

**YES WE CAN:
SUSTAINING A LANGUAGE FOR THE LAND IN EDUCATION**

by

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ABSTRACT

The purpose of this project is to better understand at a more profound level my own personal practice during a single year in which I led, as a teacher, a school-based initiative. The year's initiative was intended to raise awareness of ecological issues and to inspire students and staff to take action to address these issues of the Land. It is my hope that others can identify some similarities between my practice and their own, and that this will spark greater dialogue about pedagogy around ecological issues.

This project focuses specifically on language as a way to uncover hidden cultural assumptions underlying educational practice. Records of my language use during the year in question were analyzed; various assumptions were identified. These assumptions included notions of anthropocentrism, Cartesian dualism and instrumental rationality. Similarly, these assumptions can be connected to the idea of *modernity*, taken here to mean the science-based cultural movement spreading out of Western Europe from the 17th Century onward. Modernity is thought by many authors as having serious consequences for the Land itself.

Taking these findings together, it can be inferred that while my intention was to raise awareness about ecological issues, my use of language may have served to reproduce and perpetuate modernist ways of thinking—the same ways of thinking which are believed to have led to these great changes in the Land. Thus there is a plain contradiction between my intentions and my assumptions. Such contradictions are ultimately problematic if schools are to properly address ecological issues.

Following up my findings, I offer some suggestions as to how “environmental educators” might choose alternative uses of language—a “Language for the Land”—which are more congruent with their intentions. These suggestions include choices of language which are based in ecocentrism, holism and ecological justice. Any linguistic alternative must challenge assumptions of modernity if education is to

remain relevant in addressing the great ecological challenges facing us as a people and as fellow inhabitants with all entities living on the Earth.

Purpose: Setting the tone

In seeking some words of wisdom with which to begin this paper, I am fortunate to have encountered Jean-Jacque Rousseau, who, as quoted for a similar aim by Pajak and Green (2003) wrote: “Prolivity and rigmarole might be somewhat curtailed if every orator were required to state at the beginning of his speech the point he wishes to make.” Following his words, I shall hence cut short any needless “rigmarole” and get to the point.

The central purpose of this paper is to, in a positive and constructive way, come to some deeper understanding of *my* own personal practice as educator in which I tried, for a year, to inspire among my students and coworkers greater concern and action for *the Land*. By the Land I mean the soils, concrete, Sky, waters, grass, tables, trees, buildings, owls, brothers, spiders, grandparents, dogs, rocks, clouds, and all that which constitutes, sustains and *is* the community of life. My personal feeling about my own practice during this year is that while progress was made and many accolades were garnered, there were dimensions of the actions undertaken and words spoken which largely went unexamined. In expressing my own experiences and reflecting on them in a meaningful way, my hope is that not only will I find better pedagogical approaches, but that other educators may find parallels and insights into their own practice, thoughts and—most importantly, as I will contend—in their *words*.

Perhaps my experiences will prove to be entirely unique, in which case this may be a futile exercise in narcissism. A finger pressed lightly on the pulse of the profession, however, tells me that educating “for the Land”—that is, trying to raise awareness about ecological issues with the intention of addressing them—is an ever-evolving and intensifying campaign as we move through the exciting challenges of the 21st Century. Among students and educators such as myself there seems to be at foot a thirst for the “reenchantment of the world” (Berman, 1981), for a connection (or reconnection) to more

meaningful ways of learning and for more hearty ways of life, both old and new. If this paper can in any way invigorate, challenge, or even in the most localized of ways deepen the dialogue around our educational practices to inspire social change and address ecological issues, I hope it will have gained a life of its own through conversation.

a. A year of personal practice

During the year in question, 2007-2008, in which I tried to inspire those ecological changes described in detail below, I was a physics teacher at a mid-sized independent secondary school near a major urban centre in Canada, located in the traditional territory of the Squamish First Nation people. The school is highly multiethnic with the majority of students originating from outside of Canada. Most students speak English as their second language. In this paper the school shall be referred to by the pseudonym *Hemlock High School*.

In *Section 2* I will return to examine, specifically, my own use of language during this school year as a way of probing deeper into my practice. For now I wish only to give a brief explanation of the context in which this use of language unfolded, to set the stage for the examination to follow.

Before the beginning of the school year a member of the school's management team became more enthusiastic about "environmental issues", having recently read Al Gore's best-selling book on climate change *An Inconvenient Truth* (S. Smith, personal communication, Feb. 9, 2009). He passed along this book to the school principal, who reported that he also found it interesting. The principal recounted that he saw key connections between Gore's call to action and the school formal vision of "students leaving the school able and willing to make a positive contribution to their respective communities, and to the world" (*ibid*).

During a subsequent staff retreat, and upon revision of the school vision, staff agreed that there was a long way to go in having students show greater respect toward their immediate surroundings, specifically the school property. Before students could feel a sense of responsibility toward the Land at large, it was thought that they first had to cultivate respect for what was directly in front of them (*ibid*).

I was quick to jump up and offer to take a leading role in the actualization of this staff-chosen school year theme of “The Environment”. Issues of the Land—both global and local—have long resonated with me. I often have tried to incorporate them into my *science* lessons. Although I do not see myself as a certified “expert” on environmental education, having received no formal “training” in this area, I believed at the time that I set a good example. Upon reflection I believed myself to be living a relatively “environmentally-benign” life, and perceived that I had a strong understanding of the *scientific* facts about what was happening to the Land in current times. These qualifications, I felt, might situate me as a trustworthy authority in such matters. Although the school has tried wherever possible through its operations to encourage caring and show its own care for the Land, I felt that with these qualifications I might be able to play a more central role in bringing ecological issues to the forefront of the school’s daily activities.

Over the course of the year many changes in the behaviour of students and staff along with changes in the operations of the school appear to have been championed. At least on paper, the list of our achievements may look impressive to some. Together with several other members of the school’s science and math department a stakeholder committee was formed, which I coined the *Hemlock Eco-Action Team*, or *HEAT*. For me the *A* in *Action* always needed to be emphasized, to signify that we were supposedly about stimulating and attaining significant, visible and measurable changes in student and staff behaviour toward the Land. Initially the team consisted of several science and math teachers but later ebbed and flowed to encompass, to varying degrees and consistencies, other teachers, students

and administrative staff. Throughout the fall of 2007, in consultation with various school staff we went about setting goals, publishing a web site, collecting data on consumption of such things as paper and energy, learning about the school's past conservation efforts, enrolling the school's student population in various external environmental programs, and drafting the first ever school-wide *sustainability policy*.

The winter of 2008 brought an extra flurry of action. *Mission Inside-Out*, a program designed to promote respect for one's immediate surroundings, was introduced to the student population. For the first time a "minister of the environment" was appointed to the student parliament. A staff professional development day was devoted to "respect for our surroundings"; teachers on this day brainstormed ways to encourage this kind of respect in their students. This led to the development of a "jingle" *Chair-and-floor-and-window-light-door* being adopted by teachers in order to promote attention to cleanliness in classrooms. In regard to school operations the administrative staff signed up for a more comprehensive recycling service and made a switch to a more "environmentally-friendly" supplier of such office materials as recycled-content photocopier paper. Finally, at the semester's climax the school planned and hosted a regional ecology festival which was regarded by many in the community as a remarkable success.

All along I felt a need to maintain this momentum, having experienced or heard about how similar programs at other institutions tend to fizzle out, distracted by the demands of a loaded school calendar. With such a rapid pace of activity I admit it was sometimes difficult to pause and take stock of whether democratic values were being maintained through my energetic approach or whether this top/middle-down strategy was unfairly silencing certain voices within the school. While some students expressed pride and interest in this timely focus of the school year, from time to time I detected a certain level of disinterest, confusion, cynicism, and a particular sensation of "polite tolerance" which may have hid

deeper feelings of resistance and resentment. Nevertheless, perceiving little time to spare I may have shrugged this off as “typical teenage self-interest”.

The school year’s theme concluded over a slower-paced summer term. During this term, the stakeholder team focussed on reducing consumption by students and by the school itself, especially of resources such as paper and energy. After some difficulty in garnering sufficient student enrolment I was able to run a course on “Environmental Science”. As a final achievement—and as if in some strange way to come *full circle* back to the roots of this special year—the students of my environmental science course helped under my direction to organize a live public presentation of Gore’s aforementioned slideshow *An Inconvenient Truth*, conducted by a local researcher personally trained by Gore to give this science-oriented lecture.

With that the school year ended.

As I departed from my place of practice to pursue a graduate degree I began the long process of reflection. Now, educators in any school setting will surely agree that the frantic pace of teaching does not often lend time for deep reflection of one’s practice. Removed from this pace, trying to break free from my sustained tunnel-vision, various questions began to surface. Although the school had ultimately been recognized at the end of that year with a prestigious award for “environmental stewardship” by our city’s government, I still wondered: What truly had been accomplished? If something significant had been achieved, at what or whose expense? Was it at all possible that I had in any way done more damage than good? What were my own personal motivations during the year, and were they justifiable? What deep cultural assumptions had I personally made and outwardly projected? What are the implications of these assumptions, if any? How did this all relate to my use of language? Lastly, most importantly, what can be done?

b. *Yes We Can: Walking the talk*

In his groundbreaking book *The Culture of Denial* (1997), Chet Bowers reflects on Nietzsche's notion of *ressentiment*. By this term Nietzsche is trying to describe how people will sometimes try to hide their own sense of inadequacy by putting down others who "think and act more forthrightly, primarily through the expression of ill-will, rancor, spitefulness, a desire to detract, and so forth" (1997, p. 165). For example, Al Gore has had his arguments regarding "climate change" dismissed and has been called a hypocrite by some who view his frequent airplane trips and home energy consumption in direct contradiction to his urges for the fight against climate change. Some fitting examples of this can be found on the "*I Hate Al Gore*" website (<http://www.ihatealgore.com>, 2007). Rather than engage in a serious, constructive discussion over the content of his actual arguments around ecological issues, certain individuals attempt in this way to redirect and undermine the conversation at hand. *This* is resentment.

In this paper I wish to subvert those who would enact forms of resentment against me. That is, I will attempt to "walk the talk" brought forth in this paper's conclusions. I may not be entirely successful, as this project is truly a work in progress; the ideas presented here are continually under construction, as they should be. In other words, I am still working out how I might "walk the talk". There will no doubt be those who will point out evidence of hypocrisy found in my use of words and in the ideas brought forth; perhaps a few prickly individuals may even point out how many kilograms of carbon emissions may have been emitted and how many trees had to be cut down to enable the process of writing and printing this paper. Yet however much in vain I will attempt to, in Gandhi's words, "...be the change we wish to see in the world" (quoted in Potts, 2002, p. A34).

How can one go about “walking the talk” in an academic graduate paper? The key is *language*. A major focus of this paper is on the idea of *discourse*—the use and effect of language—as described in *Section 1*. I will investigate the question of what “ecologically-correct” language might sound like in a personal and educational context. Applying this, it is important for me to use linguistic expressions consistent with the recommendations appearing near the end of this paper. That is, not only will I attempt to “walk the talk” but I will also try to “*talk* the talk”. Readers may have already noticed one purposeful linguistic choice I have made. Rather than using such clinical-sounding and science-derived terms as *the environment*, *nonhuman nature*, or *biosphere*, I have chosen instead to use a simpler term often put forth in reference to indigenous knowledge (Sillitoe, 1998) and deep ecology: “*the Land*”, a term which I intend to be inclusive of humans and human civilization. The reasons for these and other deliberate uses of words will be further discussed in *Section 4*. I have even considered using the innovative term “con-vironment” (Fill & Penz, 2008) to emphasize the interdependence of humans and the rest of the Land, but decided against it as I felt it is rather unwieldy and may be confusing for readers.

Foremost I will try to maintain the use of positive language and an uplifting, optimistic tone. Some authors on topics involving education and the Land (for instance, see Alsop, Diplo, & Zandvliet, 2007; Nocella II & Best, 2006; or Kahn, 2008) tend to begin their research reports with a one-paragraph summary of the terrible, terrifying state of the Planet as it crumbles beneath intensifying human exploitation driven by the globalization of capitalistic values. They do this in order to set the stage for a message exclaiming the desperate need for educational reform to address these overwhelming catastrophes. In this paper, I neither dispute the seriousness of our planetary predicament nor do I diminish the very real importance of addressing the challenges affecting the Land. Admittedly if I did not have *some* knowledge of the scale of these global realities, I would not be writing these words in the first place. Nevertheless readers can be assured that herein they will not find a crippling account of all

the appalling “problems” facing us. Intentionally I will neither be referring to our current condition as a “problem” nor as a “crisis”. With two feet planted firmly on the ground of academic rigour while at the same time in keeping with the content of this paper, I *choose* to focus on sources of emerging hope rather than on perspectives promoting potential depression and psychological paralysis.

Additionally, though perhaps in vain, I will try to use ideas and language from diverse sources both inside and outside “Western culture”—itself a problematic term. I will use language which may sometimes purposefully conflict with the scientific, rational and instrumental thinking described in *Section 3*. This study presents the inference that these kinds of thinking (scientific, etc.) play a key role in reproducing the modern modes of living which are ecologically destructive. As my intention is to help myself and other educators find ways of inspiring action in our students which address ecological issues, I certainly do not wish to be responsible in this paper for having helped to perpetuate the status quo through my use of language and ideas. This is why I will choose in places to go “outside the box”.

This approach will not be easy for me. Having myself being born into and raised in the grasp of “modernity” amidst a form of Western culture, and having studied, practiced and taught the modern scientific approach in some detail for much of my life, to go beyond these ways of thinking requires significant struggle. Nevertheless, wherever possible I will attempt to use language that respects cultural diversity and draws from a wide variety of disciplines in order to create a more inclusive dialogue.

Readers will notice that the title of this paper contains the popular phrase “Yes *We* Can”. Many will recognize this from US president Barack Obama’s successful 2008 political campaign. I believe President Obama (or his campaign team) may have purposefully developed this mantra to help summon up certain sentiments within the voter population. That is, *Yes* and *can* are clearly both statements of affirmation, optimism, efficacy and agency. *We* is a direct challenge to cultural assumptions of individualism and neoliberal self-interest. The phrase, to me, is a direct call for a positive, populist

reinvestment by “the masses” in public life and an invitation for greater citizen participation in the democratic process.

I wish to borrow this phrase in order to evoke a spirit of possibility and potential, rather than fear and doom, and to remind myself and those others who are working to learn to once again care for and connect with the Land that this conversation needs to happen in the context of *people*, not as the result of one lone person’s heroism. Furthermore some keen readers may also have recognized this phrase from a popular children’s television show called *Bob the Builder* (R. VanWynsberghe, personal communication, Jan. 29, 2009; <http://www.bobthebuilder.com>). The show’s joyful theme song repeats the lyric, “Can we fix it? *Yes we can!*” In this same spirit I wish to try to adopt this spirit of 出来る (Japanese for *dekiru*; meaning, *to be able to*) as one of the foundations of this paper. That is, whatever needs improving or fixing about education around issues of the Land, however overwhelming current prognoses may seem, I will make the assumption that we *can* fix it.

c. “*An invitation to dialogue*”

Another way in which I would like to “walk the talk” is to present an invitation to dialogue. This is nothing new. Sammel (2003) has based his own invitation to dialogue on Gadamerian philosophy, which has at its core the “belief that the interplay of partners in dialogue has the potential to generate shared meaning” (*ibid.*). Interpreting Gadamer, what Sammel suggests is that a text (e.g. paper, book, etc.) never represents the expression of one single meaning, that intended by the author. Instead meaning emerges from the interactions between the author’s work and the reader’s “willingness to engage” (*ibid.*). Meaning-making is never a one-sided activity. The writer and the reader always *co-produce* meaning (*ibid.*).

What then is dialogue? Ryan powerfully summarizes this concept:

...dialogue is a communicative relationship into which two or more people enter [Burbules]. Dialogues emerge as participants contribute alternating statements of varying duration...these dialogical relationships "seal" participants together. They "carry away" participants in a unique type of interaction that takes on a force and direction of its own [Burbules]. Dialogues often lead people beyond their intended goals to new and unexpected insights; no one consciously guides them. As the flow of these exchanges take over, the participants are absorbed, that is, caught up in them. These interactions are generally guided by a spirit of discovery and strategies of exploration and interrogation. (2002, p.123).

It is my hope that this paper's contents can function in line with Ryan's ideas as material for a "communicative relationship" which can carry educators in a direction beyond "intended goals". I hope that this dialogue may eventually lead to some "new and unexpected insights" on education around ecological issues.

Where one may find in a standard thesis or dissertation a section entitled "Conclusion" or "Conclusions"—meaning the logical consequences based on one's results and analysis, or simply an *ending*—I have included a section entitled "*Inclusion*". That is, I do not wish for or expect a "discovery" of any significantly new knowledge at the expense of existing knowledge, or aim to get "the right answer" with which to replace a more "primitive" understanding. I would rather conserve, appreciate and come to understand existing forms of knowledge, especially in light of Bowers' call to what he coins *cultural/bio-conservatism* (1997, p. 5). In brief, what he refers to is the way some aspects of modernist thinking have led to human progress being associated with new, progressive ideas rather than holding on to certain meaningful traditional ways of being (such as aspects of indigenous or local knowledge). Of course, no academically-sound project ever claims to be a closed door. In this spirit I

do not wish this project to be an ending. I would rather this be the *start* of a conversation which *includes* others, or at the very least an encouragement for the continuation of dialogue for those who care for the Land.

To this end, I have established an online blog called *An Invitation to Dialogue* at the URL: <http://www.invitation-to-dialogue.blogspot.com>. I am hoping that this can be the place for local educators, storytellers, and other “agents of change” (Selby, 1999) to expand the one-sided conversation started in this paper (or in any others). It can be a place to question ourselves, our practices, and most of all our uses of language in a positive, constructive way. Together I hope we can take these often difficult and conflicting ideas and allow meaning to grow. I have faith that through dialogue we can find ways to, as Gro Harlem Brundtland related (as cited in Gadottil, 2008), “translate our words into a language that can reach the minds of people young and old...”

d. An overview of the paper

This paper is organized into four major sections.

In *Section 1*, I introduce the idea of how examining language can reveal the hidden cultural assumptions behind the practice of an educator. I discuss the idea that language, rather than just a tool for disseminating information, helps to both construct the way we understand the world and to sustain historical perspectives on reality. *Discourse* is introduced as a concept through which the use and effects of language are framed.

Section 2 presents the methodology and data analysis used in this study. Specifically I use the idea of language noted above as a way to examine linguistic examples from my own practice during the year in question and thereby identify some of the underlying cultural assumptions upon which my practice was

based. This section is divided up into four separate parts, each presenting evidence and analysis around a different theme.

In *Section 3*, I discuss how I arrived at four major conclusions from the analysis of data. These conclusions encapsulate how I have come to understand my practice during the year in question, and how I apply it to schools at large. These conclusions are as follows:

1. Based on the assumptions underlying my use of language, I may have been invoking a predominantly *modernist discourse*.
2. Schools tend to be *modernist institutions*.
3. Since ecological issues can be thought of as consequences of modernity, it may be beneficial in modernist institutions like schools *to challenge and seek alternatives to modernist discourse* around ecological issues.
4. A language for the Land in education is one which locates or sustains discourse *beyond* the assumptions of modernity or which *resolves* these assumptions by *reintegrating* them with other ways of thinking.

Those major assumptions underlying my practice which match the foundational assumptions of modernity are explored. In addition, I question the ways modern science tends to dominant schools and how this reliance on scientific thinking has serious consequences for the Planet. Finally, I search for ways forward from these conclusions, finding hope in the form of postmodern thought which allows us to challenge the assumptions of modernity.

In the last section, *Section 4*, the discussion is taken “down” to the very pragmatic level of language in schools. Drawing from the literature, and based on a deeper understanding of my own practice, I suggest specific choices of language which may promote discourse which is not trapped by the

assumptions of modernity. These choices of language might make up something which I choose to call a “language for the Land in education”. This form of language, I argue, should:

- be “ecologically-correct”, rather than only “politically-correct”
- be justice-oriented, addressing all oppression and inequity of entities of the Land
- use holistic terminology, expressing a seamless and interdependent relationship between humans and the rest of the Land
- respect cultural ways of knowing other than those of the “modern Western” hegemony
- de-center science as the ultimate source of truth and allow to the forefront other disciplines which contribute to ecologically responsible ways of thinking
- restore a sense that the Land is sacred, that all entities have intrinsic purpose beyond economic significance
- be centered in the perspective of the Land, rather than in only a human-centered viewpoint
- emphasize the collective as the most powerful source of cultural change in addressing ecological issues
- allow for the irreducible complexity and inherent mystery of the Land

In this way, I invite educators to continue to think about how a language for the Land might serve to re-enchant our perspective of ourselves and the rest of the Land. I leave readers with the ultimate question: How can we employ a language for the Land to breathe life back into the ways students and educators learn about our relationships with all living entities?

Section 1. Framework: Who we are is what we “say”

Why language! This is a question I sometimes hear when I talk to other educators about the focus of this research project. I anticipate some readers might share this sentiment, perhaps wondering what language has to do with “environmental education”.

A year earlier I may have repeated these sort of sentiments myself. Upon reflection, I think as an educator I had considered language vaguely important enough so as not to ignore, say, which written and spoken words I chose in trying to achieve certain outcomes. It was clear to me that considerations of language are somewhat necessary at least in terms of being tactful.

Nonetheless, throughout my practice I had remained mostly fixated on the “action” in “eco-action team”, convinced that what would truly distinguish my group’s campaign from others would be our focus on significant and measurable *results*. *Who we are*, I reminded myself and others, *is what we do*. I assumed that a concentration on such “minor” concerns as language would only delay action toward these urgent planetary matters. This is a perspective frequently observed by Muhlhausler & Peace (2006) among environmental activists. Because of this dismissal of language, opportunities to consider deeper understandings of the importance of what and how I communicate may have been passed over. By focusing most of my attention on action, I had ignored the powerful function of language to reveal deeper meanings about my practice.

a. The water and the fish

According to Stables (2001), educators commonly view language as a mere tool. Seemingly unimportant and denied attention, language is subordinated to the idea that it is only a means for

carrying information from one person to another, as a “biological adaptation to communicate information” (Pinker, as cited in Bowers, 1997, p. 119), and as a “conduit for communicating ‘objective’ information and data” (Bowers, 2001). By those who readily accept this narrow definition, language merely represents objects and relationships (*ibid.*).

Personally speaking, this is how I had once thought about it. I had not considered where language comes from or how it might be used to construct reality. This, in fact, is the very first assumption I have discovered underlying my practice: I was assuming that language is not of ultimate importance.

Bowers (2001) goes so far as to claim that most scientists, environmental educators and experts who produce curriculum materials remain unaware as to deeper, more relevant conceptions of language. Similarly, Schleppegrell (1997b) recognizes:

It is through language that school subjects are presented to students, and through language that students’ understanding of concepts is expressed and evaluated in school contexts. But language patterns themselves are rarely the focus of attention of students and teachers. Instead, their attention is typically on the content of the texts they read and respond to.

Similarly, Christie (as cited in Schleppegrell, 1997) has argued that language is the “hidden curriculum” of schooling. What she may mean is that the taken-for-granted patterns of communication are often overlooked by educators in how they may be contributing to the socialization of students. As a result language use is not allowed any more than a secondary role in educational debate (Stables, 2001). It is rare for linguistic considerations in schools to go beyond addressing matters of token political correctness, such as the re-labelling of students of varying levels of ability (Deschenes, Cuban, & Tyack, 2001).

Why do so many educators disregard language as anything more than a tool? One reason may be the fact that language is taken for granted. Just as the saying goes about the fish being the last to discover

water (Bowers, 1997, p. 154), because communication and socialization through language make up such an enormous but invisible part of our daily lives, allowing us to “negotiate relationships and resolve everyday issues” (*ibid.*, p. 141), their underlying nature is often overlooked.

I do not mean to dispute the idea that language is a tool or a means of transmitting information. It certainly has these properties. Yet, this raises a question: Is a “tool” view of language problematic for the purpose of this study? Going back to my original purpose—to understand at a deeper level my own practice—it seems that the conventional approach to language will not suffice. Schleppegrell (1997) advises that “it is important that teachers and curriculum developers be aware of the limitations and challenges presented by particular linguistic choices.” A tool-based view of language is limited then, because under this view, when I speak or write I only transmit information. My personal or cultural assumptions appear irrelevant to the words I use; they do not play any role in constructing my understanding of the world. Therefore, a linguistic choice dismissive of language, or one which treats language neutrally as a mere tool, cannot help me to discover the implicit assumptions underlying my practice.

An alternative view of language, however, will be explored in the hope of making these personal assumptions explicit. I need to move forward to examine evidence which counters Pinker’s assertion that language is not an “insidious shaper of thought” (cited in Bowers, 1997, p. 119). In order to understand my own assumptions about language I need to investigate the question of *why* language may be so often regarded as a mere tool. Is it just due to the fact that language is such a seamless part of our daily lives? No doubt this is part of the reason, as I have argued earlier. But what ways of thinking rest behind the notion that language is a mechanical tool? What is it about my own identity somewhere within so-called “modern Western culture” which has coaxed me—until now—into avoiding a deep probing of my own words?

b. A rationale for rational thought

“Western culture” is admittedly a slippery term, and “*modern* Western culture” is doubly so. “Modern” here refers to the age of *modernity*. Modernity can refer to the working out of *Enlightenment* beliefs in human affairs (Bonnett, 2002), a complex idea which is discussed later. The lines delineating “the West” are—and may have always been—fuzzy. Arguably these lines are becoming increasingly dissolved as new communication technologies allow the mixing of cultural ideologies around the Planet. On the other hand, globalization can be seen to be spreading dominant economic ideals beyond “advanced” Western nations, which are “recolonizing” the so-called underdeveloped world (Choudry, 2007). Because of the abstract nature of the term “modern Western culture”, I wish to tread carefully around the possibility of inadvertently perpetuating stereotypes of Western culture as meaning *all* aspects of European and North American culture without giving due recognition to existing diversity. Therefore, I shall once again turn this investigation toward myself and the specific culture within which I have lived. If I take “modern Western culture” then to mean *my* own personal background as a Euro-Caucasian male, raised in Canadian suburbs and educated in the public school system and in several Canadian universities, what underlying assumptions rest at the roots of *this* culture as related to language?

In searching for my cultural assumptions regarding language, it may be best to concentrate on historic origins. What, then, started this age of modernity of which I am a part? Berman (1981) seems to point toward the emergence of the notion of *Cartesian dualism*: the idea that humans are fundamentally separate from “nature”. Berman goes on to provide a summary of profound societal changes which have spread throughout parts of Europe and other parts of the world over the past four hundred years, changes which have transformed not only the structure of nations but also the mindset of

their citizenry. Although modernity cannot be traced back to any single defining moment from whence all modern conceptions grew, Berman identifies 16th Century thinkers Francis Bacon and René Descartes as hugely influential “architects” both of the Scientific Revolution and of our current outlook, what he calls the “Cartesian paradigm” (p. 24). The ideology of Bacon and Descartes would soon after become solidified in European society through news of experiments conducted by the fathers of classical physics, Galileo Galilei and Isaac Newton. By the time of Newton’s death in 1727, the typical educated European is believed to have adopted the dominant way of Cartesian thinking (p. 41). Fuelled by globalization, this spread of Cartesian thought continues today, although certainly not without its challengers (p. 23).

What are the underlying assumptions of this modern way of understanding? Bacon and Descartes imagined that *reason*—mathematics and the “laws of thought”—always had to be checked against empirical evidence in reality—measurement and the “laws of things” (*ibid.*, p. 28). According to Orr (1992), Descartes assumed that only those things which could be weighed, measured and counted were true, and that “if it couldn’t be counted, it didn’t count.” In order to question and learn about the Land (or anything in physical reality) one had to put “it” in a situation, a quantitative experiment, in which the Land was disturbed, “annoyed”, and had to yield up its answers (Berman, 1981, p. 29). To know the Land, they argued, a human had to totally separate her own mind from “it” and make the Land an object, an alienated “thing”, or a “not-me” which she could then study (*ibid.*, p. 16-17). To know the Land one had to treat “it” *mechanically*, like a machine. But in order to treat the Land mechanically, they understood, one’s mind “must behave mechanically as well” (p. 31). This too was recognized by Newton’s nemesis, Robert Hooke, who noted how as the mind started to think in mechanical (or scientific) terms it was able to then see forms of mechanism operating in the Land (p. 58-59).

Berman argues that Descartes did not seem to regard this perspective as problematic in regard to language, as he also conceptualized the human activity of thinking itself as purely mechanical and “in possession of a certain method” (p. 34). The human method, according to Descartes, is to approach the world as a separate object, apply mechanical and reductive (reducing the problem to the simplest terms, p. 43) thinking over and over until there is nothing left to know. In other words, within the Cartesian paradigm or what Berman calls “mechanistic philosophy”, human thinking is *mechanical*, the Land is *mechanical*, and a Cartesian approach to examining the Land will reveal all its seen and unseen *mechanisms*. It is then little surprise that Descartes is branded “at heart an engineer” (Orr, 1992). This is certainly not to claim that this mode of thinking is incorrect, less valuable than earlier ways of understanding, or in any way “unnatural”, but only to point out its association with certain important assumptions and, later, to evaluate the consequences of these assumptions.

From the 17th Century onward, this mode of thinking—the “scientific consciousness” (Berman, 1981, p. 16-17)—is thought to have proliferated throughout Western Europe and other parts of the world. It gradually would become valued as a indispensable part of formal education, infused into various aspects of schools including mandated curricula and accountability practices.

Perhaps it was here during my own K-12 schooling that I first encountered this paradigm, and thereafter throughout my training as a scientist and physics teacher I allowed its gradual acceptance into my mindset. The idea that humans and “nature” are separate, that life is mechanical, and that science is the most authoritative way to discover truth about the world all seemed to be acceptable ways of thinking to me. Indeed, throughout all of grade school *and* a “rigorous” honours science degree *and* a well-regarded program in science education (*seventeen years* of formal education), I do not recollect being witness to questions as to the validity of the foundational ideas of Bacon and Descartes. Similarly,

my own adoption of this seemingly normal mode of thinking into my methods of teaching went largely unquestioned.

What made me avoid a critical stance on Cartesian thought? What made *Descartes* himself seemingly avoid a critical stance on his own innovative way of thinking? The answer may be the same in both cases. Adopting a mechanical way of thinking serves to prevent those who use this mode of thinking from critically questioning themselves. That is, since through a mechanistic perspective *everything* is seen as mechanical, then thinking itself is seen as mechanical. Mechanical thinking then appears not as human culture but as “human nature”. This mode of thinking does not recognize itself as arbitrary, culturally-bound or moral. It recognizes itself only as neutral, as a tool or mechanism.

Arguably, this “double-bind” (Bowers, 1997, p. 2)—how mechanical thinking may prevent the recognition of the possible implications of one’s own way of thinking—can explain why the role of language has been ignored by some educators in their own practices. Assuming that I had adopted, without question, a mechanical way of thinking, then *every “thing”* (the Land, my own body, my mind, *and* my use of language) can take on a mechanical appearance. In this way language itself may become regarded operationally as a tool, a complex but logical pattern of sounds or symbols constructed by a brain-machine, expressed through bodily muscle impulses, transmitted through a medium such as air or paper or the corpuscles of light on an electronic screen, received through sensory receptors and finally deconstructed and processed by another brain-machine into “meaning”. To put it differently, from the mechanistic perspective language may be seen as only a *means* to an end—to deliver data from one human-machine to another—but not as an end in itself. By treating language as a separate object we rob it of more profound personal, cultural and historical nuances—hence the double-bind.

One final reason speaks to this question of why language may not commonly be seen in a deeper way. As Descartes determined that mechanical thinking depends so much on reason, it followed for him to

then reaffirm the Aristotelian principle of *non-contradiction* (Berman, 1981, p. 36). This principle states that for every question there can be only *one* answer. For example, $2 + 2$ is always equal to 4, never 4 and 5 or 3 and 4 at the same time. In other words, a Cartesian philosophy rejects *dialectical thinking* or multiple and co-existing ways of thought. It rejects questions like, *How can language be thought of in ways other than only as a neutral tool?* and *Can language be both a tool and something deeper at the same time?* Thus this principle may have impacted the view of educators (myself included) by masking the “double-sided” aspect of language.

