



## Teacher Workshop Summary: September 4, 2015

On Sept 4th, World Fisheries Trust, Royal BC Museum, and Habitat Conservation Trust Foundation hosted a workshop for educators from Vancouver Island and the lower mainland to discuss ways to deliver environmental education in the new 2015 BC Science Curriculum. Over the course of the day, educators from across the province took part in a number of activities that focused on incorporating environmental education into the new 2015 science curriculum.

### **Morning Session**

The workshop began with a brief introduction by Chris O'Connor, the representative from the Royal BC Museum, and Mark Salter, the Coastal Tours and Development Coordinator from Songhees First Nation. Salter spoke of the developments within Songhees cultural tourism, including ecological tours of the Songhees Islands and canoe tours on the Gorge. Salter emphasized the importance of the inclusion of cultural perspectives in environmental initiatives.

The first guest speaker introduced was Lenny Ross, a teacher at Strawberry Vale Elementary school and long-time advocate of environmental education. Throughout past years, Ross contributed to a working group created to address the lack of environmental education in past curriculums, and his contribution was undoubtable responsible for the changes made in 2015. Ross introduced the subject of place-based environmental education, and its crucial role in the 2015 BC school science curriculum. The 2015 curriculum, Ross stated, was design to better incorporate environmental awareness, stewardship, and sense of community - three major components of environmental education – into the core competencies of learning, communication, thinking, and personal and social responsibility, and going further, into nearly every



aspect of the curriculum. In light of these changes, Ross advocated for the growth of new styles of teaching that encourage individualized and project-based learning and allow students to develop a curiosity of the natural world. When speaking of teachings within science itself, Ross emphasized a strong mandate for linking aboriginal and cultural themes to the current understanding of western science.



Lenny Ross presenting to workshop participants on environmental education

The next guest speaker was Kelly Nordin, a curriculum developer at Habitat Conservation Trust Foundation. Nordin spoke on the topic of place-based education in schools in relation to the new curriculum. According to Nordin, place-based learning approaches encompass a wide range of learning goals, and addresses the need of 21st century learning and critical thinking. Further, place-based learning encourages and inspires students to ask questions and approach learning in a hands-on way that they can connect and engage with. Going further, place-based learning allows students to see the “big picture” and have a better understanding how whole systems work instead of just one component, or a so-called “ecosystem approach,” said Nordin.



Kelly Nordin speaking on place-based learning and the BC school curriculum

The final guest speaker was Dr. Gloria Snively, Education Professor at the University of Victoria, who spoke on the topic of traditional ecological knowledge in the classroom. Snively emphasized that “every culture has its own science,” and keeping the integrity of Indigenous science in the classroom is essential to its integration within the western school system and society. Snively suggested that while traditional knowledge can certainly be applied to the new curriculum, there are challenges to this application, which prompted many educators to share their thoughts. While some elementary school teachers saw clear potential for incorporating Indigenous knowledge into many aspects of the curriculum, high school teachers raised concern over the limitations of the more prescribed and restricting high school curriculum, especially to do with preparation for provincial exams, which still hold high priority in the school system. As a consequence, some educators argued, it is more difficult to incorporate indigenous knowledge into curriculum with a provincial exam component. Snively noted this discourse, lamenting the likelihood of indigenous students passing through the school system never learning indigenous perspectives or contributions of their own people in academia. As a consequence, aboriginal students are less likely to complete high school compared to western peers, and a very small percentage of those who do graduate will pursue a career in sciences. It is clear that more work needs to bridge this discourse.



Dr. Gloria Snively conducting her portion of the workshop focused on indigenous education within the BC school curriculum

To complete her session, Snively asked the teachers to explore the curriculum to find areas where aspect indigenous knowledge could fit, and the feedback from educators was very positive. For example, the light and sound unit of the grade 1 curriculum could incorporate aboriginal instruments and ceremonial traditions. The simple machines unit of the grade 5 curriculum could exemplify aboriginal tools, such as the fish wheel, to demonstrate basic physics. The cells, vaccinations, and antibodies unit of the grade 8 curriculum could draw upon aboriginal medicinal herbs to explore alternatives to western medicines.



