only to the destruction of the natural environment, but also to the death of tens of thousands of human beings. Examples of this include the Great Plague of 1665, causing 60,000 deaths, and many cholera outbreaks throughout the 1800s. These disease outbreaks were blamed on the cesspool-like conditions of the Thames River which was used as early London's refuse area (Schladweiler, 2002). In current times, as populations continue to balloon around the world, we see our effect in the reduction of forested areas, increases of greenhouse gases, increased desertification, and the depletion of the ozone layer, all of which can be blamed on the industrialization of the modern world. In relation to Canada as a country, we can already see the impacts our industrialized culture has through one of many examples, the tar sands in Northern Alberta. Acidification of rivers and streams, deforestation of seemingly endless acres of land, and the death, decline and extirpation of countless species that once thrived in these regions are all clearly visible (Gillespie, 2008).

With issues like the aforementioned tar sands, and many, many more globally, we in Ontario are lucky our provincial government has come to see the importance of environmental education (EE). The most significant decision by our governing body was made in 2007 when the Ministry of Education's Curriculum Council formed a working group, chaired by Roberta Bondar, to report on what is currently occurring and what needs to occur in EE to create a much more environmentally educated youth. The report generated by this working group was

titled *Shaping Our Schools, Shaping our Future* (2007) – also known as the Bondar Report. This report generated a vision for future curriculums as well as a series of recommendations for how to approach EE. Using this report the Ministry of Education created a policy framework entitled *Acting Today, Shaping Tomorrow: A Policy Framework for Environmental Education in Ontario Schools* (2009). This document provided goals, strategies, and actions for the mandated implementation of EE in all Ontario schools. This included changes in or to 1) teaching and learning, 2) student engagement and community connections, and 3) environmental leadership.

While those of us that attended the EEW likely have read the aforementioned framework document, for those who have not a short summary of each of the three focus areas is provided in the appendix section. These summaries will highlight the general overall goal, the strategies created, and the responsibilities of the Ministry of Education, School Boards, and the School itself in implementing each strategy.

What is interesting, or worth noting, from this document, without going into too much detail, are the responsibilities outlined for the Ministry of Education, School Boards, and Schools themselves. As an outside source it is not possible to say with authority that these things have or have not been done at each level. Below is a selection of the responsibilities at each level.

Ministry of Education	<ul style="list-style-type: none"> <li>● Update the ministry website annually with information that will help teachers create meaningful programs and classes</li> <li>● Provide professional learning opportunities</li> <li>● Promote Faculties of Education to teach EE to their pre-service students</li> <li>● Support School Boards in creating EE policy</li> <li>● Promote partnerships with other ministries</li> </ul>
School Boards	<ul style="list-style-type: none"> <li>● Provide opportunity for students to gain knowledge of the environment in all subjects</li> <li>● Develop professional learning communities to share strategies for teaching EE</li> <li>● Create opportunities for students to address environmental issues in their homes and local communities</li> <li>● Create a implementation plan that aligns with the School Board EE policy</li> <li>● Adopt environmental responsible management practices</li> <li>● Encourage the staff to develop knowledge and skills related to EE</li> <li>● Encourage staff to participate in School Board sessions on environmental sustainability</li> </ul>
Schools	<ul style="list-style-type: none"> <li>● Support implementation of revised curricula</li> <li>● Promote creative interdisciplinary learning with potential out of classroom components</li> <li>● Revise Board policy on EE to promote environmental literacy</li> <li>● Create an EE action plan that is revised, renewed and presented annually to all School Board employees</li> <li>● Implement strategies, programs, and procedures to protect and conserve the environment</li> </ul>

It appears that the Ministry of Education has provided ample instruction on how each level of the schooling system should proceed in teaching EE to our youth. The communication of all these, however, may be lacking, thereby creating the breakdown that is seen today.

Ignoring all the non-curriculum mandates, a review of the curriculum at grade levels 1 to 12 for all subjects was completed to see whether or not EE is reflected within, as it is required to be. In the appendix section you can find a summary of some of the subjects for those not familiar with the curriculum itself. With that said, much as with the policy guidelines, it would appear as though there are small examples at the end of each chapter that provide insight into incorporating EE to the classroom. This includes examples of integration and learning objectives. These examples seem to create a great starting point for the integration of EE in everyday classes; however, as an outside source it is impossible to gauge what teachers' comfort level with this type of material is, especially considering the number of teachers there are Ontario wide.

### 3.0 Education Experts' Workshop: Implementing 2007 Bondar Report's Intended Outcomes in 2015

On April 1st 2015, the Faculty of Science at Ryerson University and Ryerson Urban Water (RUW) hosted the Education Experts' Workshop: Implementing 2007 Bondar Report's Intended Outcomes in 2015. The Education Experts' Workshop (EEW) brought together 31 representatives from the Ontario Ministry of Education (OME), the Ministry of the Environment and Climate Change (MOECC), NGOs doing EE-related work, extracurricular education centers, conservation authorities, Faculties of Education, principals, and teachers, for the shared purpose of:

- 1) Discussing the evolution and current state of EE in Ontario schools (K-12)
- 2) Identifying existing barriers to the successful implementation of EE
- 3) Producing a comprehensive and shared plan which addresses the challenges raised

Inspired by 2013's Deeper: Deepening Environmental Education in Pre-Service Education roundtable and Resource Guide, the EEW focused on the concerns raised by teachers as well as other dedicated stakeholder groups in implementing the Report's recommendations. The EEW was designed to be the first in a series of dialogues that examines these challenges to develop sustainable solutions going forward.