So far I have, among other things, identified how I, as an educator, had made the assumption that language is just a tool. I may have made this assumption because my understanding was based on mechanical thinking rooted in “modern Western culture”. By this mode of thought I saw language as merely mechanical in nature and not as several things at one time. However, this perspective cannot not help me unearth the assumptions underlying my practice. It is necessary then to seek out alternative views of language beyond the mechanistic and examine whether they can help to shed light on my practice.

c. The ecology of language

In recent times there has been something of a “linguistic turn” in social theory, away from the more structural views of language which deal solely with its mechanical properties (such as grammar and syntax) (Stibbe, 2001). This turn appears to have stemmed from the ongoing *postmodern* cultural movement. According to Gough & Price (2004), *postmodernism* refers to “the crisis of confidence in western conceptual systems...borne out of our sense of the limits of Enlightenment rationality” and as “a loose collection of ways of thinking about how to go beyond modernist perspectives,” referring to the

mechanistic assumptions (among others) discussed earlier. It is also described as a philosophical movement which aims to deconstruct modern notions of truth, language, knowledge and power (Furman, 1998). Postmodernist philosophers such as Derrida—including academics who study *poststructuralism* as influenced by the culture of postmodernism—open up to critique many of these modern cultural beliefs, including the idea that language as a tool is transparent and neutral (Gough & Price, 2004). Poststructural perspectives reject these literal interpretations of language (Sarup, as cited in Barrett, 2005) which claim words only mirror the world.

From the postmodern or poststructural perspective, language does not only convey intended meaning. Instead, as Burr writes, “Language itself provides us with a way of structuring our experience of ourselves and the world” (cited in Stibbe, 2001). It provides us with ways of *constructing* and shaping our understanding of reality. For instance, the concept signified by the term “race” is a notion wherein people can be divided into different categories according to certain physical or genetic characteristics. This may have been one particular way that some groups of early humans devised to come to some sort of understanding about how they are different from one another. However, race is an arbitrary notion; we could just as well ignore these differences in characteristics and treat all humans under a single category (another arbitrary idea)—or oppositely, treat *every* human as unique individuals without resorting to categories of people. Which seemingly random characteristics count for the “white race” or the “black race” are *cultural* ideas sustained through language expressing particular ways of thinking which evolved over thousands of years. For example, the group identified as “Asian” is not considered “black” because “they” do not have certain characteristics defined from a certain historical point onward by certain groups of people. Instead of ignoring these differences, we use language to construct our understanding of what is “white”, what is “black”, and what is neither. We also invent words like “nigger” and imbue them with derogatory connotations to construct subjective ways one “race” is

believed to be better than the other. This sort of language allows people to practice “racism”; to construct an understanding of the world in which the physical characteristics of people determine their place in an arbitrary social hierarchy.

Not only does language allow for the construction of reality in particular ways, it also serves to sustain or *reproduce* modes of understanding. To a young child the word “race” might mean little conceptually. This child might not yet have learned (or been taught) the concept of “race” or learned to associate certain physical differences in people with particular groups and particular labels. For instance, in my travels to Japan very young children seem not to recognize a “white” person as different from a “nonwhite” person, while an older child, having learned that “white people” have different characteristics, does indeed pay attention to notions of “race”, and so is able to react accordingly and use relevant language to describe me as “not Japanese”. He then can place me into a social hierarchy as he understands it. In other words, over time this older child learned to “racialize”—that is, to make assumptions about people with various characteristics. Through the language of daily interactions between himself and other people and the world around him, the child grew to associate certain words with certain characteristics of certain people. Early in life he may not have known what “white” meant until he heard it used sufficient times to describe people according to a specific set of criteria, or until he was corrected (e.g. when he “mistakenly” called a “white” person “Japanese”). He may not have placed white people and Japanese people within a specific social order if he had not first heard others doing so, or if he was not reprimanded for doing otherwise. Thus, the historical idea of race is *perpetuated* through the child’s adoption of the language of others and the ideas behind this language. He was not only learning new words, but he was also learning assumptions about the world, new subjectivities, and new ways of thinking which in his mind had become associated with these words. Through language he

was learning a particular *culture*. Further, *through language*, cultural beliefs were sustaining themselves, preventing their own demise and allowing themselves to continue into the future.

According to Grieshaber, a postmodern perspective describes how “language is central to the construction of an individual’s subjectivity” (cited in Ortlipp, 2003). These subjectivities or cultural assumptions are *socially* and *historically* constructed (Usher & Edwards, 1994). When we speak or write, we are engaging in a relationship with history, with cultural ways of knowing that build up over time. In fact, modern Western language can be thought of as the outcomes of past developments (Halliday, cited in Muhlhausler & Peace, 2006); culture contains memories of the past sustained through communication.

From the discussion so far, we have seen how the postmodern perspective explains that language can serve both to *construct* and to *sustain* cultural assumptions about the world. We have also seen how individuals adopt these assumptions through communication with others, which allows the reproduction of social and historical ways of understanding.

As Muhlhausler confirms (as cited in Muhlhausler & Peace, 2006), from such an “ecological” view (meaning that people have an interactive relationship with language), language is both constructed by people *and*—oppositely—plays a role in constructing and preserving the world (or at least how we see and interpret reality). In this way, Berger (cited in Bowers, 1997, p. 155) asserts that the reality of the world is sustained through conversations with others, specifically through our use of language. Relying on “largely unarticulated, mutual knowledge, symbolic meanings, motives, and rules” (Denzin & Lincoln, as cited in Sammel, 2003), the language of ordinary life aids in perpetuating these assumptions. These assumptions shape how one thinks, which plays a crucial role in determining one’s actions. “How you think of things,” writes Canadian thinker John Ralston Saul (2008), “will shape much of what you do or what you want to do or how you understand what you shouldn’t do” (p. 21).

This function of language as representing assumptions is not necessarily a negative thing; we no doubt need these shared assumptions so that we can negotiate our way around the world, make sense of it and share in an intimate connection with our own cultural group. This feature of language is also important in that it can allow for the conservation of cultural ways of being—for example, the preservation of indigenous knowledge—and can anchor our understanding of the world in ways which are often congruent with modes of thinking developed over hundreds or thousands of years.

These shared assumptions and shared ways of understanding by groups of people are effects of language called *discourse*. Barrett (2005, italics mine) summarises the views of Weedon and Scott:

Within poststructuralism, discourse is conceived as a set of beliefs and understandings, reinforced through daily practices, which frame a particular understanding of the ways we are in the world. Discourse is not specifically a language or text, but is the *effect* of language practices. Language practices produce shared cultural narratives, or discourses, which are ‘a historically, socially, and institutionally specific structure of statements, terms, categories, and beliefs,’ that organize the ways in which we can think and act.

In other words, discourse is constructed through language, but in turn when people use language they draw this language from a discourse. Putting these ideas together with Barrett’s description, discourse can be understood as both the *use and effect* of language. The speaker or speakers of a particular discourse invoke the discourse—full as it is of cultural and historical assumptions—through language in order to communicate. Yet the speakers are also shaped *by* the discourse in complying with these assumptions in their minds. Thus a discourse has a tendency to perpetuate itself through people when they communicate. Rather than people using discourse, it would seem *discourse uses people*. People participating in a particular discourse become discursively-minded according to the assumptions of this discourse.

It is from this perspective of language as a constructor and preserver of discourse—that is, of sets of shared conceptual frameworks for human understanding—which will allow me to examine my own practice with greater profundity. From my use of language, I will be able to look at the cultural assumptions which this language is helping to sustain. I will be able to trace certain uses of language back through history and across space to find what bodies of knowledge they rest upon.

One example may help to clarify this process. We can imagine two individuals in a conversation through some linguistic medium, discussing the issue of “climate change” and trying to co-produce a shared understanding. The first individual argues, “The human species needs to stop polluting nature so much in order to fight climate change.” The second individual is puzzled, her mind abuzz with “postmodern” questions. First of all, she wonders, What does he mean by the *human species*? Does he mean *all* humans across the planet, to equal degree? Is he making the assumption that even a subsistence farmer in Ethiopia on a small plot of arid Land may be living in as equally “unsustainable” a way as a family in a large house in a sprawling Canadian suburb? Certainly the farmer shares far less liability for impact on the Planet than the suburban family, but is the speaker assuming that the farmer too must accept some restriction so that climate change may be addressed? And isn’t the use of the term *human species* making an assumption of the validity of a science-based classification system according to arbitrary physical characteristics? Furthermore, why is “human species” the subject and “nature” the object of his statement? What does he mean by *nature*? She spots an Oxford English Dictionary (2002) on the shelf behind him: in its pages, nature is defined *by the authors* as “the physical world, including plants, animals, the landscape, and natural phenomena, as opposed to things made by people.” As with these authors, she surmises, the speaker is drawing on the cultural assumption that there is a clear separation between humans and the Land, that the Land includes neither humans nor “things” that humans make by using the Land. So a tree in the forest is *nature*, but a tree cut down and used for some

purpose is not. He assumes that a house, or a street, or a city are most certainly not examples of nature. What does it mean to be *polluting nature*, anyway? Is this assuming that nature can act as a sink for a certain amount of toxins, and that as long as we don't push certain limits, it is acceptable to utilize nature for our own gains? All materials are derived from the physical world, so she wonders...if "natural" materials are rearranged by humans into a different form, are they then a pollutant—which, according to the Oxford, is a substance which makes things *dirt-y*? So apparently even dirt—soil—is related to pollution. Then is the carbon dioxide exhaled from my lungs, having been "processed" from oxygen and sugar, a pollutant? And what exactly does he mean by *climate change*? Isn't the climate of a location always changing? Is he assuming *climate* to be only those conditions necessary to preserve today's agricultural and recreational activities and ensure the increase of the Western standard of living? After all, isn't the ultimate fate of all species to become extinct? Is he privileging the uniqueness of humans by arguing for their eternal existence through complete mastery of the Planet's climate to some fixed criteria? Referring back to the dictionary she finds that climate is thought of as "the general weather conditions in an area over a long period." Well, she continues, if for every given area the climate is always gradually changing, so that the general weather conditions themselves are always changing and are never static, how then can climate change? In other words, how can *change* change? And who determines how we measure or categorize weather conditions? Only scientists? What assumptions are *they* making? Finally, he says we need to *fight* climate change. Are we then at war with climate change? Who or what really is the enemy? What assumptions are predicated on his use of this violent, antagonistic metaphor? Isn't it this the aggressive approach which got us in this condition in the first place? And what she still cannot stop thinking about is the speaker's personal role and responsibility in all of this. Where is the "I" or the "we" in his use of language? Maybe he is forgetting

the social contract of democracy and is assuming himself to be an autonomous individual with no connection to the greater collective good...

By now the second “speaker” has been thinking for some time, tallying up a lengthy but not exhaustive list of possible cultural assumptions about cultural diversity and justice, the human-nature separation, the Land as a resource, science as truth, nature as static, human privilege (anthropocentrism), violence as purposeful, and the prevalence of individuality. She has identified ways in which his language, should she have engaged him, could trap them in “conventional meanings and modes of being” (Davies, cited in Barrett, 2005). But her attempt at linguistic deconstruction is in no way complete. She could undoubtedly go much further. She could look into word etymologies, investigate how dictionaries present a selective cultural canon and may function as norms for state apparati such as schools (Muhlhausler & Peace, 2006), or perhaps examine the cultural assumptions underlying her own critical approach. Yet it may be safe to say that so often in the best interest of efficient conversation it is common to leave these many assumptions unquestioned—which may help to alleviate frustration and allow a dialogue to flow. The question remains: How do critically unchallenged uses of language perpetuate certain underlying assumptions? Beyond this, how can we “fix” language if its underlying assumptions bring about unhealthy and undesirable consequences?

In summary, the poststructural approach to language problematizes that which appears at first to be common sense or “human nature”. It focuses on “how language works, in whose and what interests, on what cultural sites and why” (Kelly, as cited in Barrett, 2005). Although it often relies on the deconstruction of the uses of language, I will contend that through de-construction and *re*-construction it may also be used to locate areas of positive, powerful communication in education to help conserve, sustain, and invigorate the many cultural anchors that could constitute what I call a “language for the Land”.

The analysis of discourse via the concept of discouse, then, appears to be a suitable basis on which to probe my personal practice. Specifically it will allow me to more fully understand the hidden beliefs on which my daily practice was built, and grasp what assumptions I may have perpetuated among students, staff and within my own life outside of school. It will allow me to investigate which parties or cultures might have been excluded or silenced as an effect. Most importantly, it may assist the dialogue around sustaining a positive language for the Land which is both respectful of diversity yet offers the potential to empower those groups formerly overlooked.

Section 2. Analysis: What did I say? Personal practice exposed through the lens of discourse

As an educator, discovering one's own hidden cultural assumptions can be a humbling—even embarrassing—experience. The Irish poet William Butler Yeats assures those who would embark on this kind of journey that “it takes more courage to dig deep into the dark corners of one's own soul than it does for a soldier to fight on the battlefield” (cited by Cornel West in Marin, Imperial, & Taylor, 2008). Generally speaking, not to take such a journey is to risk the reproduction of destructive assumptions from the past. It is also to risk failing to renew those time-honoured insights which have the potential of playing a constructive role for the future, such as those which might be found in indigenous and local knowledge. Here the bold words of Socrates, that “the unexamined life is not worth living,” push us toward such perilous journeys to “deconstruct” ourselves through deep reflection. By embarking on a voyage of self-*deconstruction* it is important to avert self-*destruction*, a danger whereby one is left hopeless and frustrated. Personally, I must keep faith that *de*-construction will ultimately lead to a *re*-construction or transformation of my personal practice as an educator. My hope is that through this reconstructed practice I will become more self-aware, better attuned to history, and that my words will better match my intentions. This is why I will try in this paper to remain true to a search for hopeful alternatives to education around ecological issues.

The discourse to be deconstructed here revolves around my “year of activism” in 2007-2008. As described earlier this was the year I took on the role of a school leader in an attempt to bring about a greater focus on issues of the Land and inspire a greater resolve on the part of the school's students and staff to become actors in addressing these issues. Throughout the year I helped to produce a wide range of presentations at staff meetings, school-wide assemblies and public events. An interview by a local newspaper regarding our ecology festival gave me the chance to share my views. I also wrote and

designed numerous related messages, advertisements and documents for use of the staff, in addition to creating the school's online "eco-action" web site. Together these opportunities frame the discourse under examination.

In total, twenty documents will be examined as a representative sample of my own uses of language throughout the year. These documents take the form of word processing files, electronic slideshows, printed handouts and flyers, a newspaper article and a web site. All discourse for which I do *not* have documentation, including impromptu speeches, classroom teaching and personal conversations, will not be examined. Such a limitation is a result of this project being an eventual afterthought. The complete reference list for these documents is located at the end of this section.

Additional limitations of this study include the fact that these documents represent only *written* or textual records of language use. Some of this writing was used for notes to guide me during oral speeches and presentations. Because of this factor, the documented language is not always an exact word-for-word reflection of what was actually said; some "ad lib" or spontaneous liberties were undoubtedly taken as seen fit at the time. These changes are one element which is unrepresented in the documents. Additionally, important parts of oral communication—intonation, gestures, pitch, volume, stress and speed of speaking—were not recorded. Finally, because signifiers such as words and phrases always fall short of being able to perfectly *signify* the thoughts or ideas contained in one's own mind, these documents can not represent a record of *exactly* what I was thinking—or assuming—at the time. Therefore, caution should be exercised around interpreting this limited text-only analysis.

The methodology used here is relatively simple. From these records I have attempted to identify and classify various uses of my own language. Repetitive uses of phrases or particular terminology have been grouped together wherever possible. Using as a rough guide Bower's summary of Western cultural assumptions in formal educational institutions (1997, p. 7), I have gathered my own language use into

eight main focus areas or major themes. In this section, I will include results for *four* of these eight major themes: discourses around a) mechanisms and science, b) nature-human unity vs. nature-human separation, c) ecocentrism vs. anthropocentrism and ethnocentrism, and d) collectivism vs. individualism. The results for the remaining four major themes not given here—optimism vs. pessimism, solutions vs. problems, importance of pragmatics, critical thinking vs. superficiality—are included in *Appendix A* at the end of this paper. These four excluded themes are beyond the limited scope of this study. It is my hope, however, that in future work these interesting results will be examined with the completeness they deserve. Nonetheless I will include the major assumptions gathered under these excluded themes in the summary of this section.

For each of the four included themes, I have identified one or two major assumptions underlying the recorded use of language. Examples and counter-examples which point toward (and away from) these assumptions are provided. I have attempted to place these examples into some context through an explanation of the background around each assumption.

Finally, I must reiterate a point made in this paper's statement of purpose. Ultimately my experiences and my use of language may turn out to be quite unique to my own understanding of "environmental activism" and education, and to my own personal identity. If this is completely true, then this project will serve only myself. However, since language *is* itself a means of communication (among other things), familiar uses and practices will reflect larger realities. Through recognizing similarities to one's own uses of language and by reflecting upon the underpinning assumptions I wish that readers—as educators, academics, students or activists—will be able to further engage in a profoundly important dialogue about how to better approach ecological issues.

a. Bacon and Descartes live on

Science and mechanical thinking—background:

As described in *Section 1b*, the Scientific Revolution is thought to have begun largely under the influence of Francis Bacon and René Descartes. These early European scientists forged together the ideas of empiricism and rationality, arguing that a mechanistic and calculative mode of thinking is necessary in order to better understand the world. They argued that science is the best way to unveil the “laws of nature” and that science should be the basis for an enlightened human society. By employing mechanical thinking, they asserted, people could begin to “see” the Land solely in terms of mechanisms we might now commonly associate with machines.

Science and mechanical thinking—linguistic evidence:

Upon review of the year’s discourse one of the most noticeable trends to appear is my continuous use of scientific terminology and scientific concepts to communicate about the Land. Examples are listed fully in *Table 1*. On multiple occasions terms such as *organism*⁴, *biodegrade*⁵, *carbon footprint*⁸, *greenhouse gases*⁸, *atmosphere*⁸, *carbon-based emissions*¹⁰, *carbon dioxide*⁸, *oxygen*⁸, *biodiversity*¹⁹ and *carrying capacity*¹⁹ appear in the records. Sometimes they are found without definition or much explanation. This could imply a presumption on my part that the listener already possesses sufficient prior understanding of relevant scientific theory to follow my argument. What these words may also represent is an assumption that science is the best, most trustable basis for understanding ecological issues of the Land, especially in a school setting.

The scientific notion of mechanisms emerges in my use of language. For example, I associate preserving trees with their various practical functions such as taking in carbon dioxide from the

atmosphere, storing the carbon in the form of sugars and releasing oxygen back into the atmosphere⁸. I go on to explain how trees “release nitrogen” and “moderate climate”⁸. This may communicate the understanding that a tree operates much like a computer, accepting forms of input from the surrounding medium, storing some of this input into an altered “code” and processing the remaining input into a modified substance for output back into the surroundings. A tree, from this perspective, is a kind of “tree-machine”. It may be inferred from these uses of language that I am assuming the world to operate through a complex but rational series of intertwined mechanisms. My own mechanical thinking could be helping me see mechanisms in the Land, and aiding me in communicating this perspective.

Examples of recorded language	
organism ⁴	greenhouse gases ⁸
biodegrade ⁵	atmosphere ⁸
carbon footprint ⁸	carbon-based use and emissions ¹⁰
Collapse of global <i>biodiversity</i> ¹⁹	LOSS OF <i>CARRYING CAPACITY</i> ¹⁹
trees... absorb toxins... produce <i>oxygen</i> ... store <i>carbon</i> ... release <i>nitrogen</i> ... prevent <i>erosion</i> ... moderate <i>climate</i> ⁴	The trees that are saved will also replace <i>carbon dioxide</i> with <i>oxygen</i> for years to come. ⁸
And HALF as much <i>carbon</i> is put up into the <i>atmosphere</i> . ⁸	

Table 1. Scientific/mechanistic language identified in the discourse. Italics emphasize key words.

Empiricism—background:

For Descartes, as described in *Section 1b*, only those things that can be weighed, measured and counted were considered meaningful. He appears to have regarded empiricism as the only authoritative means through which one could make statements about physical reality.

Empiricism—linguistic evidence:

An emphasis on empiricism is evident in the year's recorded discourse. It appears in my use of science-derived statistics such as in the statement that "travel by airplane alone accounts for around 4% of all human-caused carbon emissions in the atmosphere"⁸. Empiricism also appears in documents and internal messages regarding the need for "environmental school goals" to be *measurable*.

Coming from a science teacher this focus on the measurable might not be a great surprise, especially to those students who I had previously taught or was teaching at the time. Yet whether this focus is a reflection of my own personal assumptions about quantitative properties as having more meaning than qualitative properties or simply an attempt to conform to the empirical way of thinking of others—be they students, teachers, or administration—is not clear. In other words, perhaps I believed people would respond more effectively to "hard" scientific data than to qualitative generalizations, that they would be less sceptical than if I relied on scientifically unsupported claims. Nevertheless these examples seem to point toward my belief in Descartes' notion of "only what can be counted counts".

Examples of recorded language
Travel by airplane alone accounts for around 4% of all human-caused carbon emissions in the atmosphere. ⁸
What are some suggestions for achievable, <i>measurable</i> environmental school goals to set for both the short-term and long-term... in terms of <i>physical outcomes</i> as well as changes related to daily behaviours of students and staff? ¹⁵
Next, our team sets <i>concrete</i> and <i>measurable</i> goals, both short term and long term, goals which describe what new desirable behaviours and structures we are aiming to introduce. ¹⁷

Table 2. Empirical language identified in the discourse. Italics emphasize key words.

b. Divisions of the Land

The nature-human divide—background:

Recall from the previous section how Bacon and Descartes had argued that a person had to make the Land an object, an alienated “thing or a “not-me” which she could then study (Berman, 1981, p. 16-17). In other words, in order to know the Land a person had to separate herself from “it”. This implies there is (or should be) a distinct separation between humans and “nonhuman nature”, between human civilization and the “natural world.” The idea of separation is in conflict with the holistic idea the Land is *inclusive* of humans. It is a disagreement with the idea that there can be nothing that is un-natural—that *everything* is an element of the Land, including such seemingly unnatural materials as dioxins or such “synthetic” objects as plastic water bottles.

From the nature-human divide we are given the expression of “the environment”. This commonly means all of that which lies outside of human civilization. Etymologically, *environment* comes from the old French root *environ*, which meant “to circuit” or to surround (Harper, 2001). It originates from the

adjective *environ*, meaning “around” (*Ibid.*).^a The linguistic roots of “environment” point to the idea that human civilization—or for that matter, the human mind—is *surrounded* by a world of objects, literally “the surroundings”, from which it is completely separate and disconnected. To put it differently, the environment is considered “out there”; it is seen as “the other” (Opatow & Weiss, 2000). From this perspective humans are no longer considered participants in a larger natural order. Human society ceases to see itself as an intimate element of the “Great Chain of Being” (Taylor, 1991, p. 89).

Nature-human divide—linguistic evidence:

Embedded in much of my recorded uses of language is an implicit agreement that there *is* indeed a clear nature-human divide. That is, the linguistic evidence suggests there is a distinct separation between humans and “nonhuman nature”.

This can be seen in my use of the term *environment*. My motivation for using the term with such frequency may have originated with the school principal’s choice of “The Environment” for the school year’s theme. The term is used in a number of different ways throughout the discourse, commonly among them variants like “global environment”² and “global environmental problems”⁹. They seem to imply the notion of the entire Planet *outside of* one self.

Other words and phrases beyond “environment” are employed to similar effect, as summarized in *Table 3*. The world outside of the human realm is identified as “nature”^{10, 19} (meaning, presumably, exclusive of humans), one’s “belongings, property and Land”⁹, “the things around us”⁹, and “one’s

^a Incidentally it should be noted that, if Harper (2001) is correct, the English word “environment” first came into use fifteen years after the death of Descartes *and* the exact year a young Isaac Newton received his degree from Cambridge University (White, 1999, p. 58). This was the year before Newton went on to make his most acclaimed discoveries about the “laws of nature”. Via pure speculation what might be implied is that Newton’s rigorous scientific approach may have been influenced in some way by this new-founded rational notion of humans as existing outside of nature (and vice-versa).

surroundings”¹⁰. These terms reinforce the notion of nature being “out there”—that is, outside of the human mind.

Perhaps most telling of all in this regard is the frequent appearance throughout the discourse of a school-based campaign coined *Mission Inside-Out*⁹. The purpose of this self-designed initiative is reported as the encouragement of students toward showing more respect for their “immediate physical surroundings” in the context of the school. Respect, suggests the recorded documents, is shown by students through such activities as maintaining a clean and orderly classroom, cafeteria and locker. The program also encourages more responsible management by both students and staff of personal and shared belongings (such as personal and school-owned laptop computers). By showing respect for one’s immediate surroundings—“the outside”—it is argued that students can adopt the principle of respect internally—on “the inside”. Once respect is adopted internally, as the somewhat convoluted logic goes, students may become more conscious of larger global issues of respect beyond their own immediate surroundings. Hence the idea behind *Mission Inside-Out: changing the outside serves to change the inside*—which in turn serves to motivate further action, hopefully changing the outside on a grander scale.

Regardless of the tricky line of reasoning, this repetitive focus on inside and outside is good linguistic evidence of my own assumption that physical reality is always segregated into distinct conceptual boxes: a person’s own sense of self and all of the lifeless “things” surrounding this person. In other words, I had assumed there is always human and nonhuman, living and nonliving, myself and *the other*.

Examples of recorded language	
<i>nature</i> ^{10, 19}	the environment ^{9, 12, 17, 18}
global environment ²	global environmental problems ⁹ / issues ¹⁰
environmental footprint ¹¹	environmental literacy ¹¹
...the new theme for this year ... is The <i>Environment</i> . ¹⁷	...pay more attention to <i>our belongings, property and Land</i> . ⁹
We start with respect for the <i>things around us</i> . ⁹	... level of respect and care shown toward <i>our surroundings</i> ¹⁰
...working to show respect for <i>one's surroundings</i> helps to make a person more respectful, and when a person is more respectful they are more likely to show respect for <i>their surroundings!</i> ¹⁰	WE ARE COMPLETELY DEPENDENT ON <i>NATURE</i> FOR EVERYTHING WE NEED ¹⁹
<i>Humans</i> depend on <i>nature</i> ¹⁹	<i>We</i> start with respect for the <i>things around us</i> . ⁹

Table 3. Language related to human-nature separation identified in the discourse. Italics emphasize key words/phrases.

Unity of the Land—linguistic evidence:

The assumption about the separation of humans from the Land does not go entirely unchallenged in the recorded discourse, especially as my ideas about how to communicate around ecological issues changed throughout the year. Increasingly toward the end of the year, statements appear in which students are invited to reconsider their identities in relation to the “natural world”. They are encouraged to develop a greater sense of belonging within a larger natural order. Consider the following example from a presentation which I made to the entire school population: “There is no human civilization *and* the environment. There is no people *and* nature. There is no inside *and* outside. It’s all the *same*. It’s all *together*”¹³ (italics mine). Continuing on this theme I concluded the presentation: “I’m challenging

you to...show that you *belong* here, in this school, this community, this country, this planet, *our* home. The Earth doesn't belong to us; we *belong* to the Earth. We're in this *together*"¹³ (italics mine). As the year progressed, I was beginning to toy with the idea of resisting the culturally-constructive rift between humans and their surroundings. I was beginning to approach the more inclusive notion signified in this paper by *the Land*. The use of language here is a sign of self-realization: that there is only the Land after all, whereby humans and human civilization are simply a seamless part of this sacred continuum.

c. A human-centred, Euro-centred universe

Instrumental rationality and anthropocentrism—background:

To Bacon and Descartes in the 17th century it was not enough just to know or understand the Land for the sake of knowledge and truth alone. Measurement for the sole purpose of validating or refuting ideas without any “useful” application was not deemed sensible. According to Taylor, Bacon was well aware of much intense human suffering throughout the world (1991, p. 104). In his eyes the older Aristotelian sciences had contributed nothing to “relieve the condition of mankind” (in *Ibid.*, p. 104). Newly-confirmed “truth”, demanded Bacon, had to possess *utility*. He argued that knowledge through reason and measurement could—in fact, *should*—be used to develop new technologies, to build such functional things as bridges and roads, to improve human life and to find ways to better control the Land. This last concept in particular was a departure from traditional Greek wisdom. Bacon and Descartes had thus developed a conviction that “the world lies before us to be acted upon, not merely contemplated” (Berman, 1981, p. 29).

Recall that one of the ideas behind the development of the Scientific Revolution was the necessity of objectifying components of the Land as “things” in order to study them. For example, when thought of

in mechanical terms a “*tree-being*” becomes a meaningless and lifeless *tree-machine*, a contraption of specialized cells which operates by a particular pre-programmed blueprint of predictable automation. The stripping of the Land of inherent purpose, Berman suggests, results in the view that “there is really nothing left in objects but their value for something, or someone, else” (*Ibid.*, p. 40). Thus Bacon’s call for everything outside of the human mind—Forests, animal-beings, the Rivers and even the human body, human labour and relationships—to be considered solely in terms of utility was achieved. Increasingly it was thought that *everything* exists for no greater purpose than to be controlled and employed into service for the advancement of human civilization. In this way the Land became a “standing reserve” (Rogers, 1994, p. 5)—a purposeless *resource* in waiting of exploitation.

This mode of thinking has been called a number of differing terms by various authors. Max Weber (cited in Berman, 1981, p. 40) calls it *instrumental rationality*—that is, whereby the Land is seen to serve as a mere instrument or tool for human manipulation. Heidegger (cited in Bonnett, 2002) refers to this mode of thinking as being *technologically minded*. Bonnett (2002) summarizes this technological mode of being as “a fixation of things by categorizing them and representing them to ourselves in thought through abstract categories, thus making them manageable and capable of being efficiently manipulated...” In other words, a technological mode of being is one which categorizes and manages “things” in order to exploit them for human gain. Furthermore, it is argued by Heidegger that as we manipulate the Land and create technologies—and then use them—we actually change the way we think. In this sense, “it is less a case of us using technology and more a case of *technology using us*” (Bonnett, 2002).

Heidegger’s idea can explain why, when I was a child, my grandmother had encountered difficulty upon attempting to use a computer for the first time. While on the one hand some might argue this is simply because she was not yet taught the step-by-step process of operation. On the other hand we

might say that her mode of thinking was not yet sufficiently “computerized” to grasp that moving a handheld device caused a corresponding movement of a flashing shape on an electronic screen. It was a foreign concept to her; she was not yet computer-minded. Today, wherein technologies are so ubiquitous in our daily lives, “we” (meaning some portion of the people on the Earth who have access to “high” technology) may tend to take this mode of thinking for granted. But as the above example illustrates we can be quickly reminded by those whom avoid these technologies that the technological way of being is not necessarily the *human* way of being. That is, like many common assumptions about “the way things are”, technological thinking is not necessarily “just human nature” but instead originates from a particular historical and cultural background.

It is essential to conclude this backgrounder by introducing the notion of *anthropocentrism*. Because the Land was determined by early scientists to have no innate purpose (as “demonstrated” through such experiments as Galileo’s cannon drop, as described in Berman, 1981, p. 37) it was necessary then for humans to “step in” and “adopt” the Land for *our* use. Note the emphasis on the term “*our*”, which seems to place humans at the centre of all in existence. In terms of instrumental rationality, humans exist at the *centre* of the Land. From this frame of mind we are the rightful masters *and* owners of the Land. This concept is commonly referred to as anthropocentrism, which Bowers (1997) explains as follows:

An anthropocentric view of the world...leads to organizing knowledge and constituting values from a human perspective and need. Relationships with the natural world are thus framed variously by instrumental values and rational approaches to problem solving, the stance of the objective observer, and the cultural categories of public and private property. (p. 7).

In other words, anthropocentrism positions humans at the centre of the Land so that the Land exists *for* human needs alone.

Anthropocentrism—linguistic evidence:

My use of language in the recorded discourse frequently reflects an anthropocentric point of view. Examples are presented in *Table 4*. The pervasive use of the term *resource*, for instance, as in “renewable resources”², suggests that life forms such as trees and fish or materials such as oil and coal exist solely for human consumption—however “responsibly” this consumption may be conducted. Here the Land exists to be *re-sourced*, to be made again in a form which best contributes to human progress. The use of the term *consumption*, too, is underpinned by its etymological origin as an intensive form of “taking”. Neither “conservation”³ nor “responsible consumption”⁶ demonstrate any deep questioning of the idea that the Land exists for utilization, but merely reflect our current awareness of the hard limits to services which the Land can “provide” or “give” us—and how we need to comply with these limits.