Workshop participants combing through the curriculum for aspects of indigenous education

After a short break, Ross introduced the concept of the “seasonal wheel,” with the purpose of integrating ideas from the morning lectures into practical classroom applications. The concept of the seasonal wheel involved using elements of natural

cycles of the environment as tool to incorporate seasonal, place-based learning and aboriginal knowledge into lesson plans. Creating seasonal wheels demonstrates the power of spatially unique ecological processes to enhance the understanding of the environment and its many inhabitants. Ross suggested using the wheel to prompt student to track natural processes through the seasons, such as bird and fish migrations, seed studies, and weather cycles, and record all findings in a “nature journal”.

Snively then joined Ross on stage, speaking briefly on the challenges of incorporating environmental ethics into the school curriculum, while drawing upon the common aboriginal ideal that all creation in alive and must be respected, and that is the responsibility of educators to ensure these ideals of community and interconnectedness are passed through generations.

It was then time for educators to create seasonal wheels of their own and present them to the group. Participants were divided into small groups based on common geographical locations and brainstormed the various ecological processes that characterized their unique environmental. Commonalities between most groups included seasonal migrations of various local species, the incorporation of distinctive indigenous knowledge from communities upon which their land intersected with, and seasonal harvesting of resources. The overarching trend of the majority of seasonal wheels was the theme of interconnectedness, and the use of the dynamic and unique features of the environment as a learning tool.



Educators taking part in the season wheel activity

Following the presentation of the season wheels, a discussion arose regarding the sensitive nature of using indigenous knowledge in a respectful way. Some educators

expressed they felt uncomfortable teaching intimate first nations traditions without prior consultation and collaboration with First Nations knowledge holders. Snively, who has vast experience working with First Nations communities, shared from her own experiences, and felt that while it is always preferable to have First Nation elders and knowledge holders involved in the education process, the majority of First Nations persons are happy to lend their stories and traditions as long as it is approached and executed in a respectful manor. This commentary wrapped up the morning session.

### **Afternoon session**

The afternoon session took the workshop participants to the Gorge Waterway Nature House, in Esquimalt Gorge Park. Participants witnessed a traditional blessing by two elders from the Songhees Nation, followed by meaningful commentary by the elders regarding the essentially linkages between western and indigenous learning. Following this introduction, participants engaged in the field component of the workshop, which featured voyages on the Gorge in both a traditional-style war canoe from the Songhees Nation and a Dragon Boat, and a guided nature walk through the area. Participant were encouraged to take time to reflect, both mentally and through artistic expression, throughout the activity.



Participants observing a traditional blessing of the land, exploring the Gorge Waterway Nature House and taking part in a canoe voyage.

Once back on shore, the group was brought together for a discussion. Participants were asked to reflect upon three main questions, beginning with why they came to the workshop. The response to this question was varied – some educators simple came to engage socially with other educators and saw the workshop as a good

opportunity to network. Others reflected that the workshop was a chance to get outdoors while collaborating on strategies for approaching the new curriculum with like-minded educators. Most participants were interested in building and collecting a transferrable lesson and program information network that could be applied to a variety of grades and subject matter throughout their teaching careers.



Participants reflecting on several aspects of the workshop during a group discussion

Participants were then asked to reflect on the most inspiring aspect of the workshop so far. Many educators valued connecting with nature and creating a deeper understanding of place-based learning, and methods for incorporating aspects into their classrooms. Some educators valued discovering that nature itself could be the teacher and has the ability to inspire engagement and co-learning. Newer teachers felt more hopeful and supported after the workshop, and had made meaningful connections throughout the day that gave them more confidence in their teaching. Several participants found the theme of nature journals, discussed as a learning strategy in the morning session, as a particularly useful teaching tool. Overall, participants reflected on the workshop as an inspirational, novel approach to a Pro D day.

The final point of discussion was how participants would incorporate the many lessons and ideas discussed in the workshop to their classroom or learning environment, and some of the challenges associated with doing so. Teachers came up with a wide range of ideas, including working to get outside as much as possible, and presenting more opportunities for students to connect with the environment. Some educators mentioned they would be tapping into more aboriginal resources, while others hoped to

form synergies between nature and technology. Although some educators feared actual implementation could present challenges, the majority of participants had an optimistic, more confident approach to the new curriculum and teaching techniques.

While the new curriculum provides for a more open way of teaching, this poses as a challenging transition for many teachers. The workshop provided teachers with the tools and confidence to use environmental education, place-based learning, and indigenous knowledge to give the best education possible for students. Overall, the teacher's workshop was viewed as a complete success, as it brought together educators who were willing to listen, learn, and contribute to the conversation.