The workshop featured keynote speaker, and coordinator of the event Dr. Lynda McCarthy (Department of Chemistry and Biology, Ryerson University). It was also complemented by presentations made by RUW faculty members Dr. Vadim Bostan (Department of Chemistry and Biology) and Dr. Andrew Laursen (Department of Chemistry and Biology) on their reinvention of the 1966 classic, *Paddle to the Sea*. The format for the workshop was a series of roundtable discussions introduced by Catherine Mahler (Ministry of Education, Environmental Education)

and Cindy Cosentino (Ministry of Education, Education Officer – Science and Innovation) with an overview of the policy changes that have taken place since the 2007 Report.

The roundtables, facilitated by Ryerson faculty members and graduate students, were first organized by peer group to share their expertise and perspective on the evolution, current state, and impediments to EE in Ontario. The second set of roundtables consisted of mixed stakeholder groupings designed to collaborate on a shared vision for overcoming the challenges raised by the first roundtables. Following the discussions, an expert panel consisting of three members, Pam Miller (Ecoschools Instructional Leader from the TDSB), Sheila Rhodes (UOIT, School of Interdisciplinary Studies /Employment Services) and Catherine Paisley (Ontario Science Centre, Vice President: Science Education) was invited to share their thoughts on the workshop.

#### **4.0 Roundtable 1**

The discussion of the above noted three points began with Roundtable session 1 (RT1). During RT1 five tables were set up in which representing groups were segregated with one another, meaning teachers were sat with teachers, principals with principals, etc. At these tables the attending people were asked to answer the following prompts:

- 1) What is the role of xxx in furthering/advancing environmental education? (xxx = principals, teachers, NGOs, etc.)
- 2) In the current state, are xxx able to advance environmental education in a meaningful way? Yes/no? Why/why not?
- 3) What barriers exist for the implementation of environmental education?
- 4) What would be on the ‘wish list’ of xxx to advance (or continue to advance) environmental education in a meaningful way?

The participants at each table were as follows:

*Table 1* – Faculties of Education (FoEd) and Ministry of Education (MoEd): Paul Elliott (FoEd, Trent University), Doug Karrow (FoEd, Brock University), Sheila Rhodes (FoEd, University of Ontario Institute of Technology), Cindy Cosentino (MoEd), and Catherine Mahler (MoEd).

*Table 2* – Principals: David Hawker-Budlovsky (TDSB, Outdoor Education Schools), Paul Lacalamita (Catholic Principals’ Council, Executive Director), William Parish (TDSB), James Mackinnon, Linda-Sue Thomas (TDSB), and Christine Bata Schmidt (special guest),

*Table 3* – Teachers: Carly Bardikoff (Ontario EcoSchools), Jen Coleman (UGDSB), Simona Emiliani (MSIC), Simon Isdell-Carpenter (William Lyon Mackenzie C.I.), Jane Lacalamita (Catholic Grade School, retired), Pam Miller (TDSB), Ellen Murray, Meg Mahoney (UTS), and Smruti Soni (MSCI).

*Table 4* – NGOs: Chris Hilken, Nicole Hamley, Carolyn O’Neill, Catherine Paisley, Gerrit Kamminga, and Nancy Griffin.

*Table 5* – NGOs: Dave Ireland, Amy Lane, Stephanie Sobek-Swant, Lisa Fisk, Judi Cohen, and Warren Wishart.

Each of these tables also had multiple representatives from Ryerson University that acted as facilitators, moderators, and scribes. These people are as follows: Dr. Andrew Laursen, Dr. Mohammad Manshour, Dr. Kim Gilbride, Dr. Darko Joksimovic, Dr. Carolyn Johns, Dr. Andrew Millward, Dr. David Atkinson, Dr. Sandra Solomon, Dr. Janet Koprivnikar, Dr. Vadim Bostan, Chris Bentley, Elaine Ho, Laura Taylor, Laila Mnyusiwalla, Carmen Perriera, Bonnie Wilkinson, and Donna Sinnett.

#### 4.1 Common Issues Identified at Multiple Tables

##### 4.1.1 Policy Awareness and Share Vision

As a result of the Bondar Report, documents defining the province’s new EE policies and strategies were developed including the policy frameworks *Acting Today, Shaping Tomorrow* and *Standards for Environmental Education in the Curriculum*. These were supported by Ministry publications such as *Environmental Education: Scope and Sequence of Expectations (K-8 and 9-12)*, a resource guide that consolidates all of the curriculum expectations from K-12 related to EE, and *Ready, Set, Green!*, a vehicle for sharing effective EE practices in the form of tips, techniques and resources.

As the discussion unfolded, many teachers expressed their concern about the disparities in their relationship to these documents and the big ideas described within them. Exposure ranged from not knowing of their existence, particularly in the case of new teachers, to general familiarity. Very few educators referred to the documents on a regular basis or attested to having a deep understanding of their content. It became increasingly apparent that the shared vision of EE developed by the Ministry of Education had not been adequately translated to those who work most closely with students.

While this section is more geared towards teachers themselves and their awareness of the policies, it is of interest to note that the other tables came up with similar feelings to those expressed by the teachers themselves. Some principals expressed a concern that even at their level, a comfort in this subject material was tough and therefore a translation of expectations to their teaching body was not always high on the list. The NGO tables as well believed that there might be a breakdown in the comfort of teaching this material leading to a lack of EE integration.

One of the biggest changes that came from the Report’s recommendations was the integration of EE into all grade and subject area curriculum. Teachers acknowledged that they work most closely with curriculum documents and have far more familiarity with them than policy and strategy documents. Curriculum is organized into overall and specific expectations and grouped

by strand. Teacher representatives at the workshop admitted that they try to follow the curriculum as closely as possible but also use their professional judgment to adapt it to meet the needs of their students.