Examples of recorded language	
<i>Using too many resources</i> ²	Wasting a lot of energy and <i>resources</i> ²
<i>Using a lot of materials which come from non-renewable resources</i> ²	<i>Using healthy materials which come from renewable resources</i> ²
<i>Use only the resources we need</i> ²	Petroleum-based (non-renewable <i>resource</i>) ⁴
Recycling is energy, water & <i>resource</i> intensive & results in pulp waste ⁴	<i>consumption</i> levels (per-person) of physical materials, notably those from non-renewable <i>resources</i> ¹⁰
Made from an organism which <i>provides all these services to sustain us...</i> ⁴	Conservation means appreciating what <i>you have</i> and <i>using</i> only what is necessary. ³
TREES <i>provide</i> food, <i>absorb</i> toxins, <i>provide</i> fuel, <i>produce</i> oxygen, ... store carbon, <i>release</i> nitrogen, <i>prevent</i> erosion, <i>act</i> as windbreaks, <i>provide us</i> with shade, <i>provide</i> beauty... ⁴	(cont'd) TREES... <i>cleanse</i> water, <i>provide</i> materials for paper, <i>provide</i> timber, <i>employ</i> workers, <i>give us</i> medicine, <i>give us</i> dyes, <i>provide</i> places for recreation, <i>help</i> create rain, <i>moderate</i> climate ⁴
CONSERVATION = <i>RESPONSIBLE CONSUMPTION</i> ⁶	

Table 4. Anthropocentric language identified in the discourse. Italics emphasize key words.

Not only does the recorded discourse around anthropocentrism point toward an assumption that the Land is *for* human use, it also contains widespread reference to human ownership and possess-ability of the Land. “Our planet”⁹, “our belongings, property and Land”⁹, “our home”¹³ and “our environment”¹⁸ may perhaps have been used with the honourable intention of reminding students that the Land is a generous host to our civilization—that we belong *to* the Land. But these expressions can also be interpreted as meaning the Land belongs *to* us, that it does not exist for any other innate purpose. Likewise it can be inferred from the discourse that ecological “problems” are only important because they can adversely affect *humans*—specifically, *our* future children⁷—with little consideration for the

significance to other animal-beings or to the existence of that which is perceived to be non-living. *Table 5* gives a summary of recorded language uses around assumptions of human ownership and self-interest.

Examples of recorded language	
Take action <i>for the children</i> of the future ⁷	If our effect threatens what <i>we need</i> , then <i>we have</i> a problem ¹⁹
... Whose problem is it (garbage)? ... It's <i>your children's</i> problem. Most of you will have children in your lives – seems like far away in the future for most of you, but your <i>G will be their problem</i> . And <i>their children's</i> problem. Your G is a <i>problem of all the people</i> to come in the future on this planet. <i>They</i> will have to deal with this problem. ¹⁴	Today is about respect for the <i>things we need</i> for life... I mean <i>our air</i> , water, food, fuel, clothing and shelter. It's about respect for <i>our planet, our environment</i> , the source of everything <i>we need to sustain our lives</i> , to be sustainable. ¹⁸
And since we live on the same planet, <i>we</i> stand to benefit... ⁸	It's not just garbage, it's <i>your children's garbage</i> , the future's problem. ¹⁴
... we need to personally gain more respect and pay more attention to <i>our</i> belongings, property and Land. ⁹	I'm challenging you... show that you belong here, in this school, this community, this country, this planet, <i>our home</i> . ¹³
... many people these days are concerned about the environment and how us humans are having an effect on <i>our planet</i> . ⁹	

Table 5. Ownership language identified in the discourse. Italics emphasize key words/phrases.

Economism and capitalism—background:

Assumptions around anthropocentrism and instrumental rationality are in many ways critical to the historical development of industrial capitalism. A full biography of capitalism can certainly not be

explained here; nevertheless it is important to note that this dominant economic system appears to have been co-produced in the same timeframe and rough geographical location as the Scientific Revolution (Gough, 2002). In parallel, Weber (cited in Taylor, 1991, p. 99) sees the importance of a scientific or instrumental outlook in preparing the world for modern capitalism.

The financial sense of the late Latin term *capitale*, meaning “stock or property”, first appears in 1630, only decades before emergence of the term *environs* (Harper, 2001). Prior to this the word, from its origins *capitis*, may have been used to describe “heads” of cattle which could be owned and traded. Nowadays the term capital is usually associated with “a narrowly defined economic category of monetary exchange for profit” (Reay, 2004). Within the capitalist system, industrial production—or *product-tion*, efficient processing of the Land into quantities of *things*—is framed by a number of assumptions which are similar to those underpinning scientific experimentation. Notably, the instrumental assumption that the Land is an object which exists for the purpose of human possession and utilization is shared by both science and capitalism. Under this system the Land can be processed into commodities for exchange within an economic market. In this way the Land is de-valued, stripped bare of any intrinsic worth. In plain contrast to a more ecocentric perspective, modern capitalism grants financial capital (in such abstract forms as money) a far greater deal of value and status than it does to the Land itself. In other words, that which is imaginary (or culturally-constructed) is treated as meaningful while that which is real (or ecologically-constructed) is treated as if it were meaning-less.

According to Rogers, in those places on the Earth now operating within a capitalistic framework “the structures and processes of capital and market have become so dominant that humans only know themselves according to this social context” (1994, p. 1). Put differently, the importance of capital in the economic market has become largely taken for granted in the practices of “modern Western culture”. This occurs at the same time as the Land is denied value beyond what can be gained economically.

Some people may not perceive these practices to be unusual or arbitrary, only that they are just “the way things are.” The consequences? Rogers argues that “the emergence of capitalism can currently be seen as the intensification of the exploitation of the natural world” (p. 101). Therefore, assumptions about the Land and about economics are always intimately tied together.

Economism and capitalism—linguistic evidence:

My assumptions around economism in the year’s recorded discourse are noticeable to a minor extent. However appropriate or inappropriate, I sometimes granted the economic realm this visibility. For example, in my conversations with school staff, comparisons of “green” office supplies tend to focus on cost savings or additional expenses. In more than one instance it is noted that “recycled paper is prohibitively *expensive* unless a conservation program is in place”⁴. In one example students are referred to in linguistic terms as “clients” and “our customers”¹⁵. This use of language may help to convey the perspective that the school is merely a provider of services (a commodity), which in turn reduces education to the status of a market transaction. Additionally the records show that I gave a lesson in which I report the statistical “fact” that “nature” provides economic services equivalent to 33 trillion dollars per year in contrast to the total annual economic output of all countries on Earth of only 18 trillion dollars¹⁹. This line of thinking seems to suggest that the Land can be directly represented by dollars and cents; or, in my own words, “nature = money, money = nature”¹⁹. A mode of logic like this also appears to propose to students that we should treasure the Land *not* because it is price-*less*—but because it is impossibly expensive!

To summarize, there are three main assumptions which emerge in the recorded discourse around the idea of anthropocentrism. First, the Land (and all “things” within “it”) is a resource for our gain.

Second, the Land belongs to us. Third, the Land is important mainly because of “its” potential economic value.

Ethnocentrism—background and linguistic evidence:

Ethnocentrism is the tendency to describe the world while centered in a particular culture and at the same time oppressing or ignoring the perspectives of other cultures. Sometimes ethnocentrism takes the form of *Eurocentrism*, the specific inclination to see things from a European (also Western, Northern, or “have’s”) point of view. Framing issues from this perspective can cause the “have-nots” or “the Other” to be lost amid the privileged “us”.

The recorded discourse is littered with my uses of the generic terms “we”, “our”, “people” and “humans”. Granted, an emphasis on the “we” may encourage a sense of collectivism or populism among staff and students, for which I will make a case in the following section. This language may also help to spread the message that no student or staff member can think of himself or herself as “innocent” in what is happening to the Planet. Indeed, collectivist language may impel each of “us” to look at our own lives to see the potential consequences of “our” own behaviours on the Land.

However, a side-effect of these uses of language may be the glossing over of the *who* in “we”. What this means is that abstract words like *we* or *people* do not specify exactly to whom it is being referred. An example from the discourse will help to illuminate this observation. Consider this statement: “...*we* as a *people* are consuming and using resources at a rate far faster the Earth can supply; in which *we* are polluting at a rate far greater than the Earth can withstand”⁹ (italics mine). This raises several questions. Who is this “we”? Who are these “people”? Does this include a nomadic family of camel herders in central Mongolia? Does this include a jet-setting corporate executive living in a three-bedroom house in Ottawa? Are Yangtze squatters lumped into the same group as Shanghai condo-dwellers? These

generic terms combine together all human groups as one, without giving due regard to many critical differences. It assumes, unfairly, that all peoples are equally culpable for the large-scale changes occurring throughout the Land. It also assumes that all humans are equally responsible for “cleaning up the mess” when some would argue it should be in the hands of those who largely made the “mess” to “clean” it up. What these uses of language may imply is yet another troubling hidden assumption: that of ethnocentrism.

Examples of recorded language	
carbon offsets ¹	We want to become a GREEN SCHOOL! ²
Where does our (garbage) go? ⁵	CONSERVATION = RESPONSIBLE CONSUMPTION ⁶
Recycling paper also means that less of our paper has to come from new forests and trees. And a lot of them around the world are cut for just that purpose. ¹³	...imagine this: every school and every home in this community has an EFFICIENT STOVE... The trees that are saved will also replace carbon dioxide with oxygen for years to come. ⁸
And the reason we have this problem (garbage) <i>is</i> because people do not care enough and think about life in the future. People long ago in many places cared about you in the future – they built roads, they developed medicine, they fought for peace for you far in the future – they didn’t even know you, but they wanted a better world for the people of the future. And so should we work for the generations to come. ¹⁴	How each piece of gum had been stuck to the bottom of a table shows a lack of respect by many people. And that lack of respect for our surroundings <i>is</i> what connects all of those big environmental problems to us... One of the largest reasons for all those problems is that there exists among many people a lack of respect for their surroundings. The same lack of care that someone has to stick some gum under a desk instead of throw it in the garbage is the same as that when a tree is cut down, when oil is spilled into the sea, when coral reefs are destroyed with a blast of dynamite. The root of our global dilemmas is, at least in part, not enough respect. ⁹
<i>We</i> live in a world in which just about every living species <i>is</i> in decline and <i>is</i> being damaged; in which <i>we</i> as a <i>people</i> <i>are</i> consuming and using resources at a rate far faster the Earth can supply; in which <i>we are</i> polluting at a rate far greater than the Earth can withstand. ⁹	<i>Our</i> carbon footprint <i>is</i> admittedly HUGE. Travel by airplane alone accounts for around 4% of all <i>human</i> -caused greenhouse gases in the atmosphere. ⁸
Conservation means appreciating what you have and using only what is necessary. ³	

Table 16. Examples of uncritical/superficial and Eurocentric uses of language identified in the discourse. Italics emphasize key words.

d. The power of one and the power of many

Populism—background:

It has already been mentioned that uses of the collective terms “we” and “our” may imply an assumption that the collective group, rather than the individual, is a powerful agent in addressing issues of the Land—or for that matter, any issue of injustice. From this assumption, it can be taken that change can happen in a population from the bottom upward. Change can occur through grassroots movements in which individuals are bound in responsibility to one another through a sense of social duty to participate.

Populism is defined by the authors of the American Heritage Dictionary of the English Language (2000) as a “political philosophy supporting the rights and power of the people in their struggle against the privileged elite.” The use of “elite” typically refers to a group of people but it can just as aptly refer to an elite ideology or elite way of life. Populism then can represent a struggle against such elite ways of life as those found predominantly in wealthy industrialized countries—the particular ways of life which some believe to be a primary instigator behind many ecological issues.

Populism—linguistic evidence:

Beyond “we” and “our”, there are numerous other words and phrases which appear in the recorded discourse, as listed in *Table 17*, which support the idea that I am making an assumption about collective strength over self-interest. They include: “community”^{10, 11, 20}; “join us and... Hemlock will be as one”¹⁴; “...through and among its students, staff, and facilities...”¹⁰; and repeated uses of “team”¹⁷, especially in “eco-action team”. Students are reminded that “we live on ONE planet, one Earth. All of

us right now live on one continent. In one country. In one province. One city, one community. ONE SCHOOL”¹³. What these statements hint at is the idea of populism.

One specific example gives a good illustration of this assumption around populism. At an ecology festival hosted at the school during the winter of 2008, guests are addressed in words which speak toward a common purpose of a unified people:

In a word, this afternoon is a convergence...the coming together of many distinct elements for a common purpose. Today we converge: as students, as educators, as government representatives, as activists, as leaders in business and leaders in technology, as Canadians and as citizens of distant countries, and as living creatures sharing this planet we call our home... We converge as distinct individuals and different groups, yet our purpose today, for all of us, is the same. We as citizens...come together for one afternoon ...¹⁸

This talk of convergence, rather than divergence, hints at an attempt to heal, through a shared cause, the perceived rift between various divisions of society. This talk seems to invoke a sense of family both working and thriving together.

Examples of recorded language	
Write to your government☀ VOTE! ☀ Start an eco-action group at your school or work☀ Talk to other people about climate change ☀ ⁷	increase the... level of visibility in the community as a positive example of an environmentally-responsible organization ¹⁰
How to INSPIRE CHANGE: VOTE, COMPLAIN, TEACH, LEAD BY EXAMPLE ¹⁹	set a visible example for local organizations and other schools to follow in becoming more "green" ¹¹
How often do you pick up garbage even if it isn't yours? ¹³	Hemlock High School, through and among its students, staff, and facilities, seeks to... ¹⁰
Whether you are student, a teacher... or a bus driver, you aren't just visiting this school, like a tourist... You are a part of this... There is no my garbage and your garbage. There is only garbage. ¹³	In a word, this afternoon is a convergence. ...a convergence is the coming together of many distinct elements for a common purpose. Today we converge: as students, as educators...as Canadians and as citizens of distant countries, and as living creatures sharing this planet we call our home. ¹⁸
The team has agreed: If we are going to do it, we're going to do it right... ¹⁷	...taking an active role as a school in an effort to increase sustainability in the community ¹¹
Goobie said he hopes students participating in the eco-fest will gain a better sense of community involvement in environmental initiatives, and specifically how they too can get involved. ²⁰	Yes of course, we live on a planet divided into you and me, us and them, your stuff and my stuff, my responsibility and your responsibility. But that's just it – we live on ONE planet, one Earth... One city, one community. ONE SCHOOL. ¹³

Table 17. Examples of collectivist and populist uses of language identified in the discourse.

Additionally, shedding one's addiction to self-interest and individuality, rediscovering one's responsibility of participation in a democratic society, and seizing leadership opportunities are all

themes which seem to show up in the discourse. Perhaps in the hope of sparking this sense of shared accountability the school body is told, boldly:

Whether you are student, a teacher, a counsellor, a kitchen staff or a bus driver, you aren't just visiting this school, like a tourist. You're not just passing through. You are a part of this. You are, together, are [sic] Hemlock High School. There is no my garbage and your garbage. There is only garbage.¹³

Students and staff (and visiting guests to public events) are asked to write to their government⁷, complain¹⁹, vote^{7,19}, “start an eco-action group at your school or work”⁷, teach¹⁹, and to “talk to other people about climate change”⁷, all presumably to promote democratic participation in order to “inspire change”. Not only do actions for the Land, as it is argued in the discourse, include all the physical behaviours (such as picking up garbage) described in the linguistic evidence in *Appendix A*, but they also include citizens becoming involved in collective grassroots action and asserting their own “people power” (which is the original Greek meaning of democracy, according to Lummis as cited in Gale, 2000).

Paternalism—background:

Populism can be contrasted with the term *paternalism*. As Meyer (2008) explains, etymologically paternalism is a way of governing people “as a father would his children.” Being paternalistic implies that the speaker/writer, like a father, knows and understands more than the child-like listener/reader. A paternal arrangement operates under the assumption of how change must come from the top downward; how the “masses” do not have the competency or knowledge to bring about change themselves. If, according to Levin (1998), “we think of democracy as a way of life in which communities make choices

through processes involving all their members” then a paternalistic approach is not necessarily true democracy, especially if it is seen that it is the leader’s duty alone to enlighten her followers.

Upon reflection, I may have once considered a paternalistic, leader-centred approach more “efficient” than a movement forming and evolving dynamically from the people (especially children). There may exist the temptation, then, for other leaders to believe they will accomplish a great deal quantitatively in a shorter amount of time through holding onto as much control and power as possible. Yet we must consider the old African proverb, “If you want to go fast, go alone. If you want to go far, go together.” Put differently, this saying means that if you go forward with a lighter load, you reach the goal sooner; if you go alone you risk all accomplishments becoming at best a temporary and quick fix. This is arguably one of the risks of centralizing any kind of initiative in the hands of one person—of leading paternalistically.

Paternalism—linguistic evidence:

During the school year other students and staff members took up critical roles in the eco-action team’s initiatives. At the same time I adopted a prominent role as a leader in the “greening” of the school. While my activism may have helped to push the rapid pace of the school year’s initiatives, it may also have led to a sort of creeping paternalism as a prevailing mode of this reform. In other words, going “alone” in order to maximize results may have occurred at the expense of achieving lasting change and sustaining a sense of community.

As noted earlier the words and phrases used in the discourse, as listed in *Table 17*, carry certain positive assumptions about the need for and power of democratic populism. Yet another important point can be found here in recognizing is who is speaking these words and who is *not*. Questions need to be

asked about whether or not certain parties are in fact silenced when language is spoken mostly by one individual—in this case, myself—in spite of any populist rhetoric contained in the discourse.

For example, I pose a question to a student group in regard to ecological issues: “What do *we* want to do?”² (*italics mine*). This use of “we” appears to invite participation. However, without pausing to collect student responses I go on to answer my own question, telling them that *we* want to “find ways of showing more respect”, to “become more aware of the problems in the global environment” and to “use only the resources *we* need”² (*italics mine*). In the discourse, do these answers come from students? Are they based on student consultation or shared dialogue? Do the students actually want to become more aware of “problems”? The results can be identified by once again pointing out who is doing all or most the speaking. In this and many other recorded cases, the speaker is *principally myself*. In other words, what the “team” decides to do is not necessarily what *they* or “*we*” want to do, but rather what *I* see best fit to do. Indeed the students may very well agree that the actions I have decided upon are important priorities. It is true that they might not yet have had opportunities to consider the importance of taking action for the Land, and that, in contrast, I may have more technical experience in this field. Nonetheless, I seem to be speaking into existence the *image* of dialogue, shared participation and democracy while *practicing* the exact opposite.

As a final point of evidence, some of the language found in the recorded discourse may bolster the importance of the autonomous individual, promoting individualism. According to Bowers, paternalism may unintentionally reinforce the notion that the individual is the most basic social unit in society (1997, p. 7). From examples listed in *Table 18*, we can find uses of the terms “you”, “your”, “one person”, “each of us”, and “individuals” which can be interpreted an emphasis on the individual over the collective, or perhaps even a favouring of the individual over the Land itself.

In particular, students are frequently told in the recorded discourse that *one* person can make a difference. They are given stories of historic individuals such as Mahatma Gandhi, Nelson Mandela and Martin Luther King bringing about incredible social transformation during their times. Underneath the oft-used line “*you* can make a difference” exists a conceptual leap identifying the individual as *the* source of societal change. My assumption here may have served in turn to reproduce notions of self-interest and individualism among students and staff.

Examples of recorded language	
<i>You</i> can make a difference! ²	So what can <i>YOU</i> do about climate change? ⁷
What can <i>you</i> do? Conservation! ³	Who <i>you</i> are is what <i>you</i> do... it is the actions that <i>you</i> choose. ⁹
Do you think <i>ONE</i> person cannot make a difference? ²	But what can we hope to accomplish in <i>ONE</i> afternoon...? Not much – <i>UNLESS</i> <i>each of us</i> comes away from today with a real, true plan... ¹⁸
If you think that just <i>you, one person</i> , can't make a difference with all the environmental problems that exist, <i>I'll</i> give <i>you</i> four examples of <i>one</i> person who make (sic) an incredible difference. (Pointing to Gandhi, Trudeau, King, and Mandela)... This is <i>your</i> opportunity. ⁹	... we have received the support and encouragement of countless <i>individuals</i> at our school, from both students and staff. One such <i>individual</i> is our school's principal... ¹⁸

Table 17. Language around individualism identified in the discourse. Italics emphasize key words.

e. Summary of assumptions

Using a more meaningful definition of language developed in the previous section, I have identified a number of deep cultural assumptions implicit in my recorded uses of language. Some of these are recurrent throughout the discourse, while others appear only in more isolated examples.

The following is a summary of these assumptions (again, according to the linguistic evidence found), broken up into “major” and “minor categories. Major and minor do not refer to the potential importance of consequences of some assumptions over others. Rather, major assumptions are simply those which seem to connect to language that appears most often in the documented discourse. Minor assumptions connect to language which appears less frequently. It should also be noted that there seems to be a fair amount of contradiction within these lists of assumptions. Perhaps this contradiction represents my uncertainty in how to best think about ecological issues, or how best to go about initiating a relevant educational program.

(The symbol * indicates that the given assumption was gathered from the linguistic evidence presented in *Appendix A*.)

Major assumptions underlying the use of language:

1. Science is the best foundation for a school program which addresses ecological issues.
2. Science is our best hope to understand and solve ecological issues.
3. The Land is composed of a series of intertwined mechanisms.
4. Empiricism is the most viable source of authority in talking about ecological issues.
5. There is a distinct separation between humans and “nonhuman nature”.
6. The Land exists only as a resource for human use.

7. Humans are at the “centre” of the Land.
8. The Land belongs to us.
9. Tackling ecological challenges is more about *not* doing certain harmful things than it is about building or creating.*
10. Human-caused changes in the Land are problems.*
11. Communicating the true seriousness of ecological issues will serve to motivate others to tackle these issues.*
12. Awareness begets action.*
13. Students need to be enlightened about the stark realities of current human practices by an authoritative source.*
14. The behaviours of people must always come first in addressing ecological issues.*
15. Each of us are defined solely by our actions.*
16. To know about an ecological issue and then take action to address it is the highest priority.*
17. Small everyday actions will actually make a difference in solving “environmental problems.”*
18. Ecological issues are simple in nature.
19. The collective group is a powerful agent in addressing issues of the Land.
20. Change is better achieved by a top-down approach.
21. The individual is the most basic and important unit of society.
22. One person alone can make a difference as a catalyst for social change.

Minor assumptions underlying the discourse:

1. There is only the Land.
2. Humans are a part of the Land.

3. The Land exists for use in economic markets.
4. We should show respect for the Land.
5. Humans are dependent on the Land for both their survival and physical health.
6. There is hope for the future.*
7. Fear and guilt are not sustainable motivators of action for the Land.*
8. The Planet cannot forever withstand boundless growth by human civilizations.*
9. The Land is in deep trouble and is getting worse day by day—so we must act now.*
10. The best solutions to “environmental problems” are newer forms of technology.*
11. Students and staff are actually able to choose their behaviours to address issues of the Land.*
12. Superficial changes to behaviour are in disproportion to the scope of ecological issues.*
13. Quick action with a focus on measurable results is more important than deeper dialogue.
14. *All* humans are equally culpable for the large-scale changes occurring throughout the Land.
15. We need to explore and tackle the deeper cultural roots of ecological issues.
16. We need to focus on social issues connected to the Land.

In the next section I will evaluate each of these assumptions (except for those denoted by *)—or clusters of assumptions, where they appear connected—in terms of their congruence with the context of the formal education (specifically at the secondary level). They will also be contrasted against the scale of changes in the Land occurring in modern times. Finally, the assumptions will be judged in terms of the role they each may play in sustaining a language for the Land in education.

Document filename references:

- ¹ A Kenyan Truth (PowerPoint slideshow); June 8, 2008
- ² HEAT Intro (PowerPoint slideshow); November 17, 2007
- ³ Conservation Canada Kenya comparison (PowerPoint slideshow); April 27, 2008
- ⁴ Conserving paper presentation (PowerPoint slideshow); May 25, 2008
- ⁵ Zero G Day (PowerPoint slideshow); July 13, 2008
- ⁶ Goals Summer 2008 (PowerPoint slideshow); March 29, 2008
- ⁷ An Inconvenient Truth eco action (Word document); June 8, 2008
- ⁸ A Kenyan Truth (Word document); June 8, 2008
- ⁹ HEAT Intro speech to students jan 2008 (Word document); January 5, 2008
- ¹⁰ HEAT Sustainability Policy New (Word document); November 16, 2007
- ¹¹ Eco-Action Group (Word document); October 27, 2007
- ¹² Launch intro letter to staff (Word document); December 1, 2007
- ¹³ RESPECT SURVEY RESULTS Presentation (PowerPoint slideshow); February 3, 2008
- ¹⁴ Zero-G Assembly (Word document); July 13, 2008
- ¹⁵ Admin Meeting Oct 22 07 NOTES (Word document); October 27, 2007
- ¹⁶ HEAT Summary July 2007 (PowerPoint slideshow); July 19, 2008
- ¹⁷ Eco-Action Group Intro at Staff Meeting (Word document); September 17, 2007
- ¹⁸ Opening Ceremony (Word document); February 27, 2008
- ¹⁹ Your Ecological Footprint (PowerPoint slideshow); July 20, 2008
- ²⁰ Duane, R. (2008, February 27). Organizers looking to connect with __ community. ____ *News*. Retrieved from http://_____ (Information omitted to protect school anonymity)

Section 3. Discussion: Assumptions on trial

At this point it might be appropriate before proceeding further to pause briefly and recap some of the musings and findings of this paper so far. The purpose of this paper is, again, to come to some kind of deeper understanding of my own practice during a single year of “eco-action” at a school, in the hope that it might lead to a larger collective dialogue. To this end, I first attempted in *Section 1* to locate a definition of language which might allow me to “discover” the invisible assumptions which provided a basis for my educational practice. The idea emerged from the literature of how language can carry with it many cultural and historical undertones, and how language helps us to construct and sustain our understanding of the world. Locating the notion of discourse as the use and effect of language in turn allowed for a deeper level of probing and interpretation of my own recorded uses of language. Finally, the examination of linguistic evidence in *Section 2* resulted in the identification of 22 major assumptions (denoted below by *M*) and 16 minor assumptions (denoted by *m*). These personal assumptions have underpinned the school year’s discourse around issues of the Land.

Upon reaching this interval, various questions crop up. If it is true that the discourse containing my spoken and written words is built on these assumptions, so what? Where do we go from here? What can be said about the implications of these assumptions? How does this help me understand my practice? What can be learned to enable me (and those others involved in this co-production of meaning) to move forward?

In this section I will attempt to discuss possible responses to the above questions. To do this, the assumptions identified in the previous section will first be grouped. These groups will be given representative titles. Secondly, I will see if some of these groups can be further lumped together.

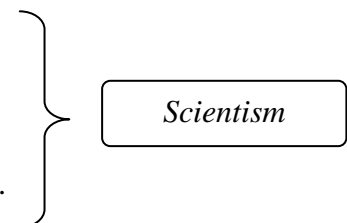
Finally, in discussing the meaning of these larger groupings I will weigh the validity and implications of the following overarching deductions:

1. Based on the assumptions underlying my use of language, I may have been invoking a predominantly *modernist discourse*.
2. Schools tend to be *modernist institutions*.
3. Since ecological issues can be thought of as consequences of modernity, it may be beneficial in modernist institutions like schools *to challenge and seek alternatives to modernist discourse around ecological issues*.
4. A language for the Land in education is one which locates or sustains discourse *beyond* the assumptions of modernity or which *resolves* these assumptions by *reintegrating* them with other ways of thinking.

To start this discussion it will be helpful to restate once again all of the previously identified assumptions, this time in a slightly different way. First, they will be grouped according to similarity. Second, each group will be given a representative title. Some of the themes used in these titles have already been discussed in the previous section; others will be elaborated upon in the discussion to follow. I am fully aware that this process requires a certain amount of reductive thinking to simplify these assumption groups into separate categories; as a consequence, this method is fraught with assumptions around rationality itself. Nevertheless, for lack of a ready alternative, I believe this approach is a meaningful compromise in terms of sense making.

M1. Science is the best foundation for a school program which addresses ecological issues.

M2. Science is our best hope to understand and solve ecological issues.



M3. The Land is composed of a series of interconnected mechanisms.

*Mechanistic
philosophy*

M4. Empiricism is a viable source of authority in talking about ecological issues.

m13. Quick action with a focus on measurable results is more important than deeper dialogue.

Empiricism

M5. There is a distinct separation between humans and “nonhuman nature”.

*Cartesian
dualism*

M6. The Land exists only as a resource for human use.

*Instrumental
rationality*

m3. The Land exists for use in economic markets.

*Capitalism /
economism*

m10. The best solutions to “environmental problems” are newer forms of technology.

*Linear
progress*

M7. We are at the “centre” of the Land.

M8. The Land belongs to us.

Anthropocentrism

M18. Ecological issues are simple in nature.

Reductionism

M13. Students need to be enlightened about the stark realities of modern human practices by an authoritative source.

M20. Change is better achieved by a top-down approach.

Paternalism

M21. The individual is the most basic and important social unit.

M22. One person alone can make a difference as the origin of social change.

m11. Students and staff are actually able to choose their behaviours to address issues of the Land.

Individualism

m14. All humans are equally culpable for the large-scale changes occurring throughout the Land.

*Ethnocentrism /
Eurocentrism*

M11. Communicating the true seriousness of ecological issues will serve to motivate others to tackle these issues.

M12. Awareness begets action.

M14. The behaviours of people must come first in addressing ecological issues.

M15. Each of us are defined solely by our actions.

M16. To know about an ecological issue and then take action to address it is the highest priority.

Literalism

M9. Tackling ecological challenges is more about *not* doing certain harmful things than it is about building or creating.

M10. Human-caused changes in the Land are problems.

m8. The planet cannot forever withstand boundless growth by human civilizations.

m9. The Land is in deep trouble and is getting worse day by day—so we must act now.

M17. Small everyday actions will actually make a difference in solving “environmental problems.”

*Negativity /
Pessimism*

M19. The collective group is a powerful agent in addressing issues of the Land.

*Collectivism /
populism*

m1. There is only the Land.

m2. Humans are a part of the Land.

Holism

m4. We should show respect for the Land.

m5. Humans are dependent on the Land for both their survival and physical health.

Interdependence

m6. There is hope for the future.

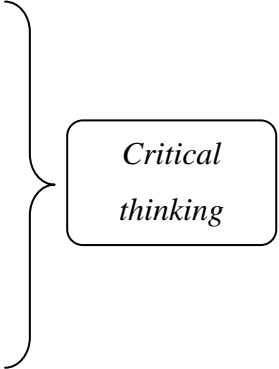
m7. Fear and guilt are not sustainable motivators of action for the Land.

*Positivity /
optimism*

m12. Superficial changes to behaviour are in disproportion to the scope of ecological issues.

m15. We need to explore and tackle the deeper cultural roots of ecological issues.

m16. We need to focus on social issues connected to the Land.



*Critical
thinking*

Leaving out the specific assumptions then, the identified categories of assumptions are as follows:

- | | |
|-----------------------------|----------------------------------|
| 1. Scientism | 11. Individualism |
| 2. Mechanistic philosophy | 12. Ethnocentrism / Eurocentrism |
| 3. Empiricism | 13. Literalism |
| 4. Cartesian dualism | 14. Negativity/pessimism |
| 5. Instrumental rationality | 15. Collectivism/populism |
| 6. Capitalism/economism | 16. Holism |
| 7. Linear progress | 17. Interdependence |
| 8. Anthropocentrism | 18. Positivity/optimism |
| 9. Reductionism | 19. Critical thinking |
| 10. Paternalism | |

Given these groupings, might there be any individual groups which can be merged together? In other words, do any of these groups centre around any particular common theme or specific ideology? An attempt will be made to tackle these questions here.

a. The assumptions of modernity

In *Section 1* I introduced the notion of the age of modernity. Although the term has no universal definition and is much debated, it was stated earlier—rather hazily—that modernity can refer to the working out of *Enlightenment* beliefs in human affairs (Bonnett, 2002). This is in agreement with Habermas (cited in Foster, 1995, p. viii), who writes that the project of modernism is at one with that of the Enlightenment. Yet without richer inquiry into what the Enlightenment represented, these statements fail to give any kind of precise sense of understanding around the notion of modernity. Giddens (1991) helps to narrow the concept down, explaining how modernity can refer to “modes of social life or organization which emerged in Europe from about the seventeenth century onwards and which subsequently became more or less worldwide in their influence” (p. 1). It is an essentially European phenomenon, writes Dussel (1993), appearing when Europe affirms itself at the center of world history. These statements aid in fixing modernity to a setting in time and place, but leave unanswered the question of to what “modes of social life or organization,” for instance, is Giddens referring. Thus, rather than concentrating on the questions of when or where is modernity, or how it may be chronologically connected to the Enlightenment movement, I need instead to try to focus on the questions of *what* modernity is, what it stands for, and what its basic foundations are—and, of course, how it is related to the assumptions underlying my educational practice.

