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ENVIRONMENTAL SUSTAINABILITY AND ECOLOGICAL SYSTEMS

A curriculum project for grade 10 students at the North Vancouver Outdoor School

My Learning Journey

My fondest memories of elementary school were when I went to play outside. Outside time was usually recess or lunch; there wasn’t a lot of outdoor teaching or learning taking place. In junior high school, which lasted from Grades 6-9, the only outdoor experience was in Grade 6 when I went to an outdoor school for 5 days. I loved it. We were exploring the outdoors everyday, looking at bugs and animal tracks learning about nature and the environment. That experience lasted less than a week but I remember it better than my other school experiences. After Grade 9 and moving on to high school, there weren’t any opportunities to study outside. Most subjects were confined to the classroom; even science where we learned about animals and the environment was in the classroom. In Grade 11, I took an opportunity to head outside; I volunteered to be a camp counselor for the same outdoor education program I participated in during Grade 6. I thoroughly enjoyed going back to the outdoors to see, guide, and assist the younger students. As for my own learning or education about the environment, there was no official program for the high school students, and this is what I would like to change and improve upon.

My personal experiences, as a student in Calgary, seem to parallel the current North Vancouver Outdoor School (NVOS) model of outdoor learning experiences. It is an amazing place with programs for Grades 3, 4, and 6; however, there are no formal curricular programs for high school students. The elementary aged students attend from 3-5 days and experience an outdoor education in ecology, nature, the traditional ways of the First Nations, and outdoor recreation activities. Similar to my adolescent experience, North Vancouver Grade 10 students get the opportunity to be the camp counselors for the younger students but are not necessarily building on their personal knowledge and learning new information, or learning and doing anything that relates to their Science 10 curriculum. The current Grade 10 life science portions of the curriculum focuses directly on ecological topics that could be taught, explored, and investigated in an outdoor environment. My goal is to change this lack of programming for high school students, most specifically Grade 10 students, by creating a curriculum for the life science portion of the course that
will integrate the outdoors and the current district initiative of Instructional Intelligence strategies.

My curriculum development is centered on the problem of how educators need to inspire the next generation of students given the prescribed Grade 10 life science portion of the curriculum. This program will incorporate a hands-on, outdoor approach to the curriculum where the students become immersed in their local environment. The program incorporates the already successful NVOS site and programs, but also the techniques of Instructional Intelligence (II) tactics, strategies, and graphics organizers presented in Beyond Monet (Bennett & Rolheiser, 2001). The Instructional Intelligence based activities are designed with specific curricular topics to provide students the opportunity to explore, develop, and reflect on their knowledge. I have named the program Environmental Sustainability and Ecological Systems.

Why Outside?

Have you ever tried to explain the sound a dog makes to a deaf person? It seems trivial and irrelevant to do so, since that person will never hear the sound of a dog. It also seems inappropriate to teach someone about the different plants and animals that live in an environment without being able to be in that environment. When I was 18 years old I wanted to be a Marine Biologist, I lived in Calgary Alberta, the only province of Canada that is surrounded by land. I could have taken the degree at the University of Calgary, but it seemed ridiculous to be in a land locked area trying to study the flora and fauna of the ocean. So I made my way out west to UBC to really find out what the ocean was all about. This is the mentality I think of when I teach the life science portions of the science 10 curricula.

Outdoor Connections

Why is connecting with the outdoors important, why is it important to encourage learning in an outdoor environment? From one perspective, “not only is being outdoors pleasant, its richness and novelty stimulate brain development and function” (Rivkin, 2000). However, the “pleasant nature experience” has been fading for today’s youth. Richard Louv, a journalist and child advocate, has written extensively about something he calls the “Nature-Deficit Disorder.” This disorder was named based on research that more and more children are not connected to their environments, thus causing a variety of learning and attention issues. Louv (2006) describes this disorder in his book as “the human costs of alienation from nature, among them: diminished uses of the senses, attention difficulties, and higher rates of physical and emotional illnesses” (p. 34). Louv is not the first person to make connections between the lack of outdoor play and behavioural issues. There is even more documentation that uncovers the fear of the outdoors and the over scheduling of children (Taylor & Kuo, 2006, p. 124). Evidence for the benefits of free, unstructured play and outdoor learning has been shown in improved test scores, and knowledge gained in comparison with indoor learning (p.