One of the perceived barriers in implementing EE was an overcrowded curriculum resulting in the inability to meet all course requirements or having to rush through them. Some stated that the EE curriculum lacked absolute wording, providing wonderful opportunities to incorporate EE but not necessarily demanding it. With an already overcrowded curriculum and the time constraints placed upon teachers, opportunities to incorporate EE were being inadvertently overlooked in favor of other valuable initiatives such as literacy and numeracy. Lack of definitive wording also runs the risk of perpetuating the marginalization of EE to the field of science. Other subject teachers 'opt out' of EE because they lack expertise or comfort with the material and relegate it to its traditional science vehicle. EE involves systems thinking which can be daunting if teachers lack sufficient training.

#### *4.1.2 Barriers to Implementation*

Even with expertise in content and an understanding of the integrated model, participants identified problems in implementing successful EE in schools. Having opportunities to communicate with peers and other stakeholders in both structured and unstructured formats is essential. Additionally, systemic structures need to be in place to promote EE if educators are to prioritize learning.

In 2013, the Ontario Institute for Studies in Education (OISE) hosted the roundtable discussion, DEEPER, to develop a strategy for EE in pre-service teacher's education programs. The roundtable and resource guide was created to complement the vision of *Acting Today, Shaping Tomorrow* and to address the unpreparedness felt by teachers to implement EE in their classrooms. With initiatives to restructure pre-service teacher EE being relatively new, Faculties of Education representatives at the EEW expressed teachers' feelings of unpreparedness and acknowledged the disconnect between the way teachers are trained and the way they are expected to teach. Serving multiple purposes, Faculties of Education must certify their students as per the guidelines and requirements of the Ontario College of Teachers (OCT) but also grant an undergraduate degree governed by the Ministry of Training, Colleges and Universities (MTCU) and individual universities. They have a significant role to play in helping teachers understand the MoEd's integrated curriculum model and how to implement it. Without clear EE goals and responsibility assigned, Faculties of Education experience problems similar to teachers and administrators in integrating EE in their programs.

Discussions at the EEW also revealed that no teacher truly identified as an "environmental educator" (nor do students clearly identify as having had EE) regardless of their involvement in senior environmental electives. At schools offering these electives, there was often only one section with no community of teachers to collaborate with. Although growing in size, subject association groups such as the Ontario Society for Environmental Education (OSEE) and The Council of Outdoor Educators of Ontario (COEO) are often underpublicized. This limits their funding and ability to thrive as they rely heavily on membership fees and are volunteer efforts.

There are countless EE resources available to teachers online, however, for EE to engage students it needs to be rooted in their communities and regional environment. Commonly known as place-based education, this type of teaching requires that teachers have professional development (PD) time to locally develop or personalize resources so that they are region specific. To effectively engage students, EE must also be contemporary and continuously updated to address timely issues. PD time for teachers to develop practical resources is extremely limited and must compete with numerous other focused initiatives.

Environmental education is an interdisciplinary field requiring systems thinking and field study. In many ways, traditional secondary schooling methods of sitting at desks in subject specific classrooms are in direct contraction with this. Teachers at the EEW voiced their concerns over the lack of collaboration between departments required for successful EE at the secondary school level. To prioritize learning and establish EE initiatives within departments and schools, more PD time devoted to this goal is required. This is exacerbated by the fact that at the high school level course are no longer broad open subjects, such as science, instead courses are much narrower in scope, such as chemistry or biology. In certain circumstances certain courses available at one school may not be available at another because high schools have some academic freedom in terms of what they offer. This creates issues for integration as well as some courses may not lend themselves to the teachings of EE as easily as other courses.

Much of the EE programming that takes place at schools is a direct result of volunteer efforts on the part of teachers, students, and administrators. As such, it is applied inconsistently across the province with a broad range in the actions taking place at each school. Principals acknowledged the importance of recognizing volunteer efforts to maintain enthusiasm and a positive climate of change. Widespread examples of participatory programming include the Ontario EcoSchools certification program and Ontario Envirothon. Representatives from EcoSchools at the EEW acknowledged that the considerable amount of work required by individual teachers acted as a deterrent from participation in the program. Some Boards in the province of Ontario have taken the route of mandating participation in EcoSchools.

With the limited financing of EE programming and professional development, local solutions need to be recognized and supported. Initiatives such as the TDSB's Environmental Legacy Fund, which raises money through the sale of carbon credits and solar panel generated energy, are model examples of supports to provincial funding. These types of programs demonstrate the linkage between environmental and financial actions and show how they can be used to support each other. With this said though, some principals and teachers expressed a concern that when their schools have engaged in projects that both promote EE but also have saved money in doing so the benefits of such were never seen. As an example, one person said that their school had saved money by reducing its garbage pickups, but where the saved money had gone to was not apparent. The individual mentioned that they believed the money had gone to either retrofitting or purchasing more eco-friendly trucks but that this could not be confirmed. So even though great initiatives exist for getting schools involved, the lack of transparency creates negative feedback.

The concern of accountability was also brought up, while this was a major point for the second round of roundtable discussions it is worth mentioning here as a concern for implementation as well. Here, principals, Faculties of Education, and teachers, all felt as though they have many responsibilities already upon their plates that do not include the teaching of EE. Without having some sort of strong accountability aspect, similar to the standardized testing of numeracy and literacy, that it was easy to ignore this aspect of their job as their effort, positive or negative, are not held up to any specific standard and that, similar to the point made in the last paragraph, accolades that do exist simply fall short of providing incentive for the uptake and maintenance of EE.