A fairly extensive review of literature reveals a list of some theoretical and intellectual assumptions which various authors claim are central to the age of modernity. These are the dominant cultural bases, argue some, of the modern era. One might regard these as a kind of group of ideological ingredients—the multitude of hegemonic “isms”—making up the modernist “stew”. While this list is certainly not exhaustive, according to the following cited authors the basic assumptions of modernity include:

- scientism (Jacques, 2006; Habermas, 1995, p.4; Habermas, cited in Foster, 1995, p. viii)
- reductionism (Mirovitskaya, cited in Ascher & Mirovitskaya, 2001, p. 63; Sarewitz, cited in *Ibid.*)
- mechanistic philosophy (Dillon, 2008, p. 181; Khatchikian, 2008)
- empiricism (Kirk, 2007, p. 75)
- Cartesian dualism (Bonnett, 1997)
- anthropocentrism (Bonnett, 1997; Taylor, 1991, p. 59)
- instrumental rationality (Taylor, 1991, p. 5, 10; Rogers, 1994, p. 5; Bonnett, 2002; Huckle, 1999)
- economism / capitalism (Rogers, 1994, p.5; Jacques, 2006; Huckle, 1999)
- Eurocentrism (Dussel, 1993).
- individualism (Taylor, 1991; p. 2; Schultz & Zelezny, 2003; Jacques, 2006)
- linear progress (Bonnett, 1997; Jacques, 2006; Huckle, 1999)

Although some of these terms, such as anthropocentrism and instrumental reason, have been defined and discussed earlier, each will be redefined and discussed in context below.

What is most striking about the above list of the “assumptions of modernity” is its close resemblance to the categories of my own personal assumptions identified earlier. 11 out of 19 of my own assumption categories match the assumption categories recognized as foundations for modernity, as shown in *Figure 1*.

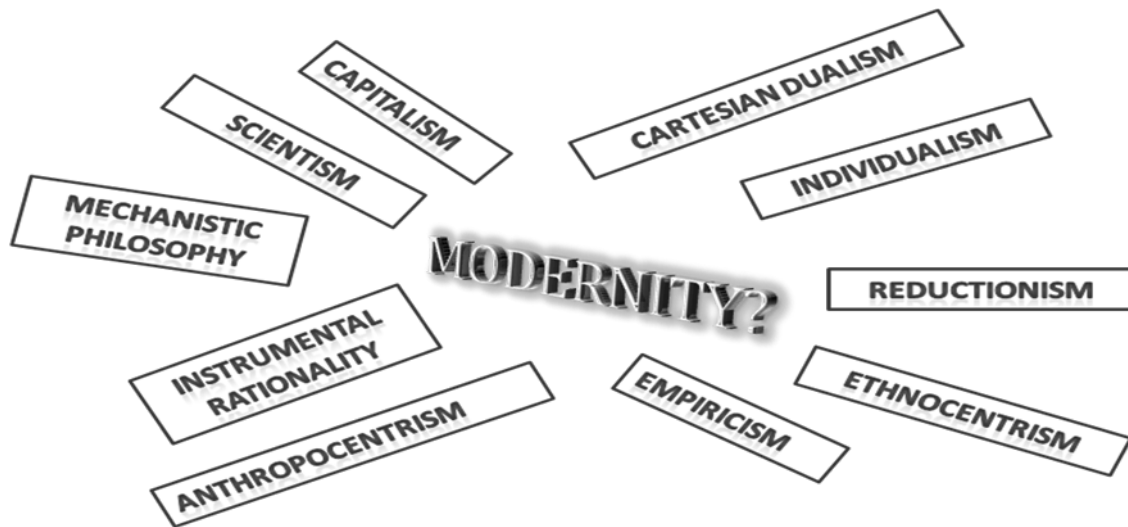


Figure 1. The assumptions of modernity identified through my use of language.

This match is not exactly perfect. Those personal themes which do *not* appear to fully match those major concepts of modernity (at least in the literature that was reviewed for this study) include paternalism, literalism, negativity/pessimism, collectivism, unity, interdependence, positivity/optimism and critical thinking. Obviously these concepts require a considerable amount of unpacking and examination—more than can be provided in this paper, in which I have focused more on the assumptions of modernity and on my relation to these assumptions. This is why I made the choice not to include in *Section 2* the evidence for these eight remaining themes above, relegating them instead to *Appendix A* for future consideration.

Nevertheless, from the strong resemblance of many of my assumptions to those which seem to center around modernity, it may be plausible to state the following result: *From my use of language around ecological issues, I may have been, in part, making modernist assumptions in my practice as an educator.* Put differently, I may have been, to some degree, invoking a modernist discourse and thus reproducing numerous assumptions central to modernity.

If this realization is true, it raises yet more startling questions. When an educator such as myself is trying to raise awareness around ecological issues and inspire action for the Land, what are the implications when his practice is in fact based on assumptions of modernity? How does this effect students and fellow staff members? Is the educator doing more “harm” than good? Is he challenging the status quo or helping to maintain it? What does this mean in the context of this particular social institution—the school?

b. Schools and modernity

It is to the latter, the question of how the assumptions of modernity is related to schools, that I first turn. Obviously “school” is a very generic term, denoting an incredible diversity of existing configurations. Primary, junior high, secondary, public, private, independent, charter, boarding, outdoor, alternative, parochial, traditional, urban, rural, international: an exhaustive list would prove challenging to compile. Any attempt then to construct a statement like “*schools are _____*” risks overgeneralization. In all academic studies caution needs to be exercised not to overlook the existing diversity of approaches to schooling.

Nevertheless, various authors do try to look for trends in the historical origins of the “present educational paradigm” (UNESCO-UNEP, 2007) and in the dominant ways of thinking found operating in many schools. These authors typically compare the educational paradigm with the notion of modernity. For instance, Furman (1998) raises the point that schools have remained “intractably modernist” even as society continues to change and as modernist assumptions fall into question, especially among scholarly critics. He notes here in particular that Giroux calls schools “thoroughly modernist institutions.” Elsewhere Slaughter (2002) labels schools as “quintessentially ‘industrial era’

organizations.” This claim is supported by both Stevenson (1987) and Weston (1996), the latter of whom describes the school as a “technocratic, Enlightenment, and anthropocentric institution.” Citing Dewey, he writes about how schools, having evolved in the nineteenth century as institutions for mass education, operate in order to transmit basic knowledge and skills and “maintain existing social conditions and relations.” “Put simply,” continues Stevenson, “their intended function was not to promote social change or reconstruction.” Instead schools have an intended function to uphold the culture of modernity that co-evolved with the Industrial Revolution (Bowers, 2001). Further to this, the *UN International Conference on Environmental Education* in Ahmedabad in 2007 finds that schooling “the world-over” can be traced back to the Enlightenment era in the modern age. From the perspective of these authors, the “present educational paradigm” appears to have its deepest roots firmly in the soils of modernity.

If these claims are accurate, what exactly do these authors argue makes schools predominantly modernist? According to some (see Levin, 1998; UNESCO-UNEP, 2007; Shallcross & Robinson, 2006, p. 5-6), schools are seen as primarily concerned with matters of reason and rationality as hallmarks of understanding, with the empirical world, economism, and “knowing” the world in the sense of collecting scientific information. Additionally, Giroux (cited in Furman, 1998) contends that:

...public schools have long relied upon moral, political, and social technologies that legitimate an abiding faith in the Cartesian tradition of rationality, progress, and history. The consequences are well known... The effects reach deep into the structure of public schooling.

The authors cited seem to agree that it is this emphasis on rationality stemming from the Scientific Revolution which plays the largest role in sustaining schools as deeply modernist institutions.

It seems crucial to examine this particular idea in more detail—that science may hold fort at the modernist heart of schools—as it may be highly relevant to understand how the practice of schools

around ecological issues reflects their foundations in modernity. I will in the following discussion consider the high-status nature of science in the field of “environmental education” as it relates to modernity.

c. Scientism in schools

Since scientific thinking is regarded as pivotal to the notion of modernity, perhaps by briefly examining the role of science in schools, particularly around ecological issues, further light can be shed on the connection between schools and modernity, and similarly on my own personal assumptions as a science-turned-“environmental” educator. There is considerable evidence in the literature which supports the claim that the learning which takes place in schools, specifically around ecological issues, is often steeped in the scientific perspective. This learning is commonly carried out under the name “environmental education” and can be conceived as “science education regarding the environment” (Marouli, 2002; Jensen & Schnack, 1997). Educational pedagogy tends to utilize mainly natural/physical scientific approaches and methods through which students can gain knowledge of ecological aspects of the Land (Sauvé, 2005). “Environmental” education generally carries with it a strong emphasis on biological science (Lewis & James, cited in Marouli, 2002).

Goodson finds that committed science teachers are frequently found at the forefront of environmental education within their own schools (cited in Gayford, 1998). I am certainly a fitting example of this. Science teachers are sometimes even expected by other colleagues to fill such a role, and they are self-reported as feeling that they have a broader contribution to make around ecological issues (*Ibid.*). Sauvé (2005) adds: “For science teachers and science education specialists, the environmental theme can be a ‘hook,’ a subject that stimulates an interest in sciences...”. Whatever the exact reasons for their interest,

it seems typical for science teachers like myself to gravitate toward authoritative involvement in ecological discourse.

As the following examples will show, some educators, academics and activists go so far as to claim that when it comes to issues of the Land there needs to be an even *greater* focus on science than there is now. Gray (2005) feels there is currently a lack in the focus of many environmental (and presumably educational) organizations in science. An American environmental education guidebook argues, “Environmental education must be based in science. Unfortunately, in the past some instructors have not adhered to this principle” (President’s Committee of Advisors on Science and Technology, cited in Gruenewald, 2004), which implies that we actually need *more* science around ecological issues, not less. Further to this, both Lewko, Hein, & Clanger (1991) and Schreiner & Sjøberg (2005) conclude that science education has a key role in preparing students to deal with emerging ecological challenges.

At the same time, educators have been criticized for limiting their scope on the scientific and technological aspects of ecological issues to the exclusion of social and cultural elements (Redclift, cited in Gayford, 1998; Kaplan, 2000). For example, Lucas (cited in A. Gough, 2002) expresses the concern that “too many science educators seem to believe that their discipline is *the* vehicle for environmental education.” Lucas interprets this as a sort of “omnipotent disciplinary chauvinism” by which these teachers presume that the Western scientific worldview is a perfect fit for learning about complex ecological issues. Even early on in the history of environmental education there were warnings such as that of Hall, who claimed that “science teachers will do environmental education a grave disservice if they try to take it over” (cited in A. Gough, 2002).

In the unquestioned domination of ecological discourse by science in schools whereby “environmental education” is framed as a “sub-division of science” (Selby, 1999), other disciplinary perspectives tend to become marginalized. For instance, Stables & Bishop (2001) report on how the role

of the Arts and the Humanities in schools is generally underplayed in environmental education, pushed aside by “scientific ecology”. Interestingly, Selby (1999, 2000) argues that the segregation of science from the humanities in curricula at all levels reflects in some sense the Cartesian nature-human divide initiated through the Scientific Revolution at the outset of modernity. Selby goes on to suggest that “science alone, or primarily, cannot deliver a transformative education predicated upon eco-responsiveness, democracy, equity, notions of global and plural citizenship, and sustainability.” Why might he make this claim? Perhaps it is for the reason that centering ecological issues in objective, progressive science (as it has been historically cast) may dilute and neutralize political content of these issues (Gruenewald, 2004). Biological conservation, for example, is often taught as a *value-free* science discipline (Grace & Ratcliffe, 2002). Instead of engagement with the cultural, ideological, political, social and spiritual aspects of the Land (Selby, 2000), students from the “applied science” perspective tend to study *about* a static, reductive substitute for the Land (as an object for examination), disconnected from the ordinary contexts of daily life (Payne, 1997). Environmental education is conceptualized as purely “natural” rather than social, which can leave questions of value neglected (Hart, 2002). Culture and society are left to the social studies classroom; however, unfortunately in this setting themes of culture and society tend to ignore a strong focus on ecological issues (Selby, 2000).

The ultimate consequence of a narrow scientific focus may be summed up by Bower’s harsh conclusion of how public schools serve to “indoctrinate future scientists to accept the radical separation between the domain of empirical observation and the domain of moral judgement” (1997, p. 44). By “future scientists” I believe Bowers does not mean only professional scientists but also any future citizens who may adopt a scientific perspective on the world. If he is correct in his bold statement, then the conventionally hegemonic, reductive, rational, value-free, culture-avoiding, apolitical, positivist and mono-disciplined treatment of ecological issues in schools may only add strength to the proposal that, at

least when it comes to teaching about the Land, the common model of the school appears thoroughly steeped in the assumptions of modernity.

d. Some implications of modernity

If in fact much of my practice as an educator has been based on the assumptions of modernity, and if indeed schools in many ways are modernistic institutions, *so what?* What are the consequences or implications, if any, of teachers teaching and students learning about the Land under the “roof” of modernity?

To have any hope of answering these immense questions, I must explore some potential ecological consequences of the modernistic way of thinking and being. That said, it is also important within this discussion to remember that modernity has brought astounding benefits to many human groups (but certainly not all) over the course of the last four hundred years, and continues to offer some areas of promise. According to Giddens, the development and worldwide spread of modernist institutions has undeniably “created vastly greater opportunities for human beings to enjoy a secure and rewarding existence than any type of pre-modern system” (1991, p.7). To forget or ignore these tremendous achievements is not only to risk being labelled a Romantic, but it is also to discount the extraordinary successes and innovations of many aspects of “Western culture”. As some maintain, it is very likely that we can never realistically go back to a “pre-modern system”. On the other hand, I do not mean to say that certain beneficial and meaningful pre-modern values or “ancient” ways of thinking cannot be somehow re-integrated into modern society. Thus achieving a delicate balance between celebrating modernity and discarding modernity—between the “boosters” and the “knockers” (Taylor, 1991, p. 107)—is an essential condition for this discussion. This balance can be thought of similar to the idea

found in the Buddhist conception of “the Middle Way”, the practice of avoiding extremes at either end of any issue or situation. Rather than taking an *anti-modernist* or *post-modernist* stance, I will herein try to stay the course of an *anti/modernist* or *post/modernist* position through which it is possible to shift from supporter to interrogator and back to supporter of modernity at the first inkling of extremism.

Modernity, in this sense, is regarded as a *double-edged phenomenon* of which one side is full of promise and one side is distinctly sombre (Giddens, 1991, p.7). This “dark side” of modernity is becoming increasingly apparent in current times as great changes in the Land become ever more dramatic. These “side-effects”—that is, our grand ecological challenges—associated with population growth, modern industrial technology, the capitalist economic system, economic growth and “an affluent consumer society in which materialistic values predominate” (Attfield, cited in Stevenson, 1987) necessarily go hand-in-hand with many of the Western successes and technological achievements brought by modernity.

Once again I wish here to focus on the case of science, as the scientific discipline seems to be the most closely tied to such modernistic perspectives on the Land as anthropocentrism, empiricism, Cartesian dualism, mechanistic philosophy, instrumental rationality and reductionism. By examining some ecological implications of science it may be possible to more clearly illuminate this “sombre side” of modernity. Following this examination, I will then be able to better evaluate how congruent a modernistic educational pedagogy (and language) for the Land may be with my original intentions of addressing and overcoming ecological issues.

Carl Sagan once claimed that “science provides the most adequate basis for understanding that humans possess” (cited in Bowers, 1997, p. 39). Sagan’s affirmation is shared by a certain portion of people in industrialized countries in which scientific knowledge predominates, so much so that other cultures outside of “Western culture” are expected to share this viewpoint (Gayford, 1998). Scientific

ways of knowing are sometimes seen as the most legitimate source of explanations of all life processes (Bowers, 1997, p.7) going as far as making attempts to explain the “origin” of life on Earth. According to Gruenewald (2004), it is assumed in part that science and its application in technology has lead the human civilization on a “journey of constant progress.” This faith in *science-as-salvation* is further illustrated by the widespread conviction that change is always inherently progressive in nature, an idea which stems from eighteenth-century Enlightenment beliefs. Under this belief system, all changes stemming from scientific inquiry should be associated with social progress (Saul, 2008; Bowers, 1997, p.7). Examples of this kind of science/progress association include the proliferation of the World Wide Web and the establishment of the International Space Station, both of which are seen by some as—in the words of Neil Armstrong—“one giant leap for mankind” (cited in Gadottil, 2008). This belief in continual positive social progress through science is a concept known as *linear progress* or *progressivism*.

In tackling ecological issues of the Land, it is to modern science which many people look (Meyer, 2008). Certain groups of people concerned with the Land embrace science as our best hope (Schlosberg & Bomberg, 2008). Muhlhausler & Peace (2006) find that in the West, “green” discourses tend to draw extensively on scientific knowledge as scientists, they claim, are generally highly trusted by the public. Alluding to an example from a series of civic environmental round tables, O’Hara (as cited in Burgess, Harrison, & Filius, 1998) reports how scientific expertise seldom fails to assert itself into conversations around the Land. In these instances of multi-player ecological discourse, science is ultimately seen as *the* means to understand and solve these immense challenges facing the Earth.

It must remembered, though, that modern science represents only *one* localized way of knowing which in relatively recent times has rapidly gone near-global. N. Gough (2002) writes:

The global reach of European imperialism has given Western science the *appearance* of universal truth and rationality, and many people (regardless of their location) assume that it is a form of knowledge that lacks the cultural fingerprints that seem much more conspicuous in knowledge systems that have retained their ties to specific localities...and comparable knowledges of nature produced by other indigenous societies.

In other words, science is a form of colonization of the world by one specific knowledge system springing out of 17th Century north-western Europe. That is, rather than a universal way of understanding the Universe, science is in fact a particular and arbitrary *cultural* mindset. This cultural nature of science remains seemingly invisible to many for the probable reason that this particular mode of thinking has gradually seized a pervasive place in daily life and thereby is largely taken for granted. Even some scientists and science teachers are unaware, as I had been, of science's narrow cultural confines. Harding (cited in *Ibid.*) calls this tendency for scientists and other citizens to remain unaware of "science as culture" a sort of "scientific illiteracy", in that these people are often blind to how they think in narrow Eurocentric terms. Put differently, Western experts tend to ignore the idea that scientific knowledge is bound to a certain culture (Muhlhausler & Peace, 2006). Yet by doing this they are then apt to communicate solely in specific scientific language which may reproduce the orientation to knowledge of their own cultural group (Bowers, 1997, p. 47). To put it simply, science begets more science.

Additionally, because science is not often recognized as a culturally-specific perspective, promotion of scientific knowledge can occur to the detriment of other cultural ways of knowing. According to Bowers, when forged together with technology and an intense consumer lifestyle the scientific perspective comprises the core of modern Western culture—a culture which frequently represents itself as the most fully evolved (1997, p. 7). Furthermore, Bowers contends that local traditions such as those

of indigenous groups are often disregarded by the claims of scientific knowledge, even in the cases wherein these traditional groups are actually quite centred in ecologically responsible ways of living (p. 113). Instead of being respected or admired for their time-tested traditions, local or indigenous ways of being are commonly viewed as irrelevant, archaic, banal and backwards (p. 7, p. 39). While in this discussion I do not mean to question whether science is wrong or useless, I do mean to point out that there are other valid ways of knowing which may be quite helpful in moving toward an “ecologically sustainable” society (see Stables, 2001). Yet all too often even such gentle criticism of science is seen as just an ignorant and “romantic desire to return to the past” (Bowers, 1997, p. 39) which is not permitted in the scientific view of linear progress. Critics are “taxed by defenders [of science] with being morally callous and unimaginative, putting their own aesthetic sensibility above the vital needs of masses of suffering people” (Taylor, 1991, p. 105).

To their credit (again, not to stray too far in this discussion from the “Middle Way”), these “defenders” of science may have bona fide justification for their views. Francis Bacon may have been quite correct in criticizing traditional Aristotelian sciences for having contributed nothing “to relieve the condition of mankind” (cited in Taylor, 1991, p. 104). Taylor explains that modern science has indeed taken a moral stance in trying to find ways to relieve people of their suffering in how “we [no longer] accept that people should continue to be potential victims of hurricanes or famines” and in how we now try to prevent and treat diseases through the application of scientific ideas in new technologies. As discussed earlier in regard to modernity, it is hard not to see these accomplishments in any other way but as positive contributions to social progress for humankind (or at least for some portion of humankind).

A narrowly human-centred viewpoint, however, tends to ignore possible ecological implications of the “colonization” of the world by Western science. According to Selby (2000), there are some who regard the great changes in the Land and the current relationship between humans and “nature” as direct

outcomes of the 17th Century scientific worldview (and later, the industrial and capitalist worldviews) still perpetuated today. Similarly, Gadottil (2008) claims that the embedded rationalist logic of a scientific way of thinking has led us to “destroy nature” in the name of “progress”. This claim may find further support in the final report from the landmark International Conference on Environmental Education in Tbilisi (1977), which states that the positivist quality (linking science with progress) of the “unitary nature of the scientific vision of reality” may be one of the causes of our ecological “crisis”, together with a “mistaken ethical conception of the relationship between humanity and nature” (UNESCO & UNEP, 1977).

What this last reference might be inferring to is how this culturally-constructed relationship between humans and “nature”, with its basis in Cartesian thought, has led particularly those people in industrialized nations to impact the Land in a significant way. In this sense ecological issues are fundamentally connected to how we conceptualize the world—to our perceptions, ways of thinking and ways of understanding. They relate not only our perceptions, but more importantly to how we *communicate*. Recall the idea mentioned earlier about how we use language relates to how we think about the world. In this way, ecological issues are always intimately connected to our ways of *using language*.

Our relationship with the Land has definitely changed throughout history. Prior to modernity, the dominant perspective was filled by the idea that humans possess an intimate, inseparable relationship with the Land. This changed with the advent of modern science. Descartes’ ideas in the 17th Century “separated humans from the natural world, stripped nature of its intrinsic value, and segregated mind from body” (Orr, 1992). This separation led subsequent supporters of Descartes to the notion that each individual is an autonomous being *separate* from the Land (Bowers, 1997, p.7). Similarly, it led to the idea that all life forms, having lost their significance and sanctity once found in an underlying order of

being, are now “open for business”, for treatment as raw materials for human projects (Taylor, 1991, p. 5). Our worldview, claims Selby (2000), once constituted by an “unbroken wholeness,” has been fragmented and distorted as a collection of “discrete and isolated entities.” These fragmentations include the dualisms of human/animal, mind/body, emotion/intellect, spirit/matter and culture/nature. On this point, Taylor summarizes the nature of this increasingly disenchanting set of relationships:

We have lost the contact with the earth and its rhythms that our ancestors had. We have lost contact with ourselves, and our own natural being, and are driven by an imperative of domination that condemns us to a ceaseless battle against nature both within and around us. (1991, p. 94)

Perhaps Taylor’s representation is similar to Nietzsche’s famous statement that “God is dead”; that is, any sense of in pre-modern mysticism around which the Land was once worshipped has been completely driven out by “objective” scientific thinking. This dramatic change in our relationship with the Land is as profound as any other transformation in the history of humankind.

What may be the ultimate consequence in modern times of this “loss of contact with the earth” and with ourselves? Kahn (2008) puts it bluntly:

Over the last few decades then, humanity has unfolded like a shock wave across the face of the Earth, one that has led to an exponential increase of transnational marketplaces and startling achievements in science and technology, but one that has also had devastating effects on planetary ecosystems, both individually and as a whole.

In effect, what these numerous authors appear to be cautioning is how in spite of giving (some) people much good in terms of medicine, technologies and other conveniences that help to stave off unneeded *human* suffering, the spread of the Western scientific way of thinking—as an integral part of the modernistic way of *being*—has resulted in unimaginable changes to the Land and profound mutations to

our long-term relationship with the Earth. As Ruether insists, modernist rational modes of knowledge are “ecologically dysfunctional” (cited in Selby, 2000). From this perspective it would seem that if we could consider the Earth to be a family, then we may say that it is currently going through a rather turbulent *divorce*. Humans are separating from the Land, coldly battling for custody over the “things” around them, driven by scientism and other assumptions of modernity. The future of this family is at stake. If this analogy holds truth, then it may be our responsibility as educators to look at how we might be perpetuating this annulment. It is our task to look for ways to heal this family’s interrelationships—to form new marital vows and to unify this family once again.

e. Challenging the way things are: Opportunities for hope

In this section’s discussion so far, I have found evidence to support two of my four major claims:

1. Based on the assumptions underlying my uses of language, I may have been invoking a predominantly *modernist discourse*.
2. Schools tend to be *modernist institutions*.

Additionally, I have found evidence supporting the correlation between modernist ways of thinking and the great changes “unfolding like a shockwave” (Kahn, 2008) throughout the Land as we go forward through the 21st Century.

It seems like an appropriate point, then, to make an attempt to tie these three arguments together.

While remaining ever cautious of oversimplification, it appears sensible to state a third claim:

3. Since ecological issues can be thought of as consequences of modernity, it may be beneficial in modernist institutions like schools *to challenge and seek alternatives to modernist discourse around ecological issues*.

Rewritten as a question, this is to ask: if we assume an aim of “environmental education” is to raise a deeper awareness of our relationship with the Land as well as to inspire students (and staff) to address ecological challenges, is it not then futile to promote learning based on assumptions of modernity? The word *contradiction* seems appropriate. That is, there seems to be a contradiction between the means and the ends of education around ecological issues. While the ends include raising awareness and taking action for the Land, the means are often comprised of uses of language based on modernist assumptions—the very assumptions associated with the ecological issues we are seeking to address! In such an approach are we simply perpetuating the same ways of thinking which led to these great changes in the Land? To use Einstein’s prudent words, are we trying to solve “problems” by using the same mindset we used when we created them? As Huckle (1999) poses, in spite of all good intentions are we more a part of the “problem” rather than a part of the “solution”?

Risking repeating myself, I will try to clarify this point even further. I have shown how the foundations of modernity tend to provoke us to “‘know’ nature in order to use, transform and consume it for our insatiable needs” (UNESCO-UNEP, 2007). Is it then plausible to say that modernist education is of a design which furthers the “conquest of nature and the industrialization of the planet” (Hicks & Holden, 1995)? Bowers might answer this question with a resounding *yes*. Schools, which he sees as fraught with the modernist assumptions behind the Industrial Revolution (1997, p. 11), makes students into “unbalanced, underdimensioned people tailored to fit the modern economy” (*Ibid.*) rather than empowered agents of change and reconciliation. He goes on to warn that unless modern culture is fundamentally transformed through changing in part what (and how) students learn, “there will be an unending series of environmental problems that will keep attention focused on the immediate consequences of these cultural beliefs and practices, and not on the source of the problem” (p. 18). Unless, states Gruenewald (2004), citing a number of ecological theorists, our educational systems can

enact a paradigm shift away from an industrial (and modernistic) worldview, “these systems will continue to contribute to a mounting socioecological crisis.” These words ring out with apocalyptic visions of possible futures in which schools stubbornly continue their present approaches to learning around ecological issues.

It is at this point that I find myself standing at an impasse. In my statement of purpose at the beginning of this paper I stated that I wanted to try to “walk the talk”, to choose sources of emerging hope rather than linger on “perspectives promoting potential depression and psychological paralysis.” It is now at this nexus where committing to such a choice is imperative.

Given the inference that both my practice *and* the dominant approach to schooling may be built in part around the potentially destructive assumptions of modernity, it would be all too enticing here to become pessimistic. It would be easy to condemn the current model of schools in its entirety, to lament how science is dominating schools, and to continue to harp, “How long can people tinker with the old machine when what is needed is a new design altogether, for a new age?” (Smyth, 1999). I could repeat H. L. Mencken’s defeatist call (cited in Orr, 1992) for every school to be burned to the ground and for their staff to be hanged. It would be far more effortless to conclude once and for all that education for the Land can simply *not* happen effectively in schools—*period!*—or to throw my hands up at the observation that while educators are claiming to be teaching about “saving the earth” they continue to guard the social, political and economic status quo (Lousley, 1999). Shaull’s claim that education “functions as an instrument which is used to facilitate the integration of the younger generation into the logic of the present system and bring about conformity to it” (cited in Jickling & Wals, 2007) might only serve to increase my resignation (and that of other educators). It is equally tempting to dwell on the subjugation of students under an educational model bolstered by the anthropocentric values of neoliberalism and modernity in which the most dominant message appears to be one of unfettered

consumerism (Bowers, cited in Loughland, Reid, Walker, & Petocz, 2003). All considered, it might be much more painless at this point to give up in disgust at my own personal failures and at the systemic shortcomings of formal education around ecological issues—and to finish here with “The End”.

But this is not the end.

In *Pedagogy of Hope*, Brazilian educator Paulo Freire provides an encouraging message for those educators experiencing similar despair:

One of the tasks of the progressive educator, through a serious, correct political analysis, is to unveil opportunities for hope, no matter what the obstacles may be. After all, without hope there is little we can do (p. 9).

Undoubtedly Freire’s conception of hope is not some wishful dreaming of a future utopia. Instead the phrase “opportunities for hope” implies that this hope lies in a vision of what *can* be accomplished, in the unpaved roads which lead forward from these opportunities. It is with this message in the forefront of my mind that I wish for educators to purposefully *choose* a optimistic vision of schools around ecological issues. We must never give up in the search for these hopeful opportunities which point to realistic but inspiring possibilities.

Forming an affirmative vision around “environmental education” could very well just be a matter of becoming more aware of existing evidence that reassures us that existing school approaches can indeed have a positive impact on societal practices (Blohdorn, 2002). It also could be a matter of gaining a better appreciation for the true diversity of current ways in which schooling around ecological issues is actually “working”.

There are many different visions for “environmental education” from various key players. An affirmative vision might be in line with UNESCO’s wish for education to play a *dual* role in social change, “at once in both reproducing certain aspects of current society [say, for example, local ways of

knowing] *and* preparing students to transform society for the future” (1997, italics mine). This is in addition to their wish for schools to help students to “determine what is best to conserve in their cultural, economic and natural heritage and to nurture values and strategies for attaining sustainability in their local communities while contributing at the same time to national and global goals.” Similarly, in the vision of Jickling & Wals (2007) they swing the focus away from the school’s lone function of social reproduction and encourage a shift toward the creation of abilities in students to “critique and transcend social norms, patterns of behaviour, and lifestyles without authoritatively prescribing alternative norms, behaviours, and lifestyles.” Still further, an educator’s vision might very well be in line with Tanner’s own revelation on “contemporary environmental education” (cited in Stevenson, 1987), which

has the revolutionary purpose of transforming the values that underlie our decision making, from the present ones which aid and abet environmental (and human) degradation to those which support a sustainable planet in which all people live with equal human dignity.

Finally, a possible vision of education for the Land might even shift schooling toward “the practice of freedom” and the “means by which men and women deal critically and creatively with reality and discover how to participate in the transformation of their world” (Shaull, cited in Jickling & Wals, 2007). Together, all of these hopeful, transformative and diverse dreams of what schools and pedagogy can be serve to remind us to keep on pushing and striving in the face of shortcomings.

Can we “fix” education around ecological issues? Can we find ways forward? Can we construct a positive, powerful and fitting language for the Land to speak and write in schools?

Yes, I choose to believe, we can.

Given the scope of this challenge, it will neither be easy nor ever a finished process. There will never be a time in the future when we can we proclaim, “We’ve got it. It’s fixed. We have found *THE WAY* to help students learn about the Land.” For, according to Rogers, “in order to solve environmental

problems, it is necessary to solve history...the social, economic, political, and cultural structures which permeate everyday life...the structures which are causing environmental problems” (1994, p. 172). Educators have to never cease in the search for better ways of “solving history” with their students. The big job of tackling the practices and pedagogies entrenched in modernist schools is a crucial part of the solution. This process cannot be done in a “limited instrumental sense within the current dominant paradigm” (*ibid.*); instead, it must explore deep contradictions and expose other lines of weakness in the status quo.

First and foremost, educators—myself included—need to examine their own cultural assumptions to see if there is a mismatch between their intentions—inspiring action, say—and their hidden assumptions (anthropocentrism, ethnocentrism, seeing the Land as a “resource”, etc.). As I have shown, language is an excellent means for such an examination. We need to critically look at such assumptions and see whether these may in fact show up in our respective practices. We need to think about how we may be further perpetuating these assumptions through our various approaches to pedagogy. In the same way that educators and schools have become aware of cultural patterns that are racist and sexist, we must examine our hegemonic beliefs about our relationships with the Land for symptoms of inequity and oppression (Bowers, 1997, p. 159). According to Hart, Jickling & Kool (1999):

Environmental education must explore the philosophical premises of dominant, or dominating, cultures and provide means for engaging in their critique. For Canadians, and many others, this means examining a phenomenon often referred to as ‘Western Culture.’