As mentioned before as an outside source it is not possible to fact check all information, but it was mentioned at the principals table that EE is not represented in their school board's improvement plan, even though, as mentioned earlier, it is mandated by the ministry that a plan is both renewed and revised every year. If this is true it goes to prove that accountability is not seen at any level and that this is a great opportunity for improvement going forward. It would also be of use to perhaps have members of at least one school board present to provide their insight into the problem as the chain of command seems to go Ministry of Education to the school boards and then to the schools themselves. Lacking people from school boards has left a gap in the narrative of why our students are not being taught the mandated material and has the potential for improving future action plans.

#### **4.1.3 Standardized Testing**

Educational success through standardized testing, at its most basic form, was introduced in Ontario to show taxpayers what return they were getting on their investment into schooling. As a note all Canadian provinces and territories, with the exception of PEI, conduct some form of mass testing. Standardized testing came to be in Ontario after the publication of *Love of Learning* in 1995 by the Royal Commission on Learning, formed in 1993 to "ensure that Ontario's youth are well-prepared for the challenges of the twenty-first century" (Royal Commission on Learning 1995; Volante, 2007). This report discussed the use of standardized testing with teachers, parents, students, communities, and policy makers, this report became one of the largest public consultations in Canadian history (Green, 1998).

Brought up by almost every table, standardized testing is of great concern. In Ontario a great weight has been placed on numeracy and literacy and scores in these subjects strongly reflect to the public how well schools' students and educators are doing. With this immense pressure placed upon teachers' and principals' shoulders, many admitted to putting other subject material and requirements on the back-burner so that they could focus on the things that they themselves are scored on. This pressure was expressed as even heavier for those who are currently attempting to gain fulltime non-contract employment. These new teachers are under even greater pressure to succeed as they want to either gain another contract or be hired fulltime, in not succeeding in numeracy and literacy they may jeopardize these opportunities and therefore many other requirements are put aside in attempt to succeed in that, that they are assessed on.

#### *4.1.4 Outdoor Education*

Experiential learning and outdoor education can be very impactful experiences for students of all ages. Children are born with an inherent curiosity for the outdoors that must be nurtured. Among the organizations contributing to the discussion at EEW were the Ontario Science Centre, the Ontario Clean Water Agency, and Evergreen. Most of the external organizations present provided off site locations with unique programming, non-traditional learning for students, and professional development opportunities for teachers. While many of their programs were well attended, they worked diligently to forge curriculum connections and tried to offer field trip subsidies to remove funding barriers.

Some obstacles faced by these organizations included: overcoming safety concerns; increasing teacher, student, and parent comfort levels with the outdoors; and, shifting the focus of outdoor education from recreational to promoting environmental literacy. They expressed the importance of teacher engagement on field trips to motivate and inspire students. To make visits more meaningful to students and promote attendance in their programs, many organizations are trying to provide pre, during, and post visit resources, develop a narrative for yearly visits, and offer teacher PD. Teachers recognized the value in field trips but missed out on opportunities due to: the time constraints of an overcrowded curriculum; the complexities of field trip logistics and paperwork; concerns over safety and comfort levels; accessibility (particularly in the case of urban schools); and, funding.

Depending on a school's surroundings, field trips do not have to be costly or burdensome to organize. Schools need to forge lasting relationships with their communities and explore ways to overcome funding barriers. These include making use of school grounds and community sites, inviting community experts into the classroom, bringing in specialized kits or local samples, using public transit or walking to sites, streamlining field trip paperwork, identifying subsidies, using virtual tours etc. Once these avenues have been identified for a specific school, they need to be fostered so that they become habitual.

#### *4.1.5 Other Concerns*

Environmental study and environmental practices are interrelated but not synonymous with each other. Participants at the EEW raised the issue of having one of these areas overshadow the other. Without clear instruction, the weight that implementers place on each of these areas is subjective. The role of widespread Ontario EcoSchools was revisited within the context of this discussion. The certification program covers wide spectrum of topics but the majority of its program sections focus on facility operations and practices. It has the potential to develop into a more comprehensive platform if key stakeholders choose to make it so but in the interim, schools must be wary of using certification as justification for inaction in other arenas.

With representatives from a variety of schools with very different student bodies, some felt that "academic" schools pursued environmental initiatives more. In these settings it was speculated that: students were better at navigating their own environmental pursuits; parents were more likely to be educated about environmental issues; and school communities were

better able to advocate for environmental change. Teachers involved in the Model Schools for Inner Cities program with the Toronto District School Board (TDSB) discussed their focused efforts in high priority schools to make the environment a priority and empower students to shape their communities.

Elementary and secondary schools operate very differently from each other and often differ in size. Principals at the EEW recognized the potential advantage of smaller elementary schools with fewer administrators in realizing environmental goals. The compartmentalized nature of large secondary schools posed more problems for implementing school-wide efforts.

Environmental education is also associated with activism. Many teachers and administrators preferred to keep their classrooms and schools politically neutral due to apprehension over being reprimanded. At all levels, school efforts to make a positive difference in their communities need to be encouraged and recognized to overcome any unwarranted fears. The education of staff or parents/community members regarding the issues and activities was discussed as a potential way to reduce these apprehensions.

Finally many school boards have it mandated that there be no water trips. This concept, which was somewhat touched upon in section 4.1.4 in terms of simply outdoor education being a safety concern, is exacerbated when these trips involve water because there exists a fear of the potential for a child drowning, especially when it is tough to guarantee that all students can swim. This is an unfortunate barrier as many view lakes, streams, and rivers as ideal places to learn about the environment as water provides life and is connected to every part of our society from health to food production to energy systems to waste management. In Toronto this barrier is especially unfortunate as children under 12 can ride the TTC for free, eliminating the cost hurdle, and Toronto is home to many great, freely-accessible water bodies that teachers could use to drive their EE plans, including the Don River, Grenadier Pond (High Park), and Lake Ontario.

## **4.2 Individual Concerns**

As each table during RT1 consisted of a single demographic, based on career, each had their own individual concerns as well. These concerns will be discussed below avoiding as much crossover with the above material as possible.

### **4.2.1 Teachers**

To become comfortable incorporating the environment into classrooms teachers felt like they needed to be taught or coached to feel like the environmental champions they are expected to be. This is tough, however; with the already cramped schedules that teachers have they feel like there is not enough time for them to engage in extra-curricular learning. This lack of confidence then makes it hard to create not only a basic lesson plan that incorporates EE but also makes it hard to create one that has a local focus. While the ministry claims that they provide PD, teachers feel as though they either do not know about when and where they are

occurring or they simply are not given enough time off to go and pursue the ones that they may know are available.

Similar to the above statement about the environment being for activist, the teachers believed that students who are constantly surrounded by technology where owning the next best phone, computer, video game console, etc., can make you “cool” may create a negative image of the environment. This image could range from “geeky” to being for “hippies” and therefore engaging themselves in such activities could potentially hurt their image. Creating a positive image of the environment is something that is required but along with the above paragraph without the confidence in teaching the environment it can be even harder still to create this positive image so that students want to learn about it.

A barrier to leadership was also of concern to the teachers. Here they believed that even if they were confident in teaching EE, there exist no channels for them to include the rest of the teaching body and there potentially could be backlash from other teachers who are not on board. This leadership barrier could then also exist between the teacher and the principal. If the principal is not being coached to engage in EE by his/her superiors then teachers efforts may fall on deaf ears, which can dishearten if not completely dissuade the teacher from even bothering in the first place.

#### *4.2.2 Principals*

The principals’ concerns were very similar to those of the teachers. In their case the barrier of leadership usually does not see backlash from the schools’ teachers as a motivating principal can usually empower their entire staff. Instead, if EE is not high on the priority list for their superintendents, getting the support principals need can be difficult.

The principals also brought forward the concern of money. Here they claimed that Boards are always concerned about their bottom-line, therefore is engaging in EE is going to cost them too much money then it is likely to be turned down. Even though school boards are mandated by the Ministry to provide help in EE, at the end of the day the all mighty dollar still reigns supreme and efforts in improving numeracy and literacy results will always be taken over those that increase EE.

#### *4.2.3 Faculties of Education and Ministry of Education*

The representatives of the Faculties of Education (FoEd) felt that what they teach their pre-service students and what they are then expected to teach creates a large barrier for the implementation of EE. As Universities cherish their academic freedom and ability to offer the courses they want, and are under less stringent educational limitations by the Ontario College of Teachers (OCT) and Ministry of Training, Colleges, and Universities (MTCU). Of the three FoEd representatives, only one’s school provided an environmental education course. This course was offered as an elective and was said to not be well attended. The FoEd representatives felt if the Ministry of Education (MoEd) wanted all their students to learn EE then some sort of cross-Ministry work should be done so that all pre-service teachers would as

well be required to learn what exactly EE is and how to teach it. This would have to come in the form of changes to the accreditation requirements for university and college programs. If this was accomplished then at least all new graduated teachers would be prepared to include EE in their everyday lesson plans and could they could potentially become a source of information for the individual schools and school boards they work for in a way creating a bottom up effect.

FoEd as well mentioned that there are barriers in promoting outdoor education practicum (the time teachers spend in real classrooms learning and experiencing how to teach). Although the practicum was used to describe these outdoor education development sessions, these are not actually referred to as a practicum, instead they are considered “Alternate Setting” courses and are shied away from by pre-service teachers because they are not seen as an equal to a practicum. Though some teachers want to pursue these alternatives, they believe when they apply for jobs they may not be seen as an equal to other candidates with a more conventional practicum. The issue likely comes from the fact that a practicum is done within a classroom in which teaching is done using conventional tools (blackboard, whiteboard, projectors, etc) to conduct their lessons while outdoor education does not likely use these tools, as these instructors have their own ways of conducting educational sessions.

Last, EE is not a requirement for entry interviews. Even though it is a mandated requirement that teachers be able to teach it, currently no school boards are requiring that their new hires be able to successfully accomplish the task of EE. This not only is a potential in the future to progress EE by requiring it, but also shows that the current education system is not fully onboard with the MoEd’s vision as EE is not considered important.

#### *4.2.4 NGOs*

While the majority of information the NGOs provided was captured in section 4.1, NGOs did mention that they provide professional development opportunities but that teachers do not have the time to attend them. They as well said that the MoEd needs “teeth”, they need to create or somehow generate a single or group position in which the responsibilities of those individuals would be to ensure that EE is taught in schools. These people would communicate directly with the ministry and could then provide information to the respective school boards on how to move forward with EE in their schools.

## **5.0 Roundtable 2**

The roundtable 2 session saw all attending members, excluding the Ryerson University representatives, shuffled amongst all five tables. These tables were arranged in such a way that a representative from each career demographic was present at each table (ideally). This session was intended to be about what sort of solutions may exist to push forward the implementation and uptake of EE in Ontario classrooms. The prompted questions included:

- 1) What are the ways forward? How would you draft an approach?
- 2) How can you work together to ensure success?

3) What might “success” look like?

4) Are there appropriate mechanisms to test for successful outcomes?