In other words, educators need to appraise the assumptions of modernity—both those with positive *and* negative consequences—and evaluate their own places within the modern age.

This does not have to be a process conducted in isolation from students. In fact, it *should* be a shared journey for both students and educators through which they provide mutual support as each becomes

conscious of their own deep-seeded ways of thinking and the resulting ecological (and social) implications. From within the school as a modernist institution teachers and students can work together to “expose the myths of progress and prosperity that are holding up the house of cards” with a “vision which does not gloss over the facts behind the nightmare but which manages to engender enthusiasm about the potential of the human spirit” (Gidley & Hampson, 2005).

Openly examining modernity, the cultural modes of being of which are so often taken for granted in modernistic schools, is much easier said than done. Resistance from educators and students is a part of the process of dialogue. Yet resistance should never be ignored or overlooked. In fact, in some cases it may be a sign of a deeper wrestling with these inner ideas. For example, I had mentioned that during my own practice I sometimes sensed among students a subtle level of resistance and resentment toward “eco-action” activities such as recycling. I have encountered similar resistance to scientific ideas while teaching physics and other science courses. At the time I had probably dismissed this resistance as typical youth self-centredness, laziness or rejection of authority. Yet now, in the context of the examination in this paper, I need to concede the possibility that this resistance may have been my students’ way of pushing back against an activity they felt to have modernistic undertones (e.g. recycling can be seen as only perpetuating rather than challenging capitalist economic systems). Might students, especially those from non-Western cultures, have actually been challenging the assumptions of modernity through their modes of subversion? Do children start out their lives engaged in pre-modern or even post-modern ways of thinking? Do they have to be “taught” the assumptions of modernity—which they in turn tend to resist (before accepting them)? The students might not have conceptualized their resistance in this way, but nonetheless their apathy and cynicism may have functioned in a sense to challenge the modernist practices forced upon them. Those students who were particularly defiant of the “greening” initiatives in the school may have agreed with Gadottil (2008), who writes: “It is important

to know what each one of us can do to ‘save the planet.’ But it is not enough. The responsibility of each person must be attached to the global struggle for the transformation of capitalism.” Maybe it is possible that these children did not want to recycle or pick up garbage. Maybe, while I was espousing the virtues of hybrid cars, these students instead wanted to transform society. Their forms of resistance, then, can bring us not frustration—but hope.

As a way forward, in the last segment of this section I will address some of the theoretical ways in which we might “go beyond” the assumptions of modernity in schools in relation to ecological issues. This will “set the stage” for suggesting more practical methods in which we might achieve a language for the Land in education.

f. Postmodernism, schooling, and my practice

In academic research, challenging the foundations of modernity often falls under the notion of *postmodernism*. Lyotard (cited in Giddens, 1991, p. 2) describes postmodernism as

an evaporating of the ‘grand narrative’—the overarching ‘story line’ by means of which we are placed in history as beings having a definite past and a predictable future. The post-modern outlook sees a plurality of heterogeneous claims to knowledge, in which science does not have a privileged place.

In other words, postmodernism is a cultural movement which examines, evaluates and—when called for—finds ways to actively resist reproduction of the assumptions of modernity, the ideas passed down from the Enlightenment and from the structures of the Industrial Revolution. It goes beyond a singular reliance on science and rationality. It bypasses the idea that society progressively becomes more

advanced as time passes. Instead, postmodernism draws on a variety of different perspectives, disciplines and ways of thinking which challenge the modernist writing of history.

Notably, in a postmodern-like manner, the final report of the UN International Conference on Environmental Education in Ahmedabad (2007) concludes, in relation to schools:

Today, we need a new Enlightenment to redefine our notion of progress... This new paradigm needs to recognize that we must live within the limits of nature's systems and that we need to 'know' nature in order to transform societies to live sustainably in happiness, peace and with dignity, amongst themselves, and in relation to Planet Earth.

I presume that by their phrase "to 'know' nature" they mean to know the Land in a way which is not just an empirical cataloguing of species but which draws on multiple modes of knowledge such as those gained from direct experience in local settings. The U.N.'s strong declaration has a clear message: we must challenge modernity in schools through a different approach.

The various conceptions of postmodern education, then, have agendas separate from those of modern schooling (Hicks & Holden, 1995). The task of these various approaches to education is to dismantle the "jerry-built scaffolding of ideas, philosophies, and ideologies that constitutes the modern curriculum" (Orr, 1992), notably when those "ideas, philosophies, and ideologies" pose a potential threat to a more meaningful human connection with the Land.

In the spirit of postmodernism, I would like to end this discussion by briefly revisiting the modernistic assumptions which were identified as foundational to my practice. What might we say about these assumptions when we view them from a postmodern perspective? For example, recall that Cartesian dualism is the notion wherein the human civilization and "the environment" are thought of as clearly distinct. Challenging this assumption through postmodern thought might mean to assert that humans and nonhumans are actually not separate, but rather are part of one continuous entity which—

for lack of more fitting terms—we could call *the Land*. We might call this new postmodern notion of nature-human unity by the term *holism*, a word originally Greek for “whole” (Harper, 2001). Thus, holism is a postmodern “reversal” of Cartesian dualism.

In this same way, each of the various assumptions of modernity within education can be respectively “shifted” toward a postmodern alternative by choosing its approximate opposite—in other words, by reversing the assumption. This transformation reflects not only a questioning of modernistic ways of being in the world, but also a search for new ones (or, as in some cases it might be, ways of being from long ago) on which to base our pedagogies as educators.

Figure 2 shows the assumptions of modernity and possible “replacements” within a postmodern or “meta-modern” perspective (“beyond” modernity) as I imagine them. I am not suggesting that, if it is even possible, a complete replacement of modernistic culture is necessary, but only that strict adherence to modernist assumptions has proven arrogant and destructive—as I have shown evidence for earlier. The postmodern bases then may be a kind of “balancing out” of modernity. Admittedly, this shift to the postmodern needs much more critical examination and unpacking; it begs for future work to be done in this area. But for now, given the nature of this paper as a starting point for dialogue, I will simply introduce these as locations for conversation about what education around ecological issues might ideally look like in the future.

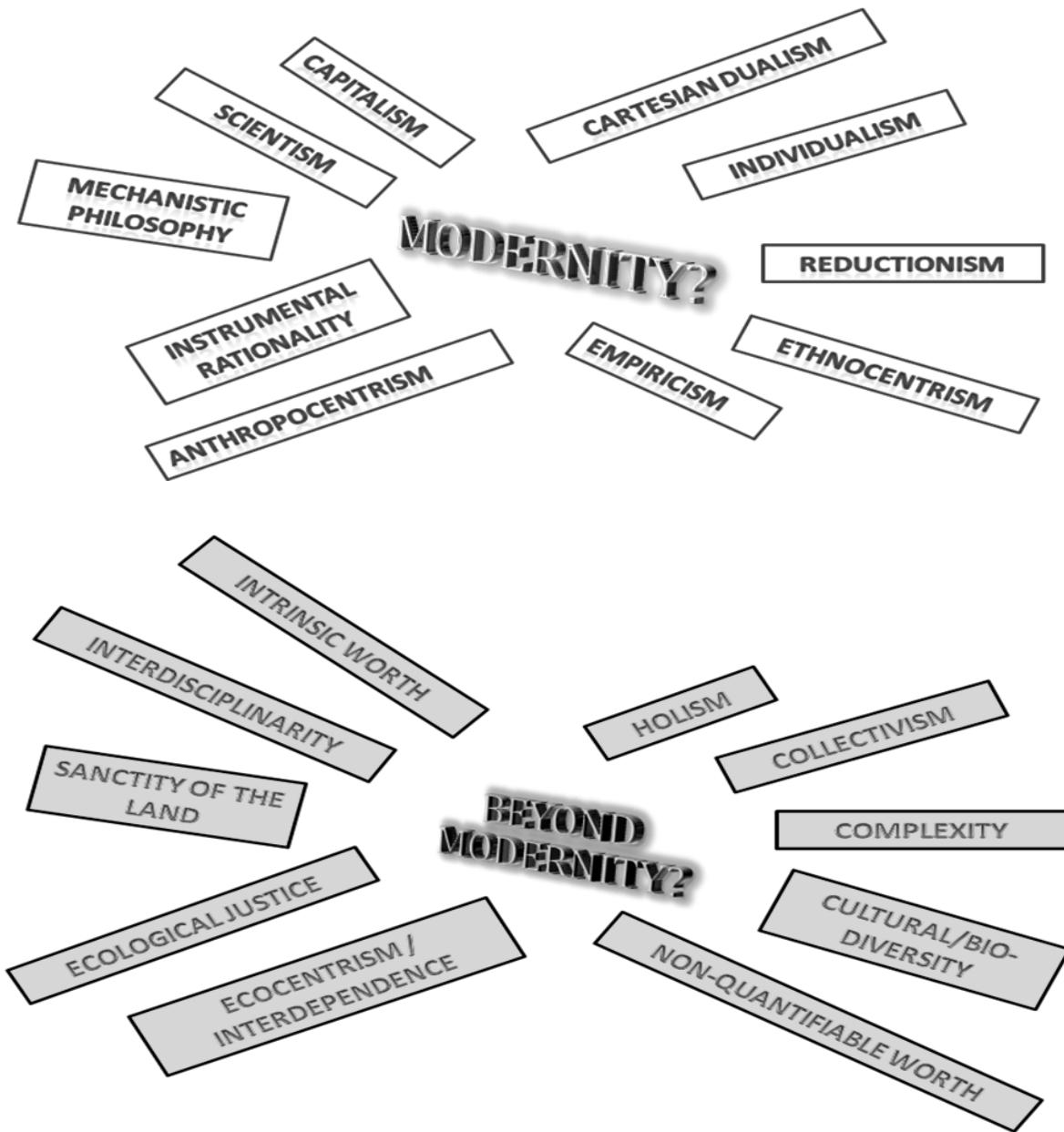


Figure 2. Comparison between the assumptions of modernity and possible bases for a “meta-modern” approach to the Land.

Under this alternative scheme, I have made the following “reversals” to the assumptions of modernity:

- Cartesian dualism → holism
- individualism → collectivism
- reductionism → complexity
- ethnocentrism/Eurocentrism → cultural/bio-diversity
- empiricism → non-quantifiable worth
- anthropocentrism → ecocentrism/interdependence
- instrumental rationality → ecological justice
- mechanistic philosophy → sanctity of the Land
- scientism → interdisciplinarity
- capitalism/economism → intrinsic worth

Cartesian dualism, as noted above, is replaced by holism. Individualism is now *collectivism*, the idea that the collective is the most important social unit driving social change. Reductionism has become *complexity*, the idea that ecological issues are incredibly complex and sometimes cannot be completely reduced to simple logic, universal “laws of nature” and to reductive concepts like “ecological footprints”. Ethnocentrism is replaced by *cultural/bio-diversity*, a basis for valuing the ways of knowing and living of all cultures and forms of life which are ecologically responsible. Empiricism is now *non-quantifiable worth* (for lack of a better term), meaning that not everything has to be countable or measurable to matter. Anthropocentrism is succeeded by *ecocentrism/interdependence*, a perspective based around the importance of the Land which acknowledges a tightly-knit relationship between all entities in the Land with no centre. Instrumental rationality has been cast out and *ecological justice* has been brought in to

properly recognize the ways in which the Land has been inequitably exploited and manipulated. Instead of viewing the Land in terms of mechanistic philosophy, made up of lifeless mechanisms without purpose, the concept of the *sanctity of the Land* has been chosen to support the idea that all elements in the Land are sacred and each have an intrinsic meaning unto themselves. Scientism, the blind faith in science and technology as the ultimate source of truth, has become *interdisciplinarity* as a way for promoting more diverse thinking such as that found in the Arts and the Humanities. Finally, capitalism/economism is replaced by the notion of *intrinsic worth*, wherein the Land and all entities within the Land are literally price-less, having significance beyond what can be represented in economic terms.

Each one of these alternative bases for education around ecological issues could very well be worth a separate research paper in itself just to explore the various implications for schools. Undoubtedly, there are many other possible bases I have not included above which might be fitting within some kind of postmodern approach to education around the Land. In the future, I hope to explore these and other postmodern foundations in further detail through conversation with fellow educators.

Nevertheless, given the limited scope of this paper I would like to go on now to consider, at long last, what such a postmodern approach might *sound* like within schools in terms of *language*. In other words, having identified some assumptions which challenge those of modernity, I would like to briefly investigate the ways they might be translated into a *language for the Land*, or what Schleppgrel (1997b) might call a “green grammar”. I will offer some specific suggestions of words and phrases that educators can choose to eliminate from their daily lexicon if they wish to be true to their intentions toward addressing ecological issues. I will also propose linguistic suggestions which will help us begin to speak and write in ways which help us and our students restore a genuine, meaningful relationship with Land.

Section 4. Recommendations: Sustaining a language for the Land in education

a. Locating discourse beyond modernity: Starting the conversation

What is a *language for the Land*? Up to this point, I have used this phrase in a somewhat vague fashion to describe some potential linguistic approaches to education around ecological issues. However, now that several points have been established to some level of certainty—mainly, the contradictions between consequences of modernity and modernist practices in education—it may be appropriate to go on to address more specifically what this linguistic approach might involve. Notice that this section is intended as a discussion of *a* language for the Land but not *the* language for the Land. Likewise, this could even be framed as a conversation about various languages for the Land. In other words, I am by no means making a claim over a completely new language which will be ready for implementation on “Monday morning” in schools. Rather, I am merely reporting on a few suggestions around language to open doors to greater dialogue around how we communicate about ecological issues in education. Most importantly, I hope these suggestions will serve to stimulate educators to examine their own pedagogical uses of language around ecological issues and to truly reflect on their respective practices.

Recall from earlier sections the idea that we may think of language in *plural* terms as *both* a means for transmitting information and as a constructor and preserver of cultural ways of understanding the world. It is the latter conception, in line with Lacan’s notion of the world of words making the world of things (Lacan, 2002, p. 65), which places utmost importance on language in the way societies are organized. From this perspective, language can help perpetuate historical ways of thinking and to unconsciously reproduce society’s moral values (British Columbia Ministry of Education, 2007). For example, calling students with certain physical or developmental characteristics by the label “disabled”

perpetuates the idea that some people are less than “normal”, that they are flawed and subhuman, rather than the idea that we all have different abilities. The former perceptions were, for instance, shared by Nazi proponents of eugenics. Yet, from these perspectives we may also infer that language can also be used to disrupt hegemonic ways of thinking, to point out contradictions, and in many cases to offer new ways (or, as it may be, *old* ways from long ago) of perceiving ourselves and the world of which we are a component. For instance, drawing on the previous example, when we describe students with certain characteristics as “*differently-abled*” instead of “disabled” we challenge the notion that there is one set model of a “perfect” human being to which we all should aspire.

Wendell Berry, summarized by Bowers, once conceived that “if we are to rectify our relationships with each other and the environment, we must *first* rectify our language” (2001, italics mine). Since the relationship between humans and the Land is always encoded in language (*ibid.*), then giving words and modes of communication deeper consideration is one way to question these relationships, offer new ones, or resurrect forgotten perceptions on relationships from times past.

Foremost, one’s use of language, and any language for the Land, should be made *accountable* (Berry, cited in Bowers, 1997, p. 100-101). That is, the speaker (or writer) must “stand by it: must believe it, be accountable for it, be willing to act on it” (*ibid.*, p. 101). The nature of relationships that exist in the world must be represented clearly and accurately, so that “patterns of social interactions and the behaviour of institutions that negatively affect the environment can be more effectively evaluated and changed” (Schleppegrell, 1997b). Berry’s and Bower’s articulations of accountability here are a refreshingly far cry from current neoliberal calls for competitive, high-stakes, and test-based “accountability” in schools. As an educator, being accountable in the use of language ultimately means addressing contradictions between intentions and underlying assumptions. If the intention is, say, to inspire change among students to address changes in the Land, then in order to be accountable any use

of language must be as consistent with the intention as possible. If the two are incongruent, then either the intention needs to change or different uses of language must be chosen. In other words, intentions and assumptions *should* be congruent. Language should ideally try to aim toward a direct public expression of intentions, not toward a case of intending one thing but speaking to another. If there is a mismatch this needs to be addressed, otherwise we risk falling into hypocrisy—or worse yet, reproduction of the status quo.

Bringing back this notion of accountability in language to the results of this paper’s study, I am drawn to a fourth and final conclusion:

4. A language for the Land in education is one which locates or sustains discourse *beyond* the assumptions of modernity or which *resolves* these assumptions by *reintegrating* them with other ways of thinking.

That is, if we can assume that education needs in part to increasingly promote ecological responsibility and care for the Land, then in order to remain accountable (in the sense given above) language must be sought which problematizes the assumptions of modernity and offers thoughtful alternatives. Not to locate discourse beyond hegemonic ways of thinking, or to remain within the “semantics of the metaphors that constitute the modernist language game” (Shallcross & Robinson, 2006, p.6), would be to risk further reproduction of the modern paradigm and only intensify its all-too-clear consequences. Instead, if through a language for the Land we can “celebrate the language of ambiguity and diversity and seek agreements through the integration of scientific, ethical, aesthetic and spiritual intuitions” (*ibid.*, p. 8), then at the very least we offer a direct challenge to entrenched modernism in schools.

In this section I will argue that in order to sustain discourse beyond the assumptions of modernity, a language for the Land in education must:

- be “ecologically-correct”, rather than only politically-correct

- be justice-oriented, addressing all oppression and inequity of the entities of the Land
- use holistic terminology, expressing a seamless and interdependent relationship between humans and the rest of the Land
- respect cultural ways of knowing other than those of the “modern Western” hegemony
- de-center science as the ultimate source of truth and allow to the forefront other disciplines which contribute to ecologically responsible ways of thinking
- restore a sense that the Land is sacred, that all entities have intrinsic purpose beyond economic significance
- be centered in the perspective of the Land, rather than in only a human-centered viewpoint
- emphasize the collective as the most powerful source of cultural change in addressing ecological issues
- allow for the irreducible complexity and inherent mystery of the Land

Before proceeding, I feel I must emphasize a point about inaction. As educators, *not* to change our language when teaching about ecological issues would be to further perpetuate the great changes in the Land and allow the “malaise of modernity” to continue unchecked. To continue using oppressive language with the intent of inspiring change is *the* ultimate hypocrisy. It is as ridiculous as trying to teach students to respect others who are different by continuing to use derogatory words like “retard”, “nigger”, “faggot” and “chug”. These kinds of words are deeply oppressive, designed to alienate and “thingify”. Again, as much as possible, our language needs to become congruent with our intentions toward change. How we speak and write must interrupt the conventional ways of understanding the world and begin to sustain new ones. As former Norwegian Prime Minister Gro Harlem Brundtland

(chairperson of the well-known “Brundtland Commission”, which introduced the notion of *sustainable development*) wrote, as cited in Gadottil (2008):

Unless we are able to translate our words into a language that can reach the minds and hearts of people young and old, we shall not be able to undertake the extensive social changes needed to correct the course of development.

Barrett (2005), interpreting Barron, offers one note of caution toward this kind of linguistic approach which seems worth keeping in mind. “It is not enough to introduce students or teachers to counter-hegemonic discourses and assume they will adopt them,” writes Barrett. What this may mean is that we cannot as educators just start “speaking” forth alternative uses of language and expect students to simply follow suit; conversely, it makes no sense for students to employ a language for the Land if educators do not also engage this activity in a profound way. Adopting language such as what can be found in ecocentric discourse brazenly confronts the embedded Western desire to have mastery over the Land. It confronts the “hierarchical dualisms that place individualism over holism...and humans over nature” (Whitehouse, cited in *ibid.*). Thus, taking up this sort of language unavoidably requires social risk and careful negotiation. Yet instead of blaming students or teachers for any perceived resistance to alternative ways of understanding and expression, resistance can be embraced as “educational” in itself, as a inroad to deeper dialogue around ecological issues. The appearance of struggle can be conceptualized as a “teachable moment”, a crucial opportunity to collectively tackle the assumptions of modernity. In these ways, educators and students can begin to evaluate their own assumptions, question what they consider to be common-sense, and in doing so address the discursive barriers to counter-hegemonic pedagogy (Sammel, cited in *ibid.*) around ecological issues.

What I offer here is *not* a language for the Land. But it is a start. These are but a few examples of uses of language which *might* present a challenge to the various assumptions of modernity found in my

own previous practice and within schools. The suggestions below are arranged around the “new” postmodern bases presented in the previous section. It my hope that future studies by educators can develop these examples more fully, evaluate barriers to their use, and find ways of integrating them into our curricula and into our pedagogies, so that some day we may find established in schools a more dynamic, counter-hegemonic and postmodern language for the Land known by no other name than “everyday language”.

b. Interdisciplinarity: De-centering science

Recommendations:

The following are some suggestions for educators to problematize modern scientific language and to broaden uses of language beyond those typically found in scientific pedagogy. This suggestions will be followed by a more in-depth discussion of these points.

1. Move away from a cold, neutral and detached tone in talking about the Land (Kahn, cited in Muhlhausler & Peace, 2006).
2. Feature more significant discussion about the nature and implications of scientific thinking itself (Bowers, 2001).
3. Create opportunities to open up science for deconstruction, healthy scepticism and inward reflection (Rorty, cited in N. Gough & Price, 2004).
4. Foster a more critical understanding of how science and technology are used to commodify daily life (Bowers, 2001).
5. Discourage use of conventional terms like “objectivity” and “scientific method” (Rorty, cited in N. Gough & Price, 2004).

6. Present science through use of language as one of many localized, arbitrary, and subjective ways of knowing (*ibid.*).
7. Discuss the helpful *and* harmful ways science shapes our world today.
8. Recognize the cultural patterns within science which threaten to degrade the Land (Bowers, 1997, p. 126).
9. Acknowledge existing cultural patterns of everyday life that do *not* degrade the Land (*ibid.*).
10. Include increased attention to the linguistic approaches of the Humanities and social sciences (UNESCO, 1997).
11. Integrate science education with the Arts, but require science be a less overbearing part of interdisciplinary learning (UNESCO & UNEP, 1977; United Nations, 1972); likewise, use language from the Arts in discussing ecological issues.
12. Promote through use of language a broader conception of science, a more inclusive rationality that joins empirical knowledge with emotions like love (Orr, 1992).

Discussion:

There are a number of signs that science alone in its present form may not necessarily be the best basis for constructing and maintaining a language for the Land in education. Muhlhausler & Peace (2006) document several of these arguments. For instance, Kahn claims that “scientific discourses about the environment have been criticized for their ‘cold, dry-as-dust objectivity, their antiseptic gaze on death and indignity, their consistent use of the passive voice to avoid the appearance of responsibility.’” This cold, neutral and detached tone may only serve to further objectify the Land and render “it” lifeless to students. Additionally, Halliday & Martin maintain here that scientific discourses focus on defining

and classifying, and dividing rather than uniting. These practices may not provide students with motivation to truly care for the Land, but simply regard “it” as an object for their curiosity.

Yet if science is to play a role in sustaining a school-based language for the Land, it may be meaningful for learning around ecological issues to feature significant reflection and discussion about the nature and implications of scientific thinking itself. According to Bowers (2001), this discussion should include “fostering a critical understanding of how science and technology are being used to commodify ever more aspects of daily life.” In other words, the idea of linear progress prevalent within school-based scientific discourse needs to be balanced through discussion of the ways science shapes our world today. This, Bowers argues, is a “far more important part of environmental education than the classroom lessons and field trips that focus on the characteristics and restoration of natural systems.” However, the point must be made that those science teachers dominating learning around ecological issues may find it intensely difficult to put science “under the microscope” in the classroom unless they too question their own cultural assumptions learned throughout their education and sustained in their careers. As a science teacher, I can personally vouch for how difficult it was to turn the microscope back on myself!

Additionally, N. Gough & Price (2004), citing Rorty, propose getting rid of traditional notions of “objectivity” and “scientific method” in schools so that science is no longer regarded as the telling of “one true story” over all others. Instead, science can be described as one of many subjective ways of knowing—as a 17th Century north-western-European “metafiction”—open for deconstruction, healthy scepticism and inward reflection. A more critical view of the scientific way of thinking within learning around ecological issues might then include “critiques of traditional science education from feminist, post-colonialist and anti-racist perspectives” and “social, economic, personal and other value positions” (A. Gough, 2002). Through this approach students and educators would recognize cultural patterns

within science which threaten to degrade the Land while acknowledging existing cultural patterns of everyday life that do *not* degrade the Land (Bowers, 1997, p. 126).

A relevant approach then would require that science become a less overbearing and hegemonic part of interdisciplinary learning around ecological issues (see UNESCO & UNEP, 1977; United Nations, 1972; Bowers, 2001). Quigley suggests a need to examine whether the language of modernist science can truly contribute at all to “the interdisciplinary understandings of environment justice” (cited in Shallcross & Robinson, 2006, p. 5). Instead, “vigorous interdisciplinarity” (Selby, 1999) and a multidimensional, integrated approach to environmental education (Loughland, Reid, Walker, & Petocz, 2003; Meira Cartea, 2005) cutting across traditional school subjects would include increased attention to the Humanities and social sciences (UNESCO, 1997). While there is always the risk of ecological issues being seen as just another “topic” or “flavour of the month” through this approach, Chapman (1999) reassures that the Land provides one of the most powerfully unifying themes for the curriculum, supplying pluralistic contexts for study and applicable to almost any discipline imaginable.

I would also like to touch on the importance of love and emotion in ecological discourse. This is a topic discussed by such authors as David Orr. Earlier I established the idea that traditional Cartesian science tends to reject passion and other emotions in lieu of rationality. However, Orr (1992) blasts this notion, writing how “Descartes and his heirs simply had it wrong... there is no good way to separate mind or body from its ecological and emotional context.” Orr argues that we need a “broader conception of science and a more inclusive rationality that joins empirical knowledge with the emotions that make us love and sometimes fight.” In other words, even the most staunch scientists can never fully prevent emotions from influencing their work, nor should they. Rather than deny a role for emotions in science, we may wish to explore ways to reinsert emotions like love or anger back into the cold objectivity rampant in the science classroom, particularly around ecological issues.

Upon reflection, a perspective closer to *love* may already be quite intuitive to younger children who tend to describe life and animals in aesthetic, religious and emotion terms rather than from a scientific perspective (Schaefer, cited in Orr, 1992). Perhaps this is a reason why some students choose to disengage from school, to allow themselves, as Lousley (1999) offers, “to fight the mechanical detachment from life, emotion and meaning embodied in school culture...”. Certainly I have encountered resistance to my scientific practice by students who wish to hang on to mystical, intuitive understandings of the world—which at the time I had probably discounted as merely “superstitious” and backward.

These students may be justified in their struggle. Taylor, as interpreted by Bonnett (2006), points out that “love is the appropriate and natural human emotion toward that which truly sustains us. Thus alienation from nature and from self are highly interrelated and key to our ability to knowingly despoil the environment.” Additionally, various authors find we should make room for sentiments and emotions more commonly found in the Arts, and reclaim and equally value emotion, subjectivity, caring and intuition as valid ways of knowing (Selby, 2000). These are empowering ways of “reconnecting with the rest of the world” (Jickling, cited in Sauv , 2005) that promote thoughtful action for the Land. After all, argues Gould, “we will not fight to save what we do not love” (cited in Orr, 1992).

This raises the question of whether a linguistic approach to the Land in school which is still based in science can realistically operate around emotions like love, or whether emotions are relegated only ever to the Arts? To some like Orr emotions not only can be integrated with science, but they in fact are a *critical* component to science. He writes, “Science without passion and love can give us no good reason to appreciate the sunset, nor can it give us any purely objective reason to value life. These must come from deeper sources.” While I will now move on from this particular aspect of a language for the Land, I welcome fellow educators to make their own more thorough analysis of possibilities for the integration

of science education with the Arts and with emotions like love. I invite readers to a dialogue around challenging uses of language in schools such as “objective” and “rational” while promoting uses of language around “passion” and “love”.

All considered, failure by those educators who engage in ecological discourse to critique hegemonic scientific thinking, promote interdisciplinary learning, or integrate emotion into science in schools may result, as Bowers (2001) imagines, in future environmental education classes studying the “legacy of degraded environments left by a period in which scientific advances went unquestioned.” At the very least, according to Rogers (1994), if science is a complete “write-off”—that is, if it “cannot be expected to ‘save’ nature”—then it may be left to the tragic experience of the loss of the Land with the loss of human identity (assuming the two are indivisible) to “correct” discussions around ecological issues, especially in schools. Personally, I have confidence that it will not come this extreme, that in due time we will make the necessary strides to rectify our relationships with the Land.

c. Holism: Healing the Cartesian rift

Recommendations:

The following is a summary of some suggestions to help promote holistic language in education around ecological issues. Discussion follows.

1. Confront and problematize such conventional categories as nature, natural, unnatural, environment, and human.
2. Consider the “environment” as a text which may be read in different ways: historically, aesthetically, scientifically, etc. (Stables & Bishop, 2001).
3. Remember that the “environment” is always a *culturally-constructed* idea about physical reality.

4. Grant greater inclusion within notions of “nature” and “the environment”.
5. Contemplate the term “nature” in the connected sense of a “self-originating material/spiritual world of which we are a part” (Bonnett, 2006).
6. Extend the concept of “the environment” to a “complex of natural, built and social components” (UNESCO & UNEP, 1977, p. 26), *including* human civilization.
7. Remind students and fellow educators that “our environment is the totality of what we live in, natural or constructed, spatial, social and temporal”; that “it” is an extension of ourselves (Smyth, 2005).
8. Acknowledge that the natural world is internal, the air we breathe, the elements from which our bodies are constituted and continuously remade (Opatow & Weiss, 2000).
9. Include humans and nonhumans as fully integrated in *the Land*, each an element of a sacred whole.
10. Capitalize “Earth” (similarly with the Environment, Nature, the Land, etc.) as a proper noun when written (Verhagen, 1999).
11. Refer to the Earth or the Land as “Her” instead of “it” (Verhagen, 1999).
12. Use gendered language (she/he, her/him, etc.) for nonhuman entities.
13. Refer to humans as “human-animals”.
14. Call animals (including human-animals) “animal-beings”.
15. Employ the term “nonhuman animals” to preserve the sense that humans are animals at the same time as specifying those animals which are not human.
16. Extend “we” and “our” to nonhuman animals (Singer, cited in Stibbe, 2001).
17. Avoid terms like “they” and “their” when referring to nonhuman animals (*ibid.*).

18. Call nonhuman animals and the parts of nonhuman animals by specific count nouns rather than mass nouns.

Discussion:

As stated earlier, holism is the understanding that humans and nonhumans are actually part of one continuous entity. Holism is in direct opposition to the modernist idea of Cartesian dualism: the notion that humans and “nature” are separate. This notion of dualism is closely related to the theme of *fragmentation*, in which language offers a “fragmented picture of the world, since it separates Agent from Experiencer, Agent from Action, Object from circumstances and so on; it also separates humans from animals, living beings from ‘lifeless’ matter, and splits up the world into parts of contrasts, and so on” (Fill, 2001). The language of holism seeks, then, to reunite the fragmented picture of the Earth to enable students and educators to see themselves as a part of a cosmic chain of being.

Shallcross & Robinson (2006) pose an interesting dilemma central to this situation. They maintain that our current state of language is fraught with evidence of dualism, but that it is through this dualistic language that we have to invent a language of holism (p. 4). In other words, how can we ever speak holistically using an essentially dualistic language? Initially, this seems like an impossible *Catch-22*. Berry (cited in Gelobter et al., 2005) affirms this difficulty, reporting how

...we have not [yet] developed the language by which to recognize the extent or the implications of the [nature-human] division, and we have not developed either the language or the necessary social forms by which to recognize across the division our common interest and our common humanity.

However, further examination reveals numerous powerful, and sometimes quite straightforward, ways of rectifying language around dualism.

My first and perhaps most important suggestion for a language of the Land in education is in regard to how we confront such mammoth categories as *nature*, *natural*, *unnatural*, *environment* and *human*. The very idea of “Nature” has a long history through which “it” has been constructed in a vast number of contexts (Bonnett, 2006). For good reason, Williams, as cited in Muhlhausler & Peace (2006), calls it “perhaps the most complex word in the language.” Adding to this complexity, Stables & Bishop (2001) pose the unusual idea that the “environment” can be seen as a text which may be read in different but equally valid ways: historically, aesthetically, scientifically, etc. Not only can the “environment” be read (if we are “literate” in certain ways); it can also be written (that is, acted upon)! Thus the boundaries between reacting to and acting on the “environment” are blurred. The point of Stables & Bishop’s argument seems to be that the “environment”, no matter how it is defined, is always a *culturally-constructed* idea about physical reality.