### 5.1 Accountability

With the shift from stand-alone EE courses to an integrated approach, accountability must be carefully designed. Teachers and administrators agreed that the Report’s vision of EE would be better translated if EE curriculum, programming, initiatives, and community partnerships were more explicit in their wording or mandated. With the time constraints placed upon teachers and administrators, the volunteer efforts that sustain most EE initiatives are applied inconsistently. If EE is going to be considered akin to literacy and numeracy, the responsibility and support for ensuring that EE policy goals are met needs to be assigned. Care must also be taken to ensure that accountability does not impinge upon the empowerment of teachers and administrators to address EE in a grassroots way.

To date, there has been little assessment of environmental literacy in youth in the province of Ontario. Although complex to define and measure, researchers are attempting to do so with methods ranging from monitoring participation in voluntary programs as an indicator of progress to analyzing the frequency of use of outdoor education centers. Reporting on student knowledge, skills, and attitudes must also be incorporated into the EE model to guide future progress. Many boards have made considerable progress in incorporating environmentally sustainable practices in the management and operations of their buildings. These types of goals are easier to quantify and monitor and should continue to be improved upon.

Although it is mandated in *Acting Today, Shaping Tomorrow* that all levels be accountable to themselves in ensuring EE is taught, without having a solid body in place that ensures they do, or at minimum higher levels applying pressure upon lower levels (e.g. superintendents to principals), this self-accountability strategy appears ineffective. Suggestions were made that EE be included on all report cards to begin generating data on EE which would indirectly force teachers to teach it as it would be part of evaluation metrics. Other suggestions included having a team or individual in each school board that goes around and ensures it is being taught, where it is not being taught then these people could provide PD and instruct principals and teachers on how to move forward with their EE plans.

#### 5.1.1 Measuring Progress (Suggestions Made in *Acting Today, Shaping Tomorrow*)

No critical conclusion on how to make accountability functional was generated during this session, however, in *Acting Today, Shaping Tomorrow* the MoEd has provided some examples for how to measure the progress towards EE. These examples will be talked about here in hopes to generate new ideas to further the conversation in future sessions or help to solidify what will and will not work.

### 5.1.1.1 Acting Today, Shaping Tomorrow: Measuring Progress – Status Indicators

Status indicators, as defined by MoEd, are meant as a baseline. These will help all levels of education establish exactly where they currently stand so that future progress can be measured. The following are status indicators for each level of education:

Ministry	School Board	School
<ul style="list-style-type: none"> <li>• Number of school boards that have environmental education policies in place</li> <li>• Type of professional learning provided</li> <li>• Nature of environmental education opportunities and expectations provided in the revised curriculum</li> <li>• Type of teaching resources available</li> </ul>	<ul style="list-style-type: none"> <li>• Availability of community partnerships for environmental education purposes</li> <li>• Availability of environmental education training</li> <li>• Availability of teaching resources</li> </ul>	<ul style="list-style-type: none"> <li>• Types of environmentally responsible management practices currently in place</li> <li>• Type and number of environmental education resources in school library and classrooms</li> </ul>

These appear to be decent starting points when it comes to trying to evaluate exactly where your school currently sits and how much work it will be to truly propel a school and school board forward in EE. In terms of the conversation of accountability, the MoEd specifically said that they should have at least a number for how many of their school boards have an EE policy in place. This, if it is done, should provide the MoEd with some of the teeth that NGOs described is missing in section 4.2.4. It is not possible to find out if this as a metric is at all followed, but may be great information to have at a future sessions, beyond that for those that do it, it would be of real interest to have a copy of one of the school boards EE policy so that they could be further dissected to try and find out what barriers may exist for its implementation.

### 5.1.1.2 Acting Today, Shaping Tomorrow: Measuring Progress – Facilitative Indicators

Facilitative indicators, as defined by the MoEd, tell you about the supportive context and processes already in place that can facilitate implementation. These are further subdivided into context and process indicators. Context indicators are the general supportive context while process indicators describe the level of engagement of the ministry, school boards, schools, and other stakeholders. Facilitative indicators presented by the Ministry are below.

	Ministry	School Board	School
Context Indicators	<ul style="list-style-type: none"> <li>• Availability of resources from other ministries</li> <li>• Availability of training</li> </ul>	<ul style="list-style-type: none"> <li>• Support dedicated to school resources for environmental education or greening of practices/ facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Type of community groups that could support implementation at school level</li> </ul>
Process Indicators	<ul style="list-style-type: none"> <li>• Extent of participation by stakeholders</li> <li>• Extent of training already offered</li> <li>• Existence of interbranch and interministry mechanisms of cooperation</li> </ul>	<ul style="list-style-type: none"> <li>• Extent of participation by stakeholders and broader community</li> <li>• Existence of board-wide environmental education committees</li> <li>• Existence of activities and programs that use environmental education as an integrating theme</li> </ul>	<ul style="list-style-type: none"> <li>• Existence of environmental education committees in schools</li> <li>• Existence of student projects related to environmental education</li> <li>• Level of engagement of youth organizations</li> </ul>

These indicators seem to provide information to those who have already made the first step described by the status indicators or are trying to build upon an information base that they have already collected. While none of these seem to show any accountability, by collecting this information the progress towards an EE capable school is likely. However, as has been described many times, is there enough time for each of these levels to accomplish these goals with their already packed schedules.

#### 5.1.1.3 Acting Today, Shaping Tomorrow: Measuring Progress –Effect Indicators

Effect indicators, as defined by the MoEd, are used to measure the short-term, mid-term, and long-term results of implementing EE. These are broken down into output, outcome, and impact indicators. Indicator examples provided by MoEd are shown in the table below.

As the definition describes here we see how the ministry, boards, and schools are expected to track their own progress once actions have been put in place. Here we see what appears to be accountability, or at least things that require records that could then have follow up to ensure successful implementation. As mentioned in section 5.1.1.1, it would be nice for future sessions to have these inventories of school board practices and implementation plans. It is of this author’s opinion that these likely do not exist, and if they do they were created simply as fluff to accomplish a job they were required to do but that no further work or communication of such has ever occurred. If someone checked these, however, these would be a good starting point to create some accountability at all levels.

	Ministry	School Board	School
Output Indicators	<ul style="list-style-type: none"> <li>• Environmental education integrated into curriculum review process</li> <li>• Environmental education integrated into other frameworks and guides</li> </ul>	<ul style="list-style-type: none"> <li>• Policy for environmental education established</li> <li>• School board staff participating in professional development related to environmental education</li> <li>• Board-wide committee established to coordinate implementation within the board</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental education plan developed</li> <li>• Schools consider purchases of resources and materials through the lens of environmental education and environmentally responsible management</li> </ul>
Outcome Indicators	<ul style="list-style-type: none"> <li>• Shared inventory of school board practices created</li> </ul>	<ul style="list-style-type: none"> <li>• Implementation plan in place that is renewed, revised, and communicated annually</li> </ul>	<ul style="list-style-type: none"> <li>• School council provides advice on implementation</li> <li>• Community partners involved as resources for school planning</li> <li>• Number of student-focused, action-oriented environmental education projects increasing</li> </ul>
Impact Indicators	<ul style="list-style-type: none"> <li>• Student leadership and engagement improved</li> <li>• Alignment between initiatives improved, leading to better outcomes for all students</li> </ul>	<ul style="list-style-type: none"> <li>• Opportunities for student leadership in environmental education increased</li> <li>• Environmentally responsible practices are included in board activities and operations</li> </ul>	<ul style="list-style-type: none"> <li>• Environmentally responsible practices included in school activities and operations</li> <li>• Students are more involved and engaged in environmental education</li> <li>• Environmental education used as an integrating theme for planning purposes at the whole school level</li> </ul>

## 5.2 Moving Forward

To overcome feelings of teacher unpreparedness in EE, we need to see more professional development. Efforts like DEEPER at Faculties of Education are steps in the right direction. Whether in the form of pre-service education, additional qualification courses, or PD, there should be more supports in place for teachers and administrators. With the agenda for public education being a highly contested domain, we need to increase the visibility of EE policy and resources to all stakeholders and reignite passion for environmental studies. This includes recognizing and celebrating the efforts of individual teachers and administrators. For effective

implementation of EE, collaboration between subject teachers and communication between diverse stakeholders must be improved upon.

Partnerships between schools and local businesses, government and community need to be fostered. Schools must become more self-aware and forge lasting connections with their environment both in and out of the classroom. Finding resourceful ways to get outside and exploring opportunities to bring community experiences into the classroom can help overcome funding issues. Experiential learning needs to be encouraged and supported at all levels if it is to become established.

Accountability can also be improved upon through the mandating of EE programs and the use of stronger wording in curriculum documents. The curriculum review process must ensure focus on both gap finding and quality control to avoid overcrowding. Similar to the curriculum model, EE initiatives and programs need to be thoroughly integrated into and prioritized by board/school improvement plans. To measure how successfully policy changes have been implemented we need benchmarks and tests for successful outcomes. Further development, whether it is in the form of grade-based markers, indicators of success, review and feedback cycles, or student performance monitoring, is required here.

### **5.3 Next Steps**

The EEW that occurred in April 2015 is the first of what is hoped to be a series of discussions. In future discussions we hope to expand stakeholder groups to include school board representatives, superintendents, OCT and MTCU members, as well as – potentially – First Nations individuals, students and parents. The only way this will progress is to ensure that as much information is gathered from all potential involved groups, with that said it may be of interest to include students and parents at some point as well but that may be unnecessary. With a broader spectrum of stakeholders we plan to leverage key players on all levels to unite Ontario's vision for EE. Until specific responsibilities are assigned, stakeholders voiced the need for Ryerson University to continue to act as a facilitator and catalyst for future discussions.

### **6.0 Wish Lists**

While each table was discussing the barriers (Section 4) and what to do to fix those barriers (section 5) each table also came up with what we have deemed a wish list. This information can be read as barriers as well as solutions and therefore did not fit cleanly with one or the other. Again attempts will be made to not have too much overlap between this section and those above.

#### **6.1 Teachers**

Providing teachers with material that they can send home with their children that would engage the parents as well can empower youth to be an environmental champion both at home and in the school. By engaging the youth in teaching they could potentially become more interested in learning and this interest may drive teachers to continue learning how to

incorporate EE into their courses as well as drive success in our youths' environmental education.

Communication channels need to be greatly improved. The website that MoEd has created for housing information on EE was unknown to the majority of those attending the EEW, this website has a lot of great information and likely took a lot of effort to create and so it is a shame that this has been so poorly communicated that those who were interested in attending the EEW (those likely involved in pushing EE) did not even know it existed. This is then lumped in with a communication of the school boards EE plans, something that likely no one knows about, if they exist at all.

## 6.2 Principals

The principals' wish list was very similar to the teachers'. They would also like to see an increase in the communication of EE policy, reference material, and school board EE action plans. They would also like to see the implementation of EE "police", those that have been mentioned many times throughout who would go around ensuring that schools taught EE. Finally they also suggested the use of awards or accolades for those schools that are successfully making a difference towards EE. By creating pride within the school it is possible to spur further action, similar to engaging the youth from above, by creating pride within the teaching base could help to promote action.