Once it is realized that these terms—environment, nature, human, etc.—are *cultural* constructions, and as such they possess some degree of “arbitrariness”, we can see that these terms and corresponding meanings have been chosen throughout modernity to support and perpetuate certain assumptions of modernity. For instance, Rogers finds that the “modern period began by using such terms as ‘natural’ and ‘unnatural’ to describe human and unhuman behaviour...which support competition and expansion, thingify nature, turning the verb into a noun, as it were” (1994, p. 91). In addition to allowing greater ease in the domination of the Land, the term “environment” permitted an anthropocentric perspective to thrive throughout much of modernity. Hochman states, “The term has increasingly come to mean a nature tangibly important only to human health and livelihood” (cited in Muhlhausler & Peace, 2006). In other words, the signifier “environment” has been chosen to signify only those parts and functions of the Land which provide materials for *human* benefit.

Yet we also see from this perspective that we are completely free to choose terms and meanings which provide a more integrated basis for a language for the Land. In fact, some argue that, in current times, from even a scientific standpoint a “high degree of interdependence within the biosphere seems undeniable” and so it is “simply no longer tenable to maintain an environmental separation of humankind and nature” (Bonnett, 1997). Because of this undeniable interdependence between all forms of life, numerous authors grant greater inclusion to their notions of “nature” and “the environment”. For example, Bonnett (2006) uses the term “nature” in the connected sense of a “self-originating material/spiritual world of which we are a part, including the powers that sustain and govern it.” Others include in their impressions of “the environment” a “complex of natural, built and social components” (UNESCO & UNEP, 1977, p. 26). Additionally, Smyth feels it is necessary to constantly remind people how “our environment is the *totality* of what we live in, natural or constructed, spatial, social and temporal” (2005, italics mine) and that “it” is in fact an extension of ourselves. A particular environmental education policy from the USA is cited by Loughland, Reid, Walker, & Petocz (2003) as stating: “The environment is the aggregate of all the conditions that support living things. In turn, living things, including humans, are all interactive parts of the environment.” Finally, Opatow & Weiss (2000) go so far as to turn the tables and problematize the view of “the environment” as “out there” or as “other”. Instead, they argue: “The natural world is internal. It is the air we breathe, the water we drink, and the elements from which our bodies are constituted and continuously remade.” These examples show how it is possible to keep seemingly dualistic terms such as “the environment” but at the same time resolve Shallcross & Robinson’s dilemma by incorporating holism through the establishment of thoughtful, careful definitions of conventional words or phrases.

As I mentioned in this paper’s purpose, I have attempted to use the term “the Land” whenever it does not interfere with this paper’s clarity. To me, as with others who employ the term—presumably deep

ecologists or certain indigenous peoples—the notion of *the Land* includes humans and nonhumans as one, each an element of a sacred whole. While this holistic notion has its critics who, like Payne (1997), condemn this tactic as reductionist, I stand by the use of the term “the Land” and recommend it to others. To me, it seems to lend genuine, intangible but meaningful nuances to ecological discourse.

Currently in practice in some schools there are many other linguistic ways to tackle the nature-human divide. Verhagen (1999) suggests capitalizing “Earth” as a proper noun, which denotes an existence equal to, if not important, a person. Likewise this can be done with the *Environment*, *Nature*, the *Land* or even the *Sky*, the *Sea*, the *Forest*, or the *Grass*.

Verhagen also suggests referring to the Earth as “her” (or, in my view, “Her”) rather than “it”, explaining that “the use of such language is closely related to students' identification of themselves as members of the web of life.” While being cautious of anthropomorphism, whereby nonhuman beings are rendered in terms of human characteristics, gendered language can be further extended to animals, plants or even “inanimate objects” to denote a sense of “living”. It might not seem entirely strange to refer to a dog as “she”, or perhaps even for describing an orca. But it certainly feels unusual at first to refer a mosquito, Douglas Fir, or a mushroom in gendered terms. Yet sometimes gender does give us pause, jarring us from the perceptions we normally take for granted. For example, when a teacher spots of bumblebee in the classroom, she may conventionally say, “KILL *IT!*” Choosing instead to use the gendered “KILL *HER!*” problematizes the act of killing, as “kill” and “her” when muttered together sound incredibly violent. At the very least, using gendered language causes one to stop briefly and marvel at how and why the phrase in question contains such bizarre undertones. It creates a *moment*—a space—wherein a previously-invisible assumption of modernity may become visible and open to critical consideration.

According to Singer (cited in Stibbe, 2001), the idea that humans are completely separate from the “animal world” is reinforced through a number of linguistic methods, some of which are specific to the English language. Singer notes how it is common in scientific discourse (and likewise in everyday speech) to talk about “animals *and* people” as separate types of beings, as if humans are not a type of animal. “Us” commonly refers to humans while “them” refers to animals. Mass nouns, nouns which present entities as an uncounted mass, are used to remove the individuality of animals. Stibbe (2001) gives an example of this in which, upon returning from a safari, some travellers remarked that “*we* saw giraffe, elephant, and lion instead of giraffes, elephants, and lions” (also galled “game”). Similarly, the use of mass nouns can be often heard during lunchtime, as students eat “some chicken”, “some lamb”, or simply “meat”. In the case of humans, these uses of language—“seeing human” or “some human”—make little sense. Perhaps this is one of the ways modern humans have managed to distance themselves from the animals upon which they depend, to conceptualize the mass oppression of other animals by avoiding language which reveals animal suffering. In other words, mass nouns and other language which masks the view of nonhuman animals as living entities is a kind of coping mechanism for humans, and a form of willing denial of dependence.

A language for the Land in education might then seek to tackle these oppressive uses of language in the same way we have tried to confront racist, sexist and homophobic language in schools through “politically-correct” terminology. That is, a true land of the Land needs to be “ecologically-correct”. For instance, rather than continuing the dualistic use of “humans *and* animals”, perhaps humans might be hereafter referred to as “human-animals” as a reminder that humans *are* members of the “animal world”. Animals (including human-animals) might be spoken of as “animal-beings” as a reminder that all animals are just as alive and intrinsically purposeful in the sense that human-animals believe themselves to be. If we need to be specific for the sake of clarity then use of the term “nonhuman

animals” can preserve the sense that humans are animals but at the same time retains the ability to specify those animals which are not human. Additionally, the terms “we” and “our” might be extended to include nonhuman animals, while use of “they” and “their” might be avoided whenever possible. This is similar to how “they” or “you people” are now considered quite unacceptable when used around discussions of race and ethnicity. Furthermore, parts of nonhuman animals used for food or materials can be called by specific count nouns rather than mass nouns. For instance, instead of saying “I’m eating chicken”, we can say “I’m eating *a* chicken” or “I’m eating the breast of *a* chicken”.

These slight changes to language, when used appropriately and concisely, are not just “spin” or empty rhetoric. While changing language alone may not be enough to completely rectify our relationship with the Land, these changes can serve to dramatically problematize modernity and create philosophical moments for reflection upon the assumption of Cartesian dualism. They are opportunities for the perspective of holism to slowly gain foot.

d. Ecocentrism and interdependence

Recommendations

The following suggestions provide ways through our uses of language to de-center the human perspective on the world and emphasize the interdependence between all entities:

1. Shift the focus of language *to* the Land, to how *we* are *all* wholly dependent on the Land’s capability to grow, regenerate and sustain life.
2. Recognize that it is our relationship with the Land which defines us as a people (Bonnett, 1999).
3. Root our language in the “natural world”, so that the entities of the Land play a bigger part of our daily conversations.

4. Resist the encroachment of technological language and language drawn from popular culture in the metaphors and linguistic devices we use to describe the world around us (Bowers, 1997, p. 5).
5. Resist “nature-based” terms and phrases words which have been co-opted by technological meanings.
6. Give greater acknowledgement to natural cycles such as the seasons and the life cycle of animal-beings in how we delineate our daily life.
7. Recognize *where* we live in terms of the Land rather than solely in terms of industrialized social structures.
8. Invite the Mountains, Forests, Birds, Rivers, Seas and Seasons back into our daily conversations.
9. Consider use of haiku and other forms of nature-oriented poetry to promote ecocentrism (Arran, 2007).
10. Allow students to imagine plants and animals just as they are, with intrinsic worth rather than in human-centred terms (Arran, 2007).
11. Enhance use of nature-based onomatopoeia, words that imitate sounds they describe (Nuckolls, cited in Muhlhausler & Peace, 2006).
12. Increase use of visceral, “living” elements of language to shift the discourse back toward a greater emphasis on the Land (Muhlhausler & Peace, 2006).
13. Use “poetic” language to balance out scientific, rational, mechanical, instrumental and technological ways of speaking and writing, and to “re-animate” our communication about the world.

Discussion

In this vision of a language for the Land in education, ecocentrism and interdependence take the place of anthropocentrism. That is, instead of using language which further perpetuates the perspective that humans are of central importance in the Land, that humans are detached from all other forms of life, the focus is shifted to the Land itself (while not refuting the unique qualities of human-animals) and to how *we* are *all* wholly dependent on the Land's capability to grow, regenerate and sustain life. This kind of language helps to break the human-animal's egotistic fixation upon itself. Not only are we (meaning, all life forms) dependent on the Land, but, as Bonnett (1999) suggests, "We exist *in* our relationship to nature". It is our relationship with the Land which defines us as a people. If we lose our relationship with the Land, we risk losing our very identities; we are then cut off, adrift in empty space without purpose. Through this most important of all social relationships we can find "our sense of place and purpose in the greater scheme of things" (*ibid.*)

How might we use language with our students to de-center the narcissistic human perspective? Bowers offers some ideas which might assist in re-centering the Land. When language—and hence, thought—is rooted in the "natural world", so that the entities of the Land play a bigger part of our daily conversations, we may find ourselves de-centered. When natural phenomena are used as "analogues for understanding human relationships...as well as human relationships with nature", then reciprocity with the Land is made a moral absolute (1997, p. 5). In other words, nowadays we may frequently find technological language and language drawn from popular culture in the metaphors and linguistic devices we use to describe the world around us, as explained in a previous section on mechanistic philosophy. The human brain may commonly be likened to a computer, while the human body might be described as kind of automobile which needs "gas in the tank" to function. Our daily lexicon is increasingly filled with new technological terms and phrases such as "to Google something" and "I-pod", while formerly

“nature-based” words have been co-opted by technological meanings as in the case of “Blackberry”, “Apple” and “virus”. It is no surprise that most children can likely name a greater number of popular web sites or television shows than they can recognize and name local types of birds or varieties of trees. As children spend less and less time in the Forests and near the Rivers around them, language based in the Land grows more and more marginalized and fragmented.

Re-centering language back in the Land means recognizing our intimate relationship with the Land itself, particularly in the local context. By giving greater acknowledgement to local and planetary cycles such as the Seasons or, say, the life cycle of salmon in how we delineate our daily life, or perhaps even our school year, we can gradually reintroduce “nature” back into our use of language. For instance, we can recognize *where* we live in terms of the Land rather than solely in terms of human culture signifiers. Rather than using conventional ways of describing geographical locations with students—*building # x, street x, city x, postal code, etc.*—I can introduce my school’s location as the following: “Hemlock High School is situated at the south base of the Coastal Mountain Range in a rain forest on the shores of the Burrard Inlet and in the watershed of Mosquito Creek, all within the traditional territory of the Squamish First Nations people.” By bringing the Mountains, Forests, Birds, Rivers, Seas and Seasons back into our daily dialogue about the world, this brings our connection with the Land back into focus. We slowly re-establish our sense of place.

Arran (2007) recommends the use of *haiku* and other forms of nature-oriented poetry to promote ecocentrism. He quotes Abram in discussing how not only do we need to put the Land back into our writing, but we also need to write language back into the Land and release the “budded, earthy intelligence of our words” (a good example of ecocentric language itself), the sense that language can become vivid and alive. We can do this, claims Arran (*ibid.*), by journeying beyond mainstream Western discourses to discover “new ways of representing the more-than-human world which break free

of the assumptions” of these discourses. The discourse of Japanese haiku seems to accomplish this sort of “breaking free” by allowing students to imagine plants and animals just as they are, with intrinsic worth rather than in human-centred terms. Haiku can promote more genuine, harmonious relationships between humans and the Land. To give one example, I shall borrow the following haiku from *Chiyo-ni*, one of the most accomplished female Japanese poets of the Edo period (cited in *ibid.*):

つくばうて / 雲を窺う / 蛙かな

Crouching / peering up at the clouds- / a frog

Note the simple imagery in which the human reader dissolves, leaving only the unfolding of the scene in the Land. There is no observer in the scene described, merely the clouds, the frog-being as the source of agency, and the subtle action. Here this frog exists as an animate being for her own purpose. In this way, we might imagine how poetry and other devices from the Arts may play a greater role in contributing to a language for the Land.

Nuckolls, cited in Muhlhausler & Peace (2006), notes how onomatopoeia, words that imitate sounds they describe, have become marginalized over time. In English these may include animal calls (e.g. *tweet*, *bleat*, *croak*, etc.) and other sounds of the Land. The Japanese language is well known for still employing many onomatopoeia in daily discourse, such as *sarasara* for the sound of a flowing river, *byuubyuu* for a strong gust of wind, *gerogero* for a croaking frog, and *hirahira* for a butterfly fluttering through the air. Increasing uses of these sorts of visceral language can also help to shift discourse back toward greater emphasis on the Land.

In fact, “poetic” language may be a particularly important part of balancing out scientific, rational, mechanical, instrumental and technological ways of speaking and writing. It is through poetic language that our communication about the world may be “re-animated” and re-enchanted. While further

elaboration here is outside the scope of this paper, future studies should include an exploration of the poetic aspects of a language for the Land.

e. Ecological justice and sanctity

Recommendations:

The following are some suggestions for orienting a language for the Land around justice efforts as well as to highlight the sacred qualities of the Land:

1. Challenge conventional language around ownership of animal-beings, Land and other entities typically regarded as forms of “property”.
2. Avoid referring to animal-beings as “objects [which] can be *bought, sold, and owned*” (Stibbe, 2001).
3. Avoid possessive pronouns such as “my dog” (Muhlhausler, cited in Fill, 2001).
4. Use stronger language than is usually associated with common words to challenge typically condescending assumptions about animal-beings and other entities in the Land.
5. Consider referring to life forms in human captivity—including classroom “pets”—more properly as “slaves”.
6. Reduce use of violent and offensive words like “road-kill” (Appel, cited in Arran, 2007)—in this case, consider replacing “road-kill” with “victim” or “casualty”.
7. Describe the “specimens” being “dissected” for biology-class as “corpses” which are to be “mutilated” or “violated”.
8. Distinguish between “murdering” an animal-being from “harvesting” or “killing” “it”.

9. Consider shifting justice-oriented language and metaphors involving entities of the Land toward more positive and non-violent connotations.
10. Question oft-spoken clichés which express violence and insult to other animal-beings.
11. Begin new linguistic traditions which better associate animal-beings with positive connotations of sociability, intelligence, curiosity, patience, compassion, resilience, and endurance.
12. Challenge the way students see inanimate “things” in their daily lives.
13. Point out the origin or earliest source of each “thing” students use by including the source with the material (e.g. “tree-paper”).
14. Rather than labelling parts of the Land as “our resources”, name them specifically for what they are—as Forests, Oceans, Rivers, and so on (Fill, 2001).
15. Strike out uses of misleading terms like “garbage”, “rubbish” and “trash” and, instead, specifically name the substance which is being “squandered”.
16. Try out other general alternatives to “garbage” like “waste”, “treasure”, “valuables” or “recycling”.
17. Emphasize the origin and authentic value of materials from and of the Land through a kind of *poetic thinking* (Heidegger, cited in Bonnett, 2002).
18. Encourage student to express a deep love for the materials which are a part of our lives and a true respect for their intrinsic “properties” (Smith, cited in Bonnett, 2006),
19. Help students see the so-called inanimate world around them as deeply meaningful, so they do not regard themselves as masters over “resources” but, instead, envision themselves as equal partners in the co-transformation of a world which is truly “alive”.
20. Rectify the popular notion of growthism that “bigger is better”.
21. Call attention to how growthism and “affluenza” is making a serious impact on the Land.

22. Accentuate the idea that “small is beautiful” (Goatly, cited in Fill, 2001).
23. Avoid describing “unchecked expansion”, “unlimited increase”, “sustainable profits” and “smart growth” in desirable terms.
24. Talk/write in a *positive* way about “how small something is”, “how slow something is” and “how little/few of something there are” to challenge growthism.
25. Converse about the beauty of balance and the ugliness of excess.

Discussion:

Just as the goal of *social* justice is to rectify the exploitation and oppression of various social groups of people, *ecological* justice aims to interrupt the domination of human-animals over other animal-beings and over elements of the Land itself.

The language of social justice is constantly changing to best restore honour and respect to peoples. For example, in Canada many people now commonly use the term “First Nations” instead of “indians” to emphasize the fact that aboriginals were the first inhabitants of North America, that there exist hundreds of separate and unique cultures under the signifier “aboriginal people”, and that “indian” was a term chosen by European “terrorists” upon beginning their conquest of the “New World”. Similarly, students who might have been dubbed in the past as “mentally retarded” (or in even more derogatory terms) are now more equitably referred to in some circles as “students with different abilities”. This implies that in fact *everyone* is different, everyone has different abilities, and everyone is, in some sense, “the Other”. While these newer terms might sometimes be used disingenuously in the form of spin, empty rhetoric or for the sake of political correctness, these words do function to construct and reinforce more just ways of perceiving the world’s peoples. Indeed, it is more problematic to use labels like “First Nations”, “students with different abilities”, “African-American” or “Two-Spirited” with a derogatory

intent. For instance, while I can imagine a student being addressed insultingly by “Hey, *you retard!*”, it is more difficult to picture a student addressed by “Hey, *you student with different abilities!*” as conveying the intent to belittle people with certain characteristics.

I have already mentioned several examples of justice-oriented language in relation to the Land: “animal-beings” instead of animals, “the Earth” instead of the earth, and living and nonliving entities referred in gendered terms such as “she” rather than “it”.

Continuing this discussion, a *justice-oriented* language for the Land must try to address language around *ownership*. Stibbe (2001) discusses the ways in which typical discourse allows oppressive language around animal-beings in particular to often go unchallenged. While it is strange (nowadays) to talk about ownership of humans, it is not unusual, especially in biological discourse in schools, to speak of animal-beings as under the legal possession of humans. Much like slaves of centuries past, animal-beings are regarded as “objects [which] can be *bought, sold, and owned*, a lexical set used routinely in everyday conversation when talking about animals. This reveals the common sense assumption that animals are property” (*ibid.*) Possessive pronouns such as “my dog” (Muhlhausler, cited in Fill, 2001), innocent as they seem, identify life with the idea of ownership. This same argument could be made for plants or for nonliving entities such as Land, oil and mineral deposits, and even the Earth itself.

Arran (2007) provides evidence for how language is used to invisibly further the separation of humans from the rest of the Land and to denigrate fellow animal-beings. For example, animals are used in negative analogies throughout everyday conversations—e.g. “chicken” meaning a coward, “pig” meaning a slob, “bird-brained” meaning stupid, etc. When animals are used for food or materials they are referred to in lifeless terms as “livestock” and “resources” which are “harvested” or “culled”. This is compounded by the tendency for parts of animal bodies to be called in “neutral” terms like meat, poultry, beef, mutton, and leather which serve to mask their origin in the cadavers of social, intelligent and

emotional living beings. Such discourse is not exclusive to animals, as it also applies to plant life—e.g. plant-beings framed as “wood”, “straw”, “fabric”, “lumber”, “pulp”, etc. Intended or not, these uses of language subconsciously remove from mind’s eye the reality of our interdependence with the Land. They justify the human empire’s tyranny over the Earth.

Educators attempting to rectify their use of language must become aware of oppressive language used when communicating about the Land. Sometimes this rectification can happen by educators choosing to use stronger language than is usually associated with common words. At first glance, these stronger uses of language strike many listeners as jarringly strange; they do not fit nicely with modernist assumptions about animal-beings and other entities in the Land. For instance, if life forms in human captivity—including classroom “pets”, a term which “recognizes the hierarchy of ownership” (Belk, cited in *ibid.*)—were referred to as “slaves”, what problems might this pose for speakers? What if offensive words like “road-kill” were “stricken from our vocabulary” (Appel, cited in *ibid.*), replaced with terms like “victims” or “casualties”? What if “specimens” for biology-class were called “corpses” which were being “mutilated” rather than being “dissected”? How would “murdering” a pig-being to provide an ingredient for, say, a school’s “Hot Dog Day” differ from “harvesting” or “slaughtering” “it”?

We also need to consider shifting justice-oriented language and metaphors involving entities of the Land toward more positive and non-violent connotations. Bonnett (1997) writes:

The metaphors for nature...transmitted through school science/technology might be carefully examined. To what extent do they reflect, and in turn reaffirm, an invasive attitude towards nature? And to what extent do these attitudes arise from root motives of domination and exploitation...?

In this light educators and students need to question oft-spoken clichés such as “hit two birds with one stone”, “black sheep”, “cook one’s goose”, “beat a dead horse”, “lame duck”, “turkey shoot”, and “scape goat” for their negative view toward animal-beings. Perhaps we can begin new linguistic traditions which, to name a few examples, better associate chickens with sociability over cowardice, pigs with curiosity over filth, and birds with resilience and endurance rather than with stupidity.

A language for the Land is neither truly justice-oriented nor truly ecocentric if it does not deeply challenge the way we see inanimate “things” in our daily lives. Many of us see paper as no more than a processed nonliving material or see the fuel heating homes and running automobiles as having no more significance beyond its utility, as a number on a billing notice. Even the Sun, when regarded from a mechanistic perspective, might be regarded by some merely as a dense sphere of gases undergoing nuclear fusion, around which our planetary body endlessly circles without purpose. I do not dispute the accuracy of these descriptions of paper, fuel and stellar bodies, but I believe I have shown earlier that seeing these “things” as resources in reserve for nothing more than human consumption is problematic in the sense that these perspectives have also led the people of industrialized nations seriously degrading the Forests, the Seas and the Soils.

As all “materials” we use in daily life inarguably come from the Land (and remain of the Land, even in altered form), what might happen if through our language we point out this origin or earliest source of each “thing” we use? From this perspective we might say that we write on “tree-paper” on a “tree-table” with a “mineral/tree-pencil”; we build houses on “sand-cement” with “tree-wood” frames; we drive on “rock-roads” and fill up our “mineral-cars” with “fossil-oil”; we wear “plant-clothing” and “flesh-shoes”; we drink “snow-water” and we eat “sun-fruit” and “sun-vegetables”. Instead of calling these parts of the Land “our resources”, let us consider naming them without a instrumental lens and, instead, specifically for what they are—as Forests, Oceans, Rivers, water and so on (Fill, 2001).

Similarly, we can strike out use of the terms “garbage”, “rubbish” and “trash” (etymologically, “anything of little use of value”, according to Harper, 2001) which tend to mask the innate value of materials, and openly name the particular substance which is being “squandered”. For example, as a teacher tosses paper into a “consumption can”, rather than saying, “I will throw away this garbage”, she might model her language by saying “I will *misuse* this tree-paper”. We may try out other general alternatives to “garbage” like “waste” (which has a double-meaning as the verb for “to squander”) or even “treasure”, “valuables” and “recycling”. Imagine students’ reactions when you describe how you “threw away your recycling this morning”! Through these use of language, we can pay respect to the entities of the Land which we share, and we can honour the Sun and the Earth as the givers of all sustenance and energy who ask for nothing in return.

Language by which we emphasize the origin and authentic value of materials in the Land might be referred to by such philosophers as Heidegger as elements of a kind of *poetic* way of thinking. This kind of thinking stands in contrast to what was earlier referred to as a “technological mode of being”. Bonnett (2002) summarizes how Heidegger draws the distinction between modern manufacturing and the work of a craftsworker or artisan. The conventional manufacturing process demands of the Land to supply “raw materials” for producing some “thing”, then reengineers the “resources” to achieve maximum yield according to some detailed blueprint. In contrast, an *artisan* works with her materials not to exploit them but in “a tradition to bring something into being”. She assumes a role of “co-responsibility” with time-tested cultural traditions which give the work meaning. The material itself plays a helpful role to show “itself” in the work piece. For example, a sculptor may work with the inherent textures and lustres in a stone to bring out a face which has been “slumbering” in the material, at the same time as preserving the stone’s integrity—the authentic Earth-sourced “stoneness”. According to Smith (cited in Bonnett, 2006), this approach can help us sustain a feel or a love for the

materials which are a part of our lives, a respect for their “properties”, an attentiveness to small details of ordinary life, and a more authentic mutual relationship between Self and the Land. The Land, then, is no longer just a factory which “produces an annual surplus for exploitation” (Rogers, 1994, p. 143). Through this perspective, it has become re-enchanted. It has acquired sanctity. A language for the Land, then, helps students see the so-called inanimate world around them as deeply meaningful, so they do not regard themselves as masters over resources but, instead, envision themselves as equal partners in the co-transformation of a world which is truly “alive”.

Finally, this new approach to language needs to rectify the popular notion that “bigger is better”. *Growthism*, as it is known, is a dysfunctional idea perpetually reinforced by commercialism in popular media. Those viewers subjugated to television commercials will quickly hear this tendency to emphasize extremes in size, as in the *Save-on-Foods* grocery chain’s jingle of “More, more, more!” or *Pizza Hut*’s exuberant claim, “Our pizza is so big, it never ends!” Even our schools seem obsessed with growth, as school practices often revolve around continually increasing standardized test marks or around growing student enrolment. Fill (2001) notes how growthism manifests itself in common language: how we say, “how big is the house,” not “how small”; “how fast is the car,” not “how slow”. The bigger quantity usually comes first in most phrases, as in “*bigger* is better” and “all creatures *great* and small” (Muhlhausler & Peace, 2006).

Educators need to call attention to how growthism and “affluenza” is making an impact on the Land. We need to think about how through our uses of language we can accentuate Goatly’s idea that “small is beautiful” (cited in Fill, 2001). For instance, we might avoid describing “unchecked expansion”, “unlimited increase”, “sustainable profits” and “smart growth” in desirable terms. Instead, might talking in a positive way about “how small something is”, “how slow something is” and “how little/few of something there are” help to challenge growthism? Might it be helpful to converse about the beauty of

balance and the ugliness of excess? Ultimately, tackling the language of growthism is akin to the challenge of tackling the ideology of unfettered free-market capitalism terrorizing the Land and enslaving the vast majority of the world's peoples in dreary patterns of consumption.

f. Complexity, diversity and agency

Recommendations:

Summarized here are some suggestions for how educators can highlight complexity, cultural diversity and specific human agency in a language for the Land:

1. Remind students through use of language that ecological issues are incredibly *complex*.
2. Exercise caution around reductionism so as not to over-generalize or lose sight of important details in ecological issues (Jickling, 2001).
3. Avoid *nominalisation*, a way of highlighting *processes* rather than actors by replacing more explicit explanations of agents with simplified nouns, hence avoiding the placing of blame on any one group of people (Hailiday & Martin, cited in Schleppegrell, 1997a).
4. Challenge agent-*less* uses of language around the Land (Schleppegrell, 1997a).
5. Express meaning in “full active clauses” which do not mask important details about the “who” and the “what” of ecological issues (*ibid.*).
6. Question the use of passive tense in scientific texts and other communications about the Land.
7. Employ *active* phrasing with agent-explicit language
8. Add qualifiers to nominalising language such as “anthropogenic”, or “human-caused” to indicate agency.
9. Describe ecological phenomena in greater detail using *plain* language.

10. Exercise caution around over-generalizing through such generic words as “human”, “anthropogenic”, “people” and “we” (Schleppegrell, 1997b).
11. Reflect as best possible the huge diversity of relationships with the Land among various peoples. Use qualifiers like “some” to recognize ecological differences among cultures.
12. Center conversations in a local region to help challenge sweeping, generic statements about ecological issues.
13. Promote *oral* communication centered in a local region as a way of sustaining time-tested local knowledge about the place in which we live (Bowers, 1997, p. 113).
14. Talk about the Forests, Rivers and Shores around which we live rather than speaking broadly about the Earth as an abstract whole, in order to highlight our collective responsibility to act. That is, *think globally, speak locally*.

Discussion:

A language for the Land needs to reflect the idea that ecological issues are incredibly *complex*. Of course, sometimes we need to simplify this complexity in order to be able to make some sense of what is happening in the Land. However, caution should be exercised around such reductionism so that it does not occur at the expense of overgeneralization or of losing sight of important details in ecological issues.

Linguistically speaking, Jickling (2001) calls words or phrases which devalue and reduce ecological language to meaningless levels “non-terminology”. He explains how “non-terminology” is similar to Orwell’s idea of *Newspeak* in the novel *Nineteen Eighty-four*, in which the English language is reduced in size and variety in order to eliminate words or phrases judged to be redundant or inefficient in communication of information.

Nomalisation is one type of this “non-terminology” which has developed through modernity as a way to communicate about ecological matters. According to Hailiday & Martin (cited in Schleppegrell, 1997a), nominalisation is a way of highlighting *processes* rather than actors by replacing more complex and explicit explanations of causes or agents with simplified nouns. These nouns make complex meaning implicit rather than explicit. They are commonly vague, masking multiplicity and blurring significant details in generalized terms (Muhlhausler, cited in *ibid.*). Typical examples of nominalising terms used to describe ecological issues include *habitat loss*, *habitat degradation*, *species extinction*, *pollution* (Schleppegrell, 1997a), *animal experimentation* (Fill, 2001), *ozone depletion* (Schleppegrell, 1997b), *global warming*, *climate change*, *deforestation*, *overfishing*, and countless other expressions from popular environmental movements and from the scientific study of ecology.

These abstractions may indeed allow us to communicate efficiently or to be able to categorize, say, a school textbook into thematic areas of ecological concern. But according to Schleppegrell (1997a), they also can cause us to overlook extremely important factors behind ecological issues. Most prominent of these factors is the notion of *agency*. Processes normally associated with a human or social agent (or cause) are nominally constructed with no agent identified. For example, in the term “global warming” we find no sense of who or what activities are causing this phenomenon, no implication of who is responsible. Instead the term speaks literally: *this phenomenon is the increase in temperature of the “globe”*. What or who is responsible stays silent. Likewise, the equally abstract term “deforestation” fails to make explicit *who* is removing Forest, *where* these people are doing this, or *what* specific types of forestry operations in particular are causing this condition. While the term “clear-cut logging” may be a slight improvement in that it specifies a particular way of forestry as detrimental, still absent is the role of the human agent in this jargon (also, the term “logging” tends to “log-ify” or “thingify” tree-beings). By obscuring or omitting reference to agents, these linguistic representations of ecological

issues suppress the roles played by actors or institutions and do not make explicit direct causes. They emphasize process over accountability, avoiding direct blame of any group of people.

On this point, Schleppegrell warns educators:

If the real agents of the destruction of the environment are not named, then the real solutions to those problems cannot be identified... This lack of explicit discussion of causes then makes it difficult for students to envision and adopt appropriate solutions... If students are to attribute agency and imagine realistic solutions to environmental problems, the roles of actual social agents must be clearly identified.

From these words we may infer the importance for educators and students to begin to challenge agent-less uses of language around the Land. Educators need to express meaning in “full active clauses” which do not mask important details about the “who” and the “what” of ecological issues. Schleppegrell calls this “grammatical agency”: the “presence in the clause of the participant which carries out the action of the verb.”

If a language for the Land is to truly express agency—to become agent-*full*—what might it then sound like? It most certainly would not contain the passive tense sometimes used in scientific texts and other communications about the Land. Schleppegrell gives an example of passive phrasing: “Many animals are killed in a year. Animals are becoming endangered. Trees have been cut down.” Note how this clinical language avoids explicitly stating who or what is committing these offences. In contrast, a language for the Land must employ *active* phrasing. Corresponding to the previous examples, the following statements demonstrate this active, agent-named language (as well, they include some of the earlier suggestions around holism): “Because human-animals *kill* many nonhuman animal-beings in a year, human-animals are *endangering* (or threatening with death) these other animal-beings. Furthermore, human-animals are *cutting* down (or killing) tree-beings. In this way, human-animals are

de-foresting (completely destroying) the Forests.” (It should be noted how this statement still has the flaw of remaining vague about the particular animal-beings and particular geographical region under consideration.)

Other ways of expressing agency might be found in adding qualifiers to nominalising language. Perhaps the term “anthropogenic” (human-caused) can be added as a kind of prefix to various of the above nominalisations; for instance, “anthropogenic global warming” (which is already sometimes used in ecological discourse) or “anthropogenic clear-cut logging”. Still, these phrases feel cumbersome. Instead it may be better to simply describe the phenomenon in greater detail using plain language. For example, rather than invoking the blanket terms “global warming” or “climate change” we may more explicitly state, “the idea by which the area above the Earth’s surface is over-heating due to *humans* burning fossil-fuels like oil and coal in excessive amounts, threatening many forms of life.” While this example is not without its flaws—for instance, what counts as “overheating”? What counts as “excessive”?—it seems to come a touch closer to an expression of social agency.

In bringing agency back into the forefront of ecological discourse in education “we” must also exercise caution around over-generalizing through such generic words as “human”, “anthropogenic”, “people” and “we”. When these words are used in ecological discourse it seems to be suggested that *all* of humanity is equally culpable for the degradation of the Land and *all* peoples are equally responsible for future reconciliation. Schleppegrell (1997b) finds this broad condemnation of all human groups pervasive in educational materials and school texts around ecological issues. For example, she cites a video about biodiversity which contains the line, “*We humans* have upset the balance of nature, extinguishing biodiversity” (italics mine). Here the phrase “we humans” appears to represent a generic and anonymous people which cannot be identified as a specific group. However, Schleppegrell argues, “not all human beings share this responsibility” of dominating and exploiting the Land. For instance, we

may assume that impacts (or “ecological footprints”) on the Land by people in industrialized nations such as Canada and the United States are vastly different—both locally and globally, currently and historically—than that of traditional Amazonian tribes not yet “touched” by industrialization. More narrowly, even within nations such as Canada there exists great diversity from place to place and from people to people in the severity of ecological impacts. The impact of people living in sprawling suburban areas of Calgary is significantly different than the impact of people living in traditional Mennonite communities in Ontario, and still different than the effect on the Land from the inhabitants of the tiny, remote village of Pangniting on Baffin Island. Thus our language must reflect as best possible the huge diversity of relationships with the Land among various peoples. Using qualifiers like “some”—as in, “*some* humans” or “*some* of us”—can help to allow for ecological differences among cultures. Furthermore, remembering to center our conversations in a local region will help to challenge these sweeping, generic statements about who is at fault.

Incidentally, the promotion of *oral* communication may lend itself to a language for the Land centered in a local region. In fact, Abram (cited in Arran, 2007) locates the beginning of the separation between humans and “the rest of nature” (notably, another positive use of language) not in the innovations of Descartes but, rather, in the invention of writing systems. Writing allowed, and continues to allow, a greater exchange of ideas from around the world. Compared to when oral communication was the norm, language became no longer “fine-tuned to the community and Land in a particular region”. Instead language grew disembodied; traditional stories about local animal-beings, plants and Rivers were lost in a flood of writing from different locations, times and cultures. This saturation by distant information is further compounded by modern communication technology and ease of travel, which people like Bowers would claim has intensified the loss of local wisdom under the guise of globalisation. Schools are fitting examples of this overflow of knowledge from other locations, since

most of what is taught in standard curricula are cultural ideas originally from Western Europe or from Greek/Arabic culture. While neither discounting the great wealth of useful information we draw from beyond our region nor ignoring information about the state of the Earth as a whole, it is important to emphasize oral communication as a way of sustaining local knowledge about the place in which we live. As Bowers writes, “oral-based cultures are less likely to evolve along the same technological pathways taken in Western cultures already grounded in anthropocentric metanarratives” (1997, p. 113), meaning that oral communication helps to reproduce those historical and time-tested traditions from the local setting.

Incidentally, when language is localized to the specific places where we live, learn and play, it becomes much more difficult to suppress agency. In other words, “we” can hide from blame when the conversation is broadly about the Earth as an abstract whole, but when we talk about the Forests, Rivers and Shores around which we live and upon which we directly depend, our collective responsibility to act suddenly emerges. This may be why the *NIMBY* (*not-in-my-backyard*) principle shows itself in local outcry against such social projects as river dams and power line construction while global threats such as the human-caused thinning of the Earth’s ozone layer tend to be less strongly opposed at a local level.

g. Collectivism and people-power

Recommendations:

Here are a few suggestions by which a language for the Land in education might emphasize collectivism over individualism:

1. Avoid telling students to “think for yourself” and “figure it out on your own”. Students might inevitably reproduce ways of thinking which they draw from pre-existing modernist culture.

2. Remind students that ecological issues “rarely involve individual actors making decisions that destroy the environment” (Schlepppegrell, 1997a).
3. Remember that individuals are deeply embedded in a particular culture or set of cultures.
4. Recognize the inseparability of the individual from all of society and from the great trajectory of history.
5. Remind students that the great changes in the Land are *caused* by collective ways of living, by societal practices and by large, systemic and institutional structures.
6. Discuss how it is only through collective action which addresses these societal practices and structures that we can bring about lasting change.
7. Carry on debate over how large cultural change happens when people come together and organize *as a populace* to take action.
8. Cut down on the use of such individualistic terms as “I”, “you”, “one person” and so on (Halliday, cited in Fill, 2001).
9. Phrase language with “we”, “us” and “our community”.
10. Speak less about seemingly context- and culture-free *individuals* in history and more about how the cultural and societal context around these individuals provides them significant proportions of their accumulated power and influence.
11. Inspire others by the statement “*We* can make a difference!” rather than the individualistic phrase “*You* can make a difference.”
12. Share stories of *groups* of people, societies, or mass cultural movements in history which have made a significant difference to illustrate the importance of “people power”.
13. Employ oral and face-to-face communication to assist in situations where the printed word may only reinforce the notion that students are individual “observers” (Bowers, 1997, p. 113).

14. Suggest ways students and staff can peacefully organize, work democratically together and make collective decisions which are equitable.
15. Find room for dissent—for the ideas of “the Other”.

Discussion:

Before discussing the ways in which collectivism can be woven into a language for the Land in education, it is first necessary to revisit the modernist concept of *individualism*.

The modernistic way of thinking is saturated with *individualism* (Furman & Gruenewald, 2004), a concept born out of Cartesian dualism and the Enlightenment. In modernity, deep questioning of dogmatic authority allowed individuals in some nations to gain “freedom” from brutal oppression by such regimes as those occupying various churches or comprising the particular state in power. Indeed, the right of an individual to the “pursuit of happiness” is an integral part of liberal traditions of democracy, written into such pivotal document as the *United States Declaration of Independence* and the *United Nations Declaration of Human Rights*. Individualism remains a key driver of capitalism and consumer society wherein the economy depends upon each person to be a “rational autonomous individual utility maximiser” (Devine & Irwine, 2005) in order to sustain the cycle between production and consumption (and then “disposal”) of goods. This consumer-oriented structure comes with a heavy consequence for the Land, directly resulting in many serious ecological issues.

Language around these ecological issues, when based on modernist assumptions, tends to perpetuate individualism. Even the very structure of grammar in a pronominal system (where “I” is commonly the subject of a statement) reinforces the notion of the importance of the individual in society (Halliday, cited in Fill, 2001). Furthermore, Bowers argues that schools are a form of education which encourages the belief that the *individual’s* rational process is the ultimate basis for authority (1997, p.7). For

instance, when studying about the Land (as with other “topics”), students may be told through constructivist pedagogy to “think for yourself” and “figure it out on your own”—as if each student represents a self-contained entity free of influence from greater society. When ecological issues are presented without agency or in generic terms, it suggest in turn that *individuals* must act to “save the planet”, while at the same time it ignores the fact that “these issues rarely involve individual actors making decisions that destroy the environment” (Schlepppegrell, 1997a). Students are commonly told, “*One person* can make a difference” and “*You* can make a difference!” in taking action for the Land through simple behaviours like recycling and changing light bulbs. Students may be told stories about great *individuals* throughout recorded history (Nelson Mandela, Martin Luther King, etc.) who are thought to have significantly altered the world around them. These examples and uses of language can function to further reinforce the notion of the ultimate importance of the individual in society.

Yet these stories of great individuals “making a difference” often ignore important circumstances. For instance, in the case of Mahatma Gandhi, conventional rhetoric begs the question of how much of an impact he would have actually made on the world if 1) he was not raised by his particular parents; 2) sent to England and taught law by British professors; and 3) supported by his devout wife and children, by the faithful members of his ashram, by his religious mentors and political allies? If large portions of India’s population had not banded together in non-violent non-cooperation, would Gandhi have been granted such a prominent role in history? Recalling John Donne’s ancient piece of wisdom that “no man is an island entire of itself” seems appropriate here in pointing out the common fallacy underlying the language of individualism. Underneath the oft-used line “you can make a difference” exists a problematic conceptual leap identifying the individual as *the* source of societal change.

Levin (1998) writes: “We should also note that students do not participate as free-form individuals, but in a social context that has powerful influences on their thinking. We shouldn’t make the mistake of

thinking that individual desires precede society.” In other words, individuals always exist in the context of a culture which has evolved over thousands of years, perpetuating itself through interactions between people using language. Individuals are *immersed* in culture. *Yes*, students are unique individuals—this should not be forgotten lest we slip into the trap of communism or other fascism-prone arrangements. But students are also deeply embedded in particular a culture or set of cultures. This culture fills an enormous part of their individual identities. Because of this the very idea of “thinking for yourself” is almost entirely impossible; students will inevitably reproduce ways of thinking which they draw from pre-existing culture. This is not to argue that no original thought is possible or that we are completely bound by the “iron cage” of determinism. But it is to properly recognize the inseparability of the individual from all of society and from the great trajectory of history.

It is this impossibility to completely separate the individual from society that needs to be recognized by educators in our use of language around ecological issues. Students must be constantly reminded that because the great changes in the Land are *caused* by collective ways of living, by societal practices and by large, systemic and institutional structures, it is only through collective action which addresses these societal practices and structures that we can bring about lasting change. This is not to discount the “small” acts of individuals or the picking of “low-hanging fruit” like changing light bulbs. After all, small acts by many individuals do add up. *Indeed*, this is the point: large cultural change does happen when people come together and organize *as a populace* to take action. Gandhi needed allies and followers to effect change as much as he needed his inner spiritual sense of Self. He needed to draw upon ancient traditions of resistance, subversion and religious doctrine to build up a movement centered in the idea of nonviolence. To put it simply, completely alone with no connection to the greater society or to history, an individual is entirely powerless. Therefore, this importance of collectivism, of the

“giants” on whose shoulders we constantly stand, must be reflected in a language for the Land in the most profound sense possible.

What are some examples of more collectivist uses of language? Surely, whenever sensible, a good start is to cut down on the use of such individualistic terms as “I”, “you”, “one person” and so on. Phrasing language with “we”, “us” and “the community” are good alternatives. It may also help to speak less about seemingly context- and culture-free individuals in history (such as Barack Obama, as he is often made out of be) and more about how the cultural and societal context around these individuals provides them significant proportions of their accumulated power (such as Obama’s family and mentors and those groups who fought against racism since the time of slavery). Recall, for instance, the middle word in Obama’s effective campaign mantra “Yes *we* can!” Note that it was not “yes *you* can” or “yes *I* can”. It was “we”, the people, working *together*. More accurately, students can be inspired by the statement, “*We* can make a difference!” Sharing stories of *groups* of people, societies or mass cultural movements in history which have made a significant impact is another way to illustrate the importance of “people power” beyond mainstream practices which lead to disingenuous celebrity worshipping.

Again, employing oral and face-to-face communication can assist in situations where the printed word may only reinforce the notion that students are individual “observers”, rather than populist participants (Bowers, 1997, p. 113). Bowers has also noted how use of computer technology tends to strengthen notions of individualism, although it may be argued that more recent social networking sites proliferating online may both bolster and hinder a collectivist perspective.

Finally, suggesting ways students and staff can peacefully organize, work together democratically and make collective decisions which are equitable can be of great aid and inspiration. Our language needs to find room for dissent, for the ideas of “the Other”. Thus, pluralistic democracy may be an

essential element of a politically powerful language for the Land in education which should not be overlooked.

To summarize this section, I have made some linguistic suggestions for what a language for the Land in education might sound like in practice. Undeniably, this language needs to be deeply justice-oriented, holistic, ecocentric, collectivist, respectful of diversity and reverential of ecologically insightful disciplines, and it must allow for both complexity and human agency. It needs to be “congruent” with our intentions and “accountable” to our actions. Foremost, a language for the Land must serve to re-enchant our perspective of ourselves and the rest of the Land, and must breathe life back into way we see our relationships with all other living entities.

These suggestions mark only the beginning of an exploration of the multitude of ways which we can speak and write a brighter, kinder, more meaningful future into existence. This work must not end here. I hope to share in the process of developing, implementing and sustaining a language of the Land to help problematize existing practices and assumptions in schools. By problematizing these practices it may be possible to inspire new ways of teaching and learning, and to help to conserve cultural wisdom born out of times long ago. As a collective, *we* can find ways through which we may better communicate about that which sustains us and nurtures us—the Land, the Earth, the Place to which we belong. Together we can learn to reclaim a place in the Great Chain of Being. We will learn, in time, how to express love for our magnificent union with the Land.

Inclusion: A beginning of dialogue

The purpose of this project was to better understand my own personal practice in my role as a teacher helping students learn about ecological issues. In particular, I focussed on a single year at my school. During this year I helped to ignite a series of initiatives around inspiring change in students and staff to take action and address some of the great challenges facing the Land. By exposing through this study the deep cultural assumptions underlying my practice, I had intended that others might be able to identify some similarities between my practice and their own. I had hoped, and continue to hope, that this will spark among fellow educators and activists greater dialogue about ecological pedagogy in the context of ecological issues.

This project focused specifically on language as a pluralistic “tool” not just to transmit information, but to uncover hidden cultural assumptions lying beneath educational practice. This deeper conceptualization of language is seldom appreciated by educators (including, previously, myself) because 1) it makes up such an enormous but invisible part of our daily lives, 2) it is seen through a mechanistic philosophy as mechanical, as only a means to an end, and 3) some people, having rejected dialectical thinking, do not accept the idea that language can be many things at once. However, from a postmodern perspective, language can serve both to construct and to sustain cultural assumptions about the world. That is, language helps to both construct the way we understand the world and to sustain historical perspectives on reality. Language is both a tool *and* a constructor/preserver of discourse—that is, a kind of carpenter of sets of shared conceptual frameworks for human understanding.

Using this pluralistic notion, records of my language use during the year in question were analyzed. These records consisted of documents which bore witness to a wide range of presentations at staff meetings, school-wide assemblies and public events. In total, twenty documents were examined as a

representative sample of my own uses of language throughout the year. From these records I attempted to identify and classify various uses of language. Repetitive uses of phrases or particular terminology were grouped together wherever possible.

The examination of linguistic evidence resulted in the identification of 22 major assumptions and 16 minor assumptions which underpinned the school year's discourse around issues of the Land. These assumptions were grouped together into 19 major themes or "grand assumptions".

The majority of these grand assumptions had a close resemblance to what was identified as "assumptions of modernity". *Modernity* is taken here to mean the science-based cultural movement spreading out of Western Europe from the 17th Century onward. Based on this finding, shown in the figure below, I was able to conclude that from the assumptions underlying my use of language, I may have been invoking a predominantly modernist discourse.

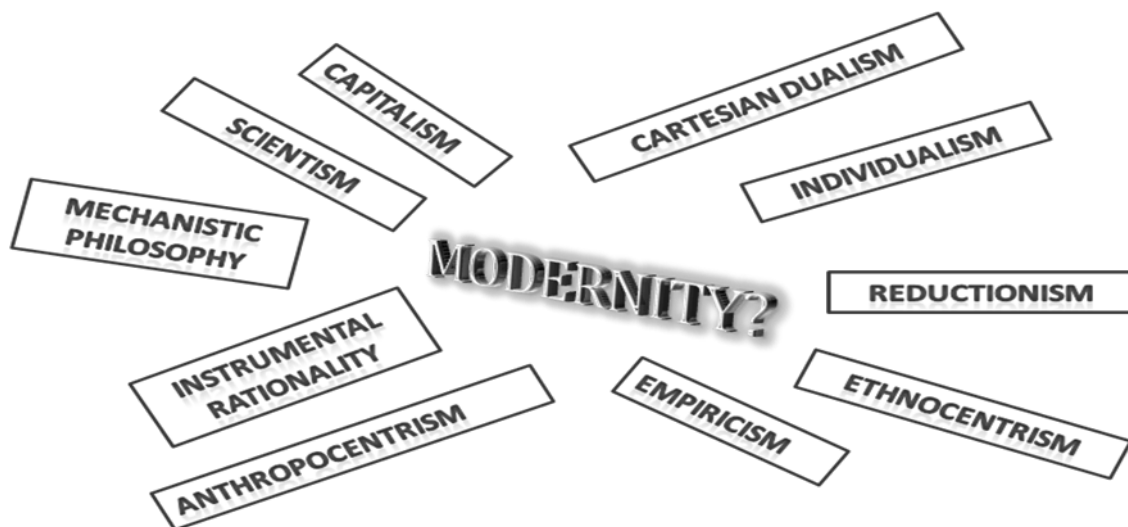


Figure 3. The assumptions of modernity identified through my use of language.

In addition to my practice being based on modernist assumptions, the notion of how *schools* are largely modernist institutions was investigated. Science and scientific thinking was found to be at the

heart of schools in the particular context of learning about ecological issues. This supported the idea that the common model of the school appears thoroughly steeped in the assumptions of modernity. Specifically, the conventionally reductive, rational, value-free, culture-avoiding, apolitical, and mono-disciplined treatment of ecological issues in schools appeared to originate in the school's foundations in modernist ways of thinking.

That schools are based on modernist assumptions is problematic because the spread of the Western scientific way of thinking—as an integral part of the modernistic way of being—has resulted in unimaginable changes to the Land and a profound transmutation of our long-term relationship with the Earth. This connection raises the possibility that, in spite of good intentions, schooling around ecological issues only perpetuates the modes of thinking which has led to these very local and planetary issues. In other words, there seems to be a contradiction between the means and the ends of education around ecological matters. While the ends tend to include raising awareness and taking action for the Land, the means are comprised of uses of language based on modernist assumptions—the very assumptions associated with the ecological issues we are seeking to address!

At the level of my own practice, it can be inferred that while my intention was to change how students think about ecological issues, my use of language may have served only to reproduce modernist ways of thinking—the same ways of thinking which are believed to have led to these great changes in the Land. That is, there is a plain contradiction between my intentions and my assumptions. These contradictions are problematic if I am to address ecological issues through my practice with students.

It is our job as educators then to look at how we might be sustaining ecologically destructive ways of thinking about and living in the world. Since present ecological issues can be thought of as consequences of modernity, it may be beneficial in modernist institutions like schools for educators to challenge and seek alternatives to modernist discourse around ecological issues.

One of the most ground-shaking ways we may do this as educators, I have argued, is through our use of language. Wendell Berry once conceived that “if we are to rectify our relationships with each other and the environment, we must *first* rectify our language.” We must look at our uses of language as a key to unlock the cultural assumptions underlying our respective practices. Language is an excellent means for such an examination. As I have done here, educators can use language to examine their own cultural assumptions to see if there is a mismatch between their intentions—inspiring action, say—and their hidden assumptions (anthropocentrism, ethnocentrism, mechanistic philosophy, etc.). We need to critically look at such assumptions to see whether these symptoms of modernity in fact show up in our respective practices. We need to think about how we might be further perpetuating these patterns of thinking through our various approaches both inside and outside the classroom. We must thoroughly examine our hegemonic beliefs about our relationships with the Land for symptoms of inequity and oppression. Finally, educators together with their students need to appraise the assumptions of modernity—both those with positive *and* negative consequence—and evaluate their own places within the modern age.

A postmodern approach to education would help educators perform this “appraisal” of the assumptions so pervasive in schools, especially around ecological issues. Postmodernism is a cultural movement which examines, evaluates and—when called for—finds ways to actively resist reproduction of the assumptions of modernity, the ideas passed down from the Enlightenment and from the structures of the Industrial Revolution. It draws on a variety of different perspectives, disciplines and ways of thinking which challenge the modernist writing of history.

In my discussion of modernist assumptions underlying my practice, I “shifted” each of the various assumptions of modernity toward a postmodern alternative by choosing their approximate opposite. This “reversal”, shown in the figure below, reflects not only a questioning of modernistic ways of being

in the world, but also a search for new ones on which to base our pedagogies as educators. It challenges assumptions of modernity in order to help education remain relevant in helping youth address the great ecological challenges facing us as a people and as fellow inhabitants with all entities living on the Earth. These are some of the bases on which I have proposed we construct a postmodern approach to education around ecological issues.

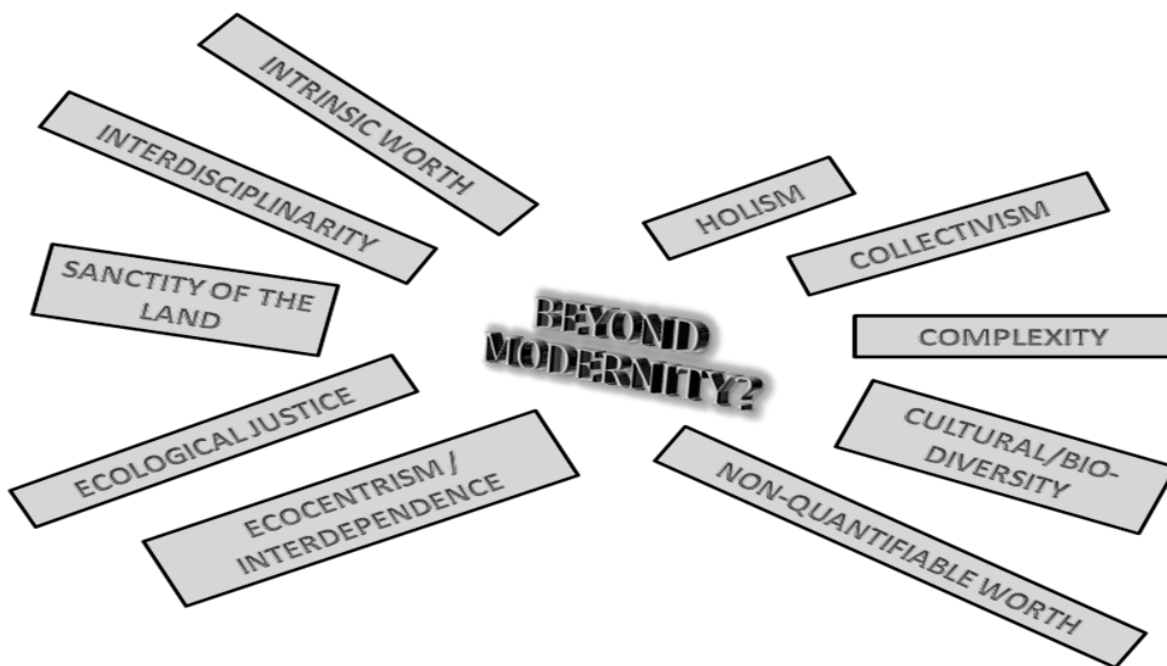


Figure 4. Possible bases for a “meta-modern” approach to the Land.

Finally, I investigated what such a postmodern approach might sound like within schools in terms of language. Having identified some assumptions which challenge those of modernity, I proposed some ways they might be translated into a *language for the Land*. A language for the Land in education is one which locates or sustains discourse beyond the assumptions of modernity or which resolves these assumptions by reintegrating them with other ways of thinking. This approach to language, foremost, needs to be “congruent” with our intentions and “accountable” to our actions. A language for the Land

must also serve to re-enchant our perspective of ourselves and the rest of the Land, and must breathe life back into way we see our relationships with all other living entities. In summary, this form of language should (to cite some key examples):

- be “ecologically-correct”, rather than only politically-correct (e.g. referring to humans as “human-animals”; extending “we” and “our” to nonhuman animals)
- be justice-oriented, addressing all oppression and inequity of the entities of the Land (e.g. naming “our resources” specifically for what they are—as Forests, Oceans, Rivers, and so on)
- use holistic terminology, expressing a seamless and interdependent relationship between humans and the rest of the Land (e.g. including humans and nonhumans as fully integrated in *the Land*, each an element of a sacred whole)
- respect cultural ways of knowing other than those of the “modern Western” hegemony (e.g. acknowledging existing cultural patterns of everyday life that do *not* degrade the Land; centering conversations in a local region to help challenge sweeping, generic statements about ecological issues)
- de-center science as the ultimate source of truth and allow to the forefront other disciplines which contribute to ecologically responsible ways of thinking (e.g. discouraging use of conventional terms like “objectivity” and “scientific method”; giving increased attention to the linguistic approaches of the Humanities and social sciences)
- restore a sense that the Land is sacred, that all entities have intrinsic purpose beyond economic significance (e.g. helping students see the so-called inanimate world around them as deeply meaningful and envision themselves as equal partners in the co-transformation of a world which is truly “alive”)

- be centered in the perspective of the Land, rather than in only a human-centered viewpoint (e.g. grounding our language in the “natural world”, so that the entities of the Land play a bigger part of our daily conversations)
- emphasize the collective as the most powerful source of cultural change in addressing ecological issues (e.g. reminding students that the great changes in the Land are *caused* by collective ways of living, by societal practices and by large, systemic and institutional structures)
- allow for the irreducible complexity and inherent mystery of the Land (e.g. expressing meaning in “full active clauses” which do not mask important details about the “who” and the “what” of ecological issues)

It is my hope that future studies by educators can develop these examples more fully, evaluate barriers to their use, and find ways of integrating them into our curricula and into our pedagogies.

Obviously there are always barriers to implementing such changes in the use of language around ecological issues. Since modernist assumptions are so deeply entrenched in schools, these barriers are not to be taken lightly. Resistance from students and fellow educators is almost certain and is an important part of this dialogue. In some cases undertones of resistance may represent a sign of a deeper wrestling with these complex ideas. Resistance then is an opportunity to bring cultural assumptions to the forefront and to examine their congruence with our intentions around ecological issues. Further, educators can critically model to their students their own personal examination of language and assumptions underlying their practice.

Although the mainstream educational approach around ecological issues may be steeped in assumptions of modernity, there are many emerging pedagogies which already contain language which challenges modernity. A full catalogue and description of these pedagogical approaches is beyond the

scope of this paper, but in the future I wish to explore these as possible areas from which to draw a language for the Land. They include: *Ecopedagogy*, *Ecofeminism*, *Environmental Justice education*, *Ecojustice*, *Critical Pedagogy of Place*, *Futures Education*, the *Waldorf* education approach, the *Earth Charter* initiative, policy initiatives both locally in British Columbia and at the level of the *United Nations* and *UNESCO*, *Education for Sustainability*, *Democracy Education*, and *Indigenous Education*. Each of these may hold the promise of challenging modernist assumptions while helping students learn about ecological issues (a redundant statement).

In my statement of purpose at the outset of this paper, I presented an invitation to dialogue by which the writer and the reader would *co-produce* meaning. Indeed, I do hope this will be the *start* of a conversation which *includes* others, or at the very least is an encouragement for the continuation of dialogue for those who care deeply for the Land. This work must not end here. I hope to share in the process of developing, implementing and sustaining a language of the Land to help problematize existing practices and assumptions in schools. By problematizing these practices it may be possible to inspire new ways of teaching and learning, and to help to conserve cultural wisdom born out of times long ago. We can and we must find ways through which to better communicate about the Land and our relationship with *Her*. Together with our students we will learn how to cherish and nurture our union with the Land. In these ways, I invite educators to continue to think about how a language for the Land might serve to re-inspire our perspective of ourselves and the rest of the Land.

It will not be easy or without resistance. It will be tempting to fall back on our old, familiar cultural assumptions and ways of using language. A challenging, chaotic path forward is almost certain. So can we do it? Can we take the leap?

I believe we can.

Appendix A. Omitted themes from Section 2.

a. *Pessimism and optimism*

Pessimism and optimism—background:

According to the Oxford English Dictionary (2002), *optimism* is defined as “hopefulness and confidence about the future or success of something.” It is the general sense of belief that “ultimately good will prevail in the world” (Emerson, cited in Harper, 2001) and is based on a positive vision of what is to come. In contrast the aforementioned dictionary defines *pessimism* as “the lack of hope or confidence in the future.” It comes from the French *pessimisme*, meaning the “worst possible condition” (Harper, 2001).

In the interest of motivating others to act, arguments about the Land can always evoke notions of either positivity and optimism or negativity and pessimism, or some more complex combination of the two.

Positivity/optimism—evidence:

The year’s recorded discourse reveals *both* an underlying optimism and a dark pessimism in my use of language. First, a positive or optimistic outlook can be observed throughout a number of linguistic examples. These examples include invitations of school staff to: uphold hope for the future ¹⁷, dream about possible realities, formulate their own visions of the school’s eco-action program ¹⁶ and imagine their school as a “model of a sustainable school to the rest of the community” ¹⁴. Students too are encouraged to imagine a world with no garbage ¹⁴ and an entire Kenyan community (to which the school has connections) with more fuel efficient stoves in all their homes ⁸.

School members are frequently reminded that it is *possible* for both the school population and the lone individual to make a real difference in solving ecological “problems”. They are told to have confidence that, although these global “problems” may seem overwhelming, they can and will be solved in time. In some instances the use of language mimics the familiar declaration of *Yes we can!* included in this paper’s title.

In fact, even the oft-used term *sustainability* contains within it a seed of positivity—that is, *sustainability*, or the *ability* to sustain. Perhaps as a consequence sustainability is perceived in some circles (particularly in the business world) as a brighter alternative to other gloomier approaches commonly associated with environmentalism. The term sustainability seems to imply a sense of *self-efficacy* (also known as locus of control), the expectation that an individual’s behaviour will be effective (Bandura, cited in Gillham & Reivich, 2004). Self-efficacy also means a person “has the ability to bring about change through his or her own behaviour” (Newhouse, cited in Kollmuss & Agyeman, 2002).

Further to “sustainability” my use of language discourse is rife with this encouraging “can-do” spirit, although not without exceptions.

Environmental protection will be something that we <i>can</i> be proud of, and take pride in our school. ⁹	This is something that we <i>can</i> do about our impact, that is REAL, that will <i>make a real difference</i> ... ⁸
<i>What’s your vision?</i> ¹⁶	This problem <i>will be solved</i> ¹⁹
<i>Imagine</i> no garbage / I wonder if you can... You may say that I’m dreamer/ but I’m not the only one / I hope... you’ll join us... ¹⁴	We <i>can</i> make up for emissions... we stand to <i>benefit</i> as well: a <i>cleaner</i> atmosphere, a <i>healthier</i> and <i>more harmonious</i> Earth. ⁸
...if we <i>can</i> prove that we can go one day	But in one or two years it is a <i>hope</i> that

<p>without making (garbage), then we <i>could</i> definitely go... a month, or maybe even a year. I truly believe that within your lifetimes... it can be done, there <i>will</i> be no such thing as (garbage) in the future. We <i>will</i> follow the way of nature... where everything is recycled and reused and there is no such thing as waste. ¹⁴</p>	<p>Hemlock will be a place which has <i>grown</i>, is <i>different</i> from what it was, a place which <i>increasingly</i> acts out our green-coloured values of compassion--and a school which is fully <i>moving</i> in a <i>forward</i> direction. Maybe in five years, it is a <i>hope</i> that Hemlock will be a <i>model</i> of a sustainable school to the rest of the community and more a part of the <i>solution</i> than of the problem. ¹⁷</p>
<p>How to <i>INSPIRE</i> CHANGE ¹⁹</p>	<p>HEMLOCK HIGH SCHOOL'S SUSTAINABILITY POLICY ¹⁰</p>
<p>...UNLESS each of us comes away from today with a real, true plan and promise to change what we do in some part of our everyday lives. It could be something small, or something <i>great</i>. ¹⁸</p>	<p>...committing to a <i>positive</i> change in what we do, how we impact the Earth, is our mission today. ¹⁸</p>
<p><i>INCREASE</i> the level of visibility in the community as a <i>positive</i> example of an environmentally-responsible organization ¹⁰</p>	<p>...<i>imagine</i> this: every school and every home in this community has an EFFICIENT STOVE... ⁸</p>

Table 7. Positive/optimistic language identified in the discourse. Italics emphasize key words.

Pessimism/negativity—evidence:

Near the beginning of the year there is some caution expressed about the use of fear or guilt-inducing tactics through which one might try to increase concern and action for ecological issues in others. “Fear, guilt and even some forms of eco-education,” I recognize, “are only temporary motivators” ¹⁷. Further to this I comment, “Of course, all of these cheap attempts at producing sustainable behaviour are themselves unsustainable” ¹⁷. While there is plenty of evidence which suggests I do not strictly follow

this note of caution throughout the year, these statements seem to imply that as educators we should at least try to remain positive in our use of language.