## 6.3 Faculties of Education and Ministry of Education

Much like principals, the FoEd and MoEd had created a very similar wish list in comparison to the teachers. Some unique comments included having each student own a tree that is on the property, or each grade has its own tree whatever suites the school best. As the "care-giver(s)" it is possible to generate interest in environmental teachings as they will want to know more about how to sustain their tree's life, similar to having a classroom pet, like a hamster, where all the students want to learn about it.

Beyond that suggestion, it was also brought up that the language of the MoEd documents needs to be changed to incorporate stronger language like "must" so that all levels know that they are absolutely required to perform the tasks being read. The incorporation of businesses was also brought up. This could potentially be seen by business as something that would fit under its corporate responsibility policies and could greatly benefit students in potential teach outs where a teacher would not have to be frightened by their lack of knowledge as an expert would be there to handle questions.

## 6.4 NGOs

Need to see superintendents and principals playing a larger role in providing the support their schools require to teach EE. This may be in the form of providing in house training sessions, allowing teachers to take more days for PD, or simply them communication to their school(s) their expectations for what will be happening from now on.

Include outdoor trips into the physical education (PE) section of children's learning. The NGO tables believed that PE could play a very large, but likely ignored role, in communicating EE. Sessions could include nature hikes where plants and wildlife are discussed to simple jogs through the school yard to look at what, if any, environmental teaching opportunities exist. The majority of PE, except during the winter months, occurs outside anyways, whether it is on a baseball diamond or soccer pitch, and could truly be transformed into a learning experience as well.

## 7.0 Outsider Opinion

Ryerson University through all this acted as a facilitator, however, as outsiders there are things that we may see as issues that are overlooked by those who are involved in the field at all times. The opinions expressed below are that of the author only, but requests have been made for those who attended as Ryerson University representatives to provide their opinions as well. If anyone does offer up opinions this document will be amended with those comments in place.

### 7.1 School Board Made of Elected Officials

In our discussions post-EEW we as a collective have all found issue in school board officials being elected into their positions. This was something that the majority of us were both completely unaware of but also completely confused by. In looking up the rules for how to become a board trustee it would appear as though one does not even have to have educational experience, although it is recommended. Our impression was that these people would have been principals or superintendents that simply continued to move up the ladder so it does not, to us, make sense why someone who potentially has no educational experience should be able to direct how those who are experts in the field should conduct themselves.

"We" (as a population) have all seen the names of those running for school board trustees on the voting cards, however, the argument can likely be made that the majority of those who vote do not know who any of these people are, and it is likely that these voters would believe that those running would have some sort of educational background. With that said an unofficial poll of 50 people was taken to see what the average knowledge base of voters is when it comes to school board trustee voting. Responses were fairly similar; however, two people of the 50 polled were actually able to describe exactly how this process worked. The remaining 48 gave responses like "I just check off a box of a person's name I like" to "I simply do not check off any of these people because I have no idea who they are and what they stand for." If this is taken as a representative look at the knowledge base of school board trustee voting of the population in Toronto, then this is a huge problem.

What furthers this issue is the lack of information available on those who are running for these positions. Of the candidates for the Toronto District School Board from the previous election year only one had a website which described their goals, the rest were simply untraceable. Now this may be because their sites have been taken down since the last election but it is also just as possible that they did not have one to begin with. Otherwise information about these people's platforms seem to come in the form of small meetings in local community centres and other

such venues, but finding out about their locations, times, and discussion topics was next to impossible.

The last two paragraphs make for a large compounding issue. We have people voting for trustees when they have no clue who they are voting for, what they stand for, and how to even find out when they can meet these people and hear them speak. It is in the government's best interest to have a well-educated voting public so that people are not just simply throwing their votes away, at bare minimum those running for trustee should be required to have a website that details who they are, what their platform is, and displays dates and locations, for those interested enough, for when the public can hear them speak and answer questions. Secondly these websites should be centrally linked to an official government website to allow for easy access.

## 7.2 Standardized Testing

While it is understood that we need to have some sort of metric to show our population how our youth is doing, the method that is in place currently does not appear to be working as intended. But there exists many different methods for assessing our youth that are working in other places. This section will detail the issues observed and some alternatives.

### 7.2.1 Issues with Standardized Testing

There are a number of issues with standardized testing, though only a handful are discussed in this section. First, students learn and communicate in different ways; to impose a certain style of communicating learning does not allow students to adequately demonstrate their understanding and abilities. Second, whether intentional or not, learning often occurs gradually by building on previous experiences and adding to them. Thus, the true learning of a certain subject, especially in complex subjects, may not even be known or recognized until months or years later when another learning opportunity or experience draws on the previous one to finally make sense of it.

The results of standardized testing often comes down to the amount of will and effort a teacher has put into developing questions that will draw out what the student learned, as well as how the instructor marks it. Questions that are marked *en masse*, such as multiple choice questions, are designed for convenience and speed, not for critical thinking or other skills that are acquired through EE (and other subject types). Further, by offering students a set of question communicated by the instructor, that instructor is assuming (a) the students found the same aspects of the course important and meaningful, (b) the students understand and can mimic the communication style of the instructor, and (c) the questions are able to draw out important lessons that had been acquired by students.

From a learning demonstration standpoint, it may be better to instead leave the final evaluation open to students to provide whatever form of demonstration they believe best communicates their learning, be it a paper, a story, a presentation, a video, etc. The issue here

becomes whether the student is able to properly communicate lessons learned, as well as the time and ability of the instructor to evaluate such a submission.

### **8.0 Potential Questions for the Next EEW Meeting**

Do we want to revisit integration vs. stand-alone vs. alternative schooling models (i.e., project based vs. topic based)? Is this counterproductive or too broad?

Should we be more concerned with introducing EE one grade at a time? Or should we continue with attempting to integrate it at all grades in one go?

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