As listed in *Table 8*, words and phrases with perceived negative connotations do appear regularly in the discourse. Some show up in very subtle ways, perhaps used so frequently that they seem to “slip the radar” by which one can self-moderate the amount of negation in speech and text. Common terms such as “reduce”^{2, 11, 13, 20}, “lessening”⁸, “less”¹³, “decrease”¹⁰, “lighten”¹⁹, “NEVER”¹³, “lack”⁹, “only”³ and “cannot”¹³ all can be seen as implying that tackling ecological challenges is about *not* doing certain harmful things or about doing certain harmful things *less*. In other words, it is more about not doing (or doing less) something than it is about taking positive action to build up or increase the intensity of certain beneficial activities.

... reuse, <i>reduce</i> , recycle! ²	<i>DECREASE</i> ¹⁰
Conservation means ... using <i>only</i> what is necessary. ³	How to <i>lighten</i> your CARBON FOOTPRINT ¹⁹
How can we continue to learn and grow together while <i>lessening</i> our global footprint? ⁸	ONE small school is responsible for <i>cutting down</i> 120 trees each YEAR for its cooking and heating. ⁸
...the idea for an eco-fest came from... a group of students and teachers interested in taking action to <i>reduce</i> their environmental impact on the planet. ²⁰	Recycling paper also means that <i>less</i> of our paper has to come from new forests and trees. ¹³
...there are some students that <i>NEVER</i> recycle their bottles. <i>NEVER</i> . Did you know that there is a law in Vancouver that recyclable beverage containers <i>cannot</i> be taken to the landfill? This is an <i>illegal</i> act. ...putting our containers in the proper places means that we <i>reduce</i> the	...that <i>lack</i> of respect for our surroundings is what connects all of those big environmental problems to us... there exists among many people a <i>lack</i> of respect for their surroundings. The same <i>lack</i> of care that someone has to stick some gum under a desk instead of throw it in the garbage is the same

<p>amount of garbage we throw away and <i>reduce</i> the need to dig up the Earth to obtain more metal resources. In other words, we take <i>less</i>, and toss <i>less</i>.¹³</p>	<p>as that when a tree is cut <i>down</i>... when coral reefs are <i>destroyed</i> with a blast of dynamite. The root of our global dilemmas is, at least in part, <i>not enough respect</i>.⁹</p>
<p>...<i>reducing</i> the environmental footprint of the school itself¹¹</p>	<p>What we can do is to offset or neutralize this carbon by helping Kenya schools <i>reduce</i> the amount of fuel they use.⁸</p>

Table 8. Negative language identified in the discourse. Italics emphasize key words.

The use of negative language has a number of implications. First, it may reflect a sombre recognition of the imminent necessity for our civilization to adjust the rapid pace and scale of its development in order to better respect the very real limits of the Land’s biological capacities. That the Earth cannot forever withstand boundless growth is hard to argue against from any cultural perspective nowadays.

Secondly, the perspective that these are examples of negative language may only be a comment upon the modern attachment to what some call “growthism”. According to Muhlhausler & Peace (2006), “the notion that bigger is better (in English we typically find conjuncts where bigger comes first, as in ‘all creatures great and small’) is deeply entrenched in most languages...”. Hence words such as “less” and “lack” are perceived as negative because words like “more” and “excess” carry more positive cultural connotations. Conceivably, this tendency could reflect our human ancestral past as hunter gatherers in which *greater* amounts of food (animals and plants) and *greater* access to food and essential materials (water, minerals, trees for wood, etc.) often meant a better chance at survival. Thus the deep cultural preference for growth-promoting language is important for all communicators to recognize if they care at all about appealing to the linguistic/cultural inclinations of their audiences.

As reported earlier, it seems as though throughout most of the recorded discourse I do make an effort to promote hope through my use of language. Seemingly, listeners to my words are seldom made to feel

afraid or anxious about possible “doomsday” future outcomes (should humans continue their present rate of development).

However, there are two exceptions. During my *first* recorded presentation during the year given to the entire student body, along with my *final* presentation of the year—given to a visiting youth group as part of a global leadership program—do focus on both the seriousness and tremendous urgency of the “environmental crisis”. Students are reminded during these sessions of how widespread ecological degradation has become: for instance, how many living species are currently threatened, how much wilderness is lost each year, and to what degree animal habitat is threatened in every nearly ecological system all over the planet. Dark images of future—a “collapse of global biodiversity” and a “major global climate shift”¹⁹—are painted through the use of these technical terms. During these two presentations the overall message seems to be that the Land is in *deep trouble* and is getting worse day by day—so we must act *now* or suffer unimaginable catastrophes in the near future.

We live in a world in which just about every living species is <i>in decline</i> and is being <i>damaged</i> ; in which we as a people are consuming and using resources at a rate <i>far faster</i> the Earth can supply; in which we are <i>polluting</i> at a rate <i>far greater</i> than the Earth can <i>withstand</i> . ⁹	...many people these days are <i>concerned</i> about the environment and how us humans are having an <i>effect</i> on our planet. ⁹
Every year, 6 million hectares of Land are <i>lost</i> ¹⁹	<i>Decreased</i> global population, standard of living ¹⁹
<i>Loss</i> of Biodiversity ¹⁹	<i>Major global climate shift</i> ¹⁹
<i>Threatened/endangered</i> : Mammals 20%, Birds 12%, Amphibians 31%, Fish 3%, Plants 12.5% (or recently extinct) ¹⁹	<i>Loss</i> of habitat: <i>Deforestation</i> 17 % of Amazon has been <i>lost</i> . By 2030, 40% of Amazon could be <i>lost</i> . ¹⁹

<i>Collapse</i> of global biodiversity ¹⁹	<i>LOSS OF CARRYING CAPACITY</i> ¹⁹
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Table 9. Pessimism identified in the discourse. Italics emphasize key words.

b. Framing issues as problems and solutions

Framing issues as problems—background:

Intimately connected to the notion of pessimism is the framing of ecological issues—those changes occurring in the Land—as “problems”. By *framing* I mean the process of selecting particular aspects of reality and making only these aspects stand out or become noticeable by highlighting them in a communicating text (Entman, 1993). For example, an average temperature increase of the planet can be framed as a problem by emphasizing the current and future negative impacts it will have on certain groups of life forms over any possible positive effects.

Framing issues as problems—evidence:

“Environmental issues” are framed as problems rather relentlessly in the recorded discourse. Specifically, the use of the term “problem” occurs on a regular basis. In one prominent example from a presentation during an opening assembly students are asked to tell the person next to them one or two “problems” facing the “world’s environment and nature” today⁹. As shown in *Table 10*, over and over the term *problem* is used, presumably in order to increase among students and staff a sense of the true gravity of our global situation and of the pressing need for tangible action. What assumptions I am making through these uses of language? Most likely, by driving home the point that issues of the Land are indeed incredibly serious and not to be ignored I myself assume this to be true. I assume that not

only are these issues serious, but that communicating the seriousness will serve to motivate others to rise up and tackle these issues. In other words, the framing of these issues as problems may serve to problematize the everyday lives of students and staff, causing them to reflect on their own actions.

environmental <i>problems</i> ¹	What is the <i>problem</i> ? ²
Not a lot of understanding about the <i>problems</i> in the global environment... ²	If our effect threatens what we need, then we have a <i>problem</i> ¹⁹
There are many environmental <i>problems</i> in this community. These include... air pollution, which causes breathing <i>problems</i> . ⁸	What kind of <i>impact</i> does a school have on the planet? What kind of <i>impact</i> does it have when the students of a school come from across Canada and the world to attend? ⁸
What causes these <i>environmental problems</i> ? Forests are being cut down for fuel. This leads to a lack of rainfall and erosion of soil. Fossil fuels are also being burned for heat. ⁸	There are some big environmental <i>problems</i> here at the school and also out in the world. If you think that just you, one person, can't make a difference with all the environmental <i>problems</i> that exist... ⁹
...many people these days are concerned about the environment and how us humans are having an effect on our planet. Most of you probably know some of these environmental <i>problems</i>tell the person next to you one or two <i>problems</i> facing the world's environment and nature today. ⁹	The <i>problem</i> with landfills is that as the garbage sits there, it pollutes the environment in two different ways: by producing a global warming gas called methane, and by leaking toxic materials into the ground water... ¹⁴
So back the question of Whose <i>problem</i> is it? It's not my <i>problem</i> . It's probably not your <i>problem</i> . It's your children's <i>problem</i> . Most of you will have children in your lives – seems like far away in the future for most of you, but your (garbage) will be their <i>problem</i> . And their	(cont'd from left) Your (garbage) is a <i>problem</i> of all the people to come in the future on this planet. They will have to deal with this <i>problem</i> . And the reason we have this <i>problem</i> is because people do not care enough and think about life in the future. ¹⁴

children's problem. ¹⁴	
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Table 10. Uses of the term “problem” identified in the discourse. Italics emphasize key words. Examples of so-called catastrophic and runaway ecological “problems” are often cited.

See *Table 11*. As explained earlier many of these issues are expressed in terms of scientific phenomena. Much of this may be based on the assumption that science is our best hope to understand and solve these issues. Another possible assumption could include that by being specific about particular aspects of the “ecological crisis” there will arise in the listener or reader powerful images of burning forests, overflowing garbage dumps and other apocalyptic scenarios—which will then spur these potential agents of change into action.

global warming, that the Earth is getting warmer. ⁹	Loss of habitat: #1 reason for species extinction in the world ¹⁹
melting of glaciers and polar ice caps, deforestation: loss of tree habitat, desertification (Land erosion), water pollution, acid rain, air pollution, depletion/thinning of the ozone layer, the loss of animal habitat and diversity, destruction of rain forests, garbage disposal, over-population, over-consumption of natural resources, toxic waste, overfishing ⁹	We live in a world in which just about every living species is in decline and is being damaged; in which we as a people are consuming and using resources at a rate far faster the Earth can supply; in which we are polluting at a rate far greater than the Earth can withstand. ⁹
Deforestation: 17 % of Amazon has been lost. By 2030, 40% of Amazon could be lost. ¹⁹	Erosion & Desertification: Every year, 6 million hectares of Land are lost ¹⁹
Loss of Biodiversity... Threatened/ endangered: Mammals, 20%... ¹⁹	...leaking toxic materials into the ground water... ¹⁴

Table 11. Examples of particular “problems” identified in the discourse.

Framing issues as solutions—evidence:

Listing the above examples is not to make the claim that only the problematic perspective on issues of the Land appears in the discourse. While issues are framed almost always as problems, the potential solutions to these challenges are also discussed, although with much less frequency and intensity than that found in the discussion of the problems themselves.

Solutions raised in presentations, speeches and texts primarily consist of applications of newer and more efficient forms of *technology*. These technological solutions include “more efficient energy technologies”¹⁹, “alternative fuels & resources”¹⁹ and “reusable, recycled, recyclable, or non-toxic” materials¹⁰. It is assumed that so-called “techno-fixes” will be the primary method through which “ecological problems” are solved in the future.

It will be discussed later how a narrow focus on technological solutions can lead to the cultural roots of these issues being ignored. Although non-technological possibilities such as the increased shift of global trade to local production¹⁹ and “organic agriculture”¹⁹ are mentioned, these are in the minority of recorded examples in *Table 12*.

Possible “ <i>Solutions</i> ” ¹⁹	<i>efficient stoves</i> ¹
more efficient energy technologies, more efficient transportation, use of alternative fuels & resources, shift toward organic agriculture, greater recycling & waste recovery, shift from global trade to local production ¹⁹	more <i>efficient energy technologies</i> , more <i>efficient transportation</i> , use of <i>alternative fuels & resources</i> , shift toward <i>organic agriculture</i> , <i>greater recycling & waste recovery</i> ¹⁹

<p>Instead of this inefficient stove, imagine this: every school and every home in this community has an EFFICIENT STOVE... ...¹</p>	<p>proportion of total waste which is material sent for recycling, by operating an <i>effective waste management system</i>¹⁰</p>
<p>proportion of consumed resources which are <i>reusable, recycled, recyclable, or non-toxic</i>¹⁰</p>	

Table 12. Language around solutions identified in the discourse. Italics emphasize key words.

c. The tyranny of the pragmatic: awareness and action

Awareness—background:

The authors of the Oxford English Dictionary (2002) maintain that to be *aware* means to have knowledge of a situation or fact. Yet *knowledge* itself has a multiplicity of meanings, ranging from an acquisition of information to the gaining of an intimate and spiritual connection with some entity. As a result awareness could similarly signify forms of knowing ranging widely from the intellectual to the intuitive.

Awareness—evidence:

From the perspective of my use of language, what then does it mean to have awareness of ecological issues? According to the recorded discourse, having “knowledge of a situation” should mean having *scientific* knowledge of an “environmental problem”. *Awareness* then, as it is used so often in the discourse, seems to point toward the assumption that students should properly possess some general knowledge of “environmental problems”. This knowledge acquisition, presumably, consists of gaining

some grasp of scientific evidence, an understanding (albeit mechanical) of life-supporting processes in operation through the Land, and recognizing the urgent need for action.

Uses of the term awareness along with examples of attempts to increase awareness are given in *Table 13*. “Raising awareness”^{11, 17} is a phrase used frequently. Students and staff, it is recorded, should become “more aware of the problems in the global environment”². What is one of the ways they can become more aware? According to the discourse, it is by listening to me! In other words, by paying attention to the “lesson” at hand they should be able to remember and understand, for instance, where their garbage goes¹⁴ and how airplane travel contributes to global warming⁸, hence gaining awareness.

The key assumption underpinning these examples may be this: greater awareness will lead to behaviour changes relevant to addressing particular issues. Additionally, this new-found knowledge is enough to trigger action. Put differently, *awareness begets action*.

Of course this may also be presuming that students and staff are in a state of relative unawareness to begin with. It may be presuming listeners are ignorant and ecologically-destructive “empty vessels” who need to be enlightened and persuaded about the stark realities of modernity by an authoritative source. The discourse does not grant the possibility of how students and staff may already possess sufficient understanding of the “facts” or how they may already be “convinced” of the urgency for action.

...Become more <i>aware</i> of the problems in the global environment ²	...raising <i>awareness</i> among staff about our goals and green ideals ¹¹
increase the... level of literacy and <i>awareness</i> of local and global environmental issues ¹⁰	...our next big challenge lies in gaining the support of students around this issue. ¹⁷
...increasing student <i>awareness</i> and environmental literacy ¹¹	...achieve these goals by raising <i>awareness</i> ¹⁷

<p>Travel by airplane alone accounts for around 4% of all human-caused greenhouse gases in the atmosphere. It is not until we are honest about this that we can make a change.⁸</p>	<p>And the reason we have this problem (garbage) is because people do not care enough and think about life in the future.¹⁴</p>
<p>...mobilizing staff to be both instruments of immediate and long-term change as well as conveyers of green ideology to students, families, friends, etc.¹¹</p>	<p>...mobilizing students to be both instruments of change and conveyers of green ideology to their home countries, parents, friends, etc.¹¹</p>
<p>...to achieve these goals by raising <i>awareness</i>, eliminating the barriers to these new behaviours and increasing the perceived benefits. In other words, by making it easier, more convenient, and more attractive for Hemlock's members to make better choices.¹⁷</p>	<p>And finally, about 33% of your (garbage) is taken by truck all the way to a landfill in a place called Cache Creek... Here it is stuck in the ground and left for the future to worry about. This landfill will be completely full NEXT year in 2009.¹⁴</p>

Table 13. Notions of awareness identified in the discourse. Italics emphasize key words.

Action—evidence:

So far there in this examination the language identified has centred on assumptions around the human-nature divide, anthropocentrism, optimism and pessimism, problems and solutions, and awareness of ecological issues. However, the language which stands out in the recorded discourse most strongly of all, in both frequency and rigour, is aimed squarely at one thing: *action*.

“Behaviour... must come first”¹⁵ illustrates the emphasis evident in the examples listed in *Table 14*. As stated earlier, the school's Hemlock Eco-Action Team was founded for the purpose of achieving results. It was expressly intended to bring about concrete, measurable changes of behaviour among students and staff. This inherently assumes several things: 1) students and staff are actually able to act (or change their behaviour) to address issues of the Land (given sufficient motivation and awareness); 2)

these actions will truly “make a difference” in solving “environmental problems”; and 3) in order to become a “green” school, above all other kinds of change, *behaviour change* is paramount, no matter how superficial the degree of change.

The latter assumption is communicated largely through the aforementioned school program called Mission Inside-Out. Students are persuaded, “Who you are is what you *do*... it is the *actions* that you *choose*” (italics added) ⁹. In other words, rather than personal identity being a attribute constructed from one’s ethnicity, language, culture, way of thinking, clothing, lineage or other characteristics, it is argued how each of us are defined solely by our actions. Under this assumption one’s actions are not at all determined by one’s culture or way of thinking. It assumes widespread changes to behaviour can be made through willpower or intention alone. From the perspective of intention then, the term “choose” in the previous quotation is particularly interesting. At a deeper level what Mission Inside-Out may signify is that people (in this case, staff and students) have the *freedom* to choose, that their choices are not limited, influenced or even determined by grander cultural convictions.

These assumptions are further illustrated in the following startling statements: “A nobody does nothing. But someone who wants to become a greater person does greater things” ⁹. This blunt assertion implies that by doing nothing to address issues of the Land, a person is neither important nor honourable; but by doing greater things, a person can become greater—he or she just has to first *want* to become greater. Once again, the emphasis is on intention.

Start an eco- <i>action</i> group at your school or work ⁷	Who you are is what you <i>do</i> ... it is the <i>actions</i> that you <i>choose</i> . ⁹
This is something that we can <i>do</i> about our impact, that is REAL, that will make a real difference ⁹	A nobody <i>does</i> nothing. But someone who wants to become a greater person <i>does</i> greater things. ⁹

<p>We want to become a GREEN SCHOOL! 2</p>	<p><i>Behaviour... must come first.</i> ¹⁵</p>
<p>By taking measurable strides in these directions, Hemlock High School seeks to demonstrate and practice its core values through <i>action</i>. ¹⁰</p>	<p>"So for our students I think it's really to get a sense of 'I belong here, and I also have a responsibility to <i>do</i> something and take <i>action</i>,' " said Goobie. ²⁰</p>
<p>Yet respect alone cannot exist without <i>action</i>. You can think in a respectful way all you want, but it is what you <i>do</i> that really matters. It is our <i>actions</i> that define us, and how we <i>treat</i> our surroundings that says who we are. And so, changing the outside – protecting and caring for the environment in everything we <i>do</i> -- changes the inside, our very hearts. Our <i>actions</i> transform us. ¹⁸</p>	<p>UNLESS each of us comes away from today with a real, true plan and promise to <i>change</i> what we <i>do</i> in some part of our everyday lives. It could be something small, or something great. But becoming aware of the problems in our environment and committing to a positive change in <i>what we do</i>, how we <i>impact</i> the Earth, is our mission today. ¹⁸</p>
<p>“The idea behind it is that we are defined by what we <i>do</i> and specifically how we <i>treat</i> our surroundings,” explained Goobie. “So if we want to truly change ourselves, we have to first <i>change</i> what we <i>do</i>. We have to take <i>action</i>, and that brings about a transformation of our identities, our selves.” ²⁰</p>	

Table 14. Examples pointing to the importance of action identified in the discourse. Italics emphasize key words.

The assumption that action and awareness should take top priority is summarized quite succinctly in the self-designed chart below (*Chart 1*). Finding it to be a useful way to communicate my understanding of ecological or social issues and behaviour change, I have used this diagram in my classroom and in one other occasion with youth at a global leadership workshop. The chart is divided

into four quadrants, categorizing different states of knowing and acting. The four states are: *not knowing and hence not acting* (upper-left), *knowing but not acting* (upper-right), *not knowing but still acting* (lower-left), and *both knowing and acting* (lower-right). This categorization system means that some people do not take action to address the issue of, for instance, global warming, for the sole reason that they simply do not know about it or understand it. On the other hand there are some people who in spite of knowing and understanding the phenomenon—even in spite of accepting that it is a reality—choose for whatever reasons to take no action to address the issue. Then there are people who know nothing about things like global warming but take beneficial action anyway; say, reducing their carbon emissions by taking the public bus simply because they cannot afford to drive a car. Finally, the argument goes, there are the people who have learned the “facts” about global warming and as a result they act in a way commensurate with their understanding. In other words, they “walk the talk”; they live in a way which does not conflict with what they know. The happy face in this quadrant indicates that this is the most desired outcome. That is, according to this chart, awareness followed by action is what will “save the world!”

	DON'T KNOW	KNOW
DON'T ACT	?☹️?	☹️
ACT	?😊?	😊!

Chart 1. Summary of assumptions about knowing and acting on issues of the Land. ¹⁹

If the emphasis in the discourse is on actions and behaviours, what kind of behaviours are reported to be encouraged? Among staff these include such pragmatic behaviours as “optimizing use of paper and (printer) toner” ⁴ and increasing the “proportion of consumed resources which are reusable, recycled, recyclable, or non-toxic” ¹⁰. For the whole school, notably students, suggested behaviours are varied, from simple specific daily choices such as using refillable water bottles to cut down on waste ⁵ and “turning out your lights when you leave your room” ⁹, to slightly more ambitious deeds including taking public transit ⁷ and using “only the resources we need” ². The school’s sustainability policy also focuses mainly on actions like switching to “greener” materials, operating a more efficient waste management system and reducing consumption of energy within the building ¹⁰. A full account of language used around behaviour change is given in *Table 15*.

Use only the resources we need ²	Save energy and reuse, reduce, recycle! ²
...print and copy double-sided? ⁴	How efficient are you? ⁴
Strategies for Optimizing Use of Paper & Toner ... ⁴	CONSERVATION = RESPONSIBLE CONSUMPTION ⁶
How often do you make it a point to... make just enough copies for your classes with no extras? ⁴	Schools are planting trees and grass on their school grounds... trying to cut down on how much fuel they use. ⁸
Formatting Documents for Optimizing Consumption: decrease size of images, adjust font size... adjust margins, eliminate header & footer ⁴	increase the... proportion of total waste which is material sent for recycling, by operating an effective waste management system ¹⁰
2 HOUSE POINTS EACH: Refillable water bottle, Reusable chopsticks... Washable cloth napkin/towel, Completely empty lunch plate/bowl ⁵	No matter how small—picking up some garbage, cleaning up your cafeteria table, pushing in your chair, turning out your lights when you leave your room... ⁹
Turn off electronics when not using them Drive a smaller car / Use energy-efficient lights / Ride a bike / Fly less / Buy products with less packaging / Buy carbon offsets / Recycle more ⁷	(cont'd from left) Turn down the heat / Use less hot water / Buy recycled products / Buy local foods / Plant a tree / Buy organic foods / Take public transit / Eat less meat... Compost your food waste / ⁷
increase the... proportion of consumed resources which are reusable, recycled, recyclable, or non-toxic ¹⁰	decrease the... consumption levels (per-person) of physical materials, notably those from non-renewable resources ¹⁰
decrease the... consumption levels (per-person) of energy from natural gas and electricity ¹⁰	decrease the... total volume (per-person) of solid waste and pollution levels in waste water ¹⁰
decrease the... pollution produced by transportation to and from school of people and products. ¹⁰	

Table 15. Examples of suggested behaviours identified in the discourse.

To some, these behaviour changes might be seen as inappropriate, or disproportional, given the scope and scale of changes rippling throughout the Land as we move forward in the 21st Century. That is, comparing a relevant ecological issue—global climate shift—to a specific action—say, using more energy-efficient lighting—shows a great disparity between issue and action. This disproportional kind of response is popularly referred to as “greenwash”, a situation in which one pretends to make a sizeable contribution to solutions around ecological issues while restricting actual reform to “shallow” behaviours.

There is one mention of this irony in the recorded discourse, alluding to the surge in the last few years of special “green” issues of newspapers and popular magazines. On this topic I note to staff: “With a quick look at this trend you can see it often employs a lot of cheap talk and quick fixes, such as the *Top Ten Simple Things You Can Do in Your Life to Delude Yourself that You are Saving the Earth Without Changing Your Lifestyle*”¹⁷. This acknowledges the disproportional response to global ecological challenges. Yet what may be more ironic than this kind of response is that, in spite of this sarcastic statement, most of the suggested behaviours over the course of the school year are quite similar to the delusional “top ten simple things” alluded to here.

Respect and dependence—linguistic evidence:

The other action-oriented themes in the recorded discourse involve the notions of *respect* and, much less prominently, *dependence* of humans on the Land. The results are summarized in *Table 6*. Respect and dependence are grouped under anthropocentrism because they both do not challenge the idea that the Land exists for humans; they only point out that humans need “nature” and so they should use “it” responsibly.

Respect appears frequently yet it is never defined. Students are urged to “Find ways of showing more respect”², to “gain more respect”⁹ and to “be more respectful”¹². One school sustainability goal is to increase the “level of respect and care shown toward our surroundings”¹⁰. Upon reflection, it is somewhat troubling that given its frequent use there is no indication of what the concept truly entails.

How does a student go about showing more respect? Again, it is not clear from the records. From the etymology of the verb “respect” we may see it as “to look back at, regard, consider” or “treat with deferential regard or esteem” (Harper, 2001). Presumably it is meant that students show respect for their surroundings by both paying greater attention to their surroundings and by exhibiting any number of pragmatic behaviours and actions described in *part f* below.

Find ways of showing <i>more respect</i> ²	increase the... level of <i>respect</i> and <i>care</i> shown toward our surroundings ¹⁰
To start to solve these global environmental problems, we need to personally gain <i>more respect</i> ... to our belongings, property and Land. People always ask when they want to make a difference, but where do we start? We <i>start with respect</i> for the things around us. ⁹	Our biggest, most important challenge and goal must be to help students <i>gain more respect</i> for their surroundings... <i>Without this respect</i> , the impact of any environmental programs will be small to none. Behaviour & <i>values</i> must come first. ¹⁵
...we need to personally gain more respect and pay more attention to <i>our</i> belongings, property and Land. ⁹	For example, working to <i>show respect</i> for one’s surroundings helps to make a person <i>more respectful</i> , and when a person is <i>more respectful</i> they are more likely to <i>show respect</i> for their surroundings! ¹²
WE ARE COMPLETELY <i>DEPENDENT</i> ON NATURE FOR EVERYTHING WE NEED ¹⁹	Humans <i>depend</i> on nature ¹⁹

Table 6. Respect and dependence in the recorded discourse. Italics emphasize key words.

d. The skin and the innards: staying on the surface or diving deep

Being superficial and being critical—background:

The effect of having a particular focus is always two-fold: first, the object in focus will receive greater attention and gain salience; and second, objects not included in the focus will tend to languish in the dark, out of mind. Many questions result from such an argument in relation to the discourse under consideration. For example, by using anthropocentric or human-centred language, might the intrinsic value of the Land be overlooked, especially in contrast with a more ecocentric (“nature”-centred) perspective? By focusing on awareness as a central issue relevant to solving ecological “problems”, are other important aspects of behaviour change being disregarded? Is reducing ecological issues to the most simplistic terms (reductionism) occurring at the expense of appreciation for complexity? Finally, by giving attention to superficial behaviours like changing light bulbs and driving hybrid cars, might we be ignoring more profound cultural roots of the great changes in the Land?

Superficiality and reductionism—evidence:

Evidence collected from the year’s recorded discourse shows that these matters are never clear-cut. It is not a case of issue/perspective *A* or issue/perspective *B*, but rather it is the case of *A* and *B* (and sometimes *C*!) overlapping in complex ways. Each perspective is brought forth within the discourse, rising in visibility, sometimes complementing another perspective and at other times contradicting it. This could describe the situation presented here: the pitting of a superficial, simplistic approach against a

more thoughtful, critical perspective on issues of the Land—both rising and sinking from the spotlight to their own rhythms.

It is safe to say that a critical approach can take a lot of time. What is important to remember in this case is that the discourse under examination all happened in just *one* academic school year, in “competition” with the usual demand of special assemblies, school events, ceremonies and holidays. Given the large number of “eco-action” accomplishments, many crammed within a single school term, it is clear the pace was extremely fast. Choices had to be made; some areas of dialogue and focus had to be sacrificed to ensure measurable results. Many of the examples given in the earlier sections on problems and on action, along with HEAT’s focus on measurable results, were all likely chosen at the expense of more drawn-out dialogue. As the pace suggests, perhaps this is mainly due to a perceived lack of time.

In the discourse deeper meanings of ecological issues are sometimes dismissed through the use of language. See *Table 16* for a complete list of collected evidence. For example, students are told about the “problem” of overflowing landfills³ without having a chance to evaluate assumptions behind the very concept of garbage or what throwing “things” away after consumption really means. Carbon offsets are touted without any recorded questioning of the legitimacy of such a practice. Balancing one’s carbon emissions (from, say, travelling by airplane) through use of carbon offsets¹—that is, by paying to have carbon-soaking trees planted or by buying fuel-efficient stoves—arguably does not at all address the root issue of what it means to produce carbon from combustion or from agricultural processes on a massive scale. Students are told the 3 R’s of “Reduce, Reuse, Recycle”² but there is no discussion of the cultural assumptions behind recycling. They are not given the chance to consider how recycling may only encourage excessive consumerism or can be considered a Western industrial “band-

aid” placed over greater issues of runaway capitalism. There is no fourth *R*—*Reconnect*—to expand the 3 *R*'s to a more encompassing conversation.

Whether solely for the sake of time and ease of understanding or for the purpose of actually communicating a perspective toward superficiality, complex cultural issues such as the destruction of coral reefs⁹, massive oil discharges in waterways⁹, and overflowing landfills¹⁴ are boiled down to single-sided clichés. Note the use of absolute language such as “is” and “are”, expressing certainty, rather than softer, open-ended and more indefinite terms such as “may”, “might” or “could”. For example, according to a recorded presentation, “The root of our global dilemmas *is*, at least in part, not enough respect”⁹ (italics mine). This conveys a sense that there is no necessary debate: that is, *A is happening because of B—period*. Similarly, in the case of issues around garbage it is argued that “the reason we have this problem *is* because people do not care enough and think about life in the future”¹⁴ (italics mine). There is no mention here of larger societal and cultural reasons behind conceptions of certain materials as “garbage”, of why we “produce garbage”, or of why garbage in Western nations is commonly “disposed” of in such hasty ways.

One statement even attempts to summarize the “global ecological predicament” with the following reductive and simplistic logic: “We depend on nature / We affect nature / We affect what we depend on / If our effect threatens what we need, then we have a problem”¹⁹. At play here is a clear sense of scientific mechanism expressed through the quantitative notion of *feedback*. According to the university-level text *Environmental Science: Earth as a Living Planet*, feedback occurs when the output of a system also serves as an input and leads to further changes in the system (Botkin & Keller, 2007, p. 42). Both my statement and the notion of feedback fail to bring forth for examination more complex ideas: whether or not the Land has non-utilitarian value, whether or not humans and “nature” are indeed distinct, and so on. Instead, complex issues are reduced to their rational essence.

Being critical—evidence:

More analytical or probing uses of language in the discourse appear less regularly, but they are present in the margins. During a media interview I am asked the level of understanding which students seem to have of “environmental issues”. I reply:

I think there is an awareness, but I think it's very superficial... It's a very general awareness. Students know that they should recycle and they know they should not take showers too long and those kinds of things, but the actual reasons, the roots of a lot of the problems, there's still not a great awareness about.²⁰

Perhaps this concession indicates that some of the superficial language in the preceding table can be accounted for as reflections of the time constraints of each school presentation or the need to use simpler language and arguments, especially for non-native English speaking students in the audience.

In other instances, especially when communicating to staff, the audience is invited to a more multi-dimensional conversation less accelerated by a sense of perceived urgency. Staff are reminded, “Lasting change cannot be rushed”¹⁶ and that, “Being proactive, and not reactive, is essential”¹⁶. On another occasion in which more open-ended questions are solicited regarding “global environmental problems”, I am reported as asking: “So what does that have to do with us? What's the reason for all those problems? How did this come to happen?”⁹. While it is clear this is an attempt made to avoid superficiality I unfortunately then go on to answer these questions in a simplistic (or even patronizing) way, as if they are rhetorical questions.

One additional example from a speech given to staff furthers the point that we must go beyond superficiality in our practice:

Again, it's not about changing our things like our light bulbs, although the little things help. It's not about being able to market our school as environmentally-friendly, although that would be

nice. It's certainly not about paying lip service to words like non-violence. It's not even really about making a big difference in the overall fate of our planet and its climate, although certainly that should be a motivator. This is about living up to our values and by doing so raising the level of consciousness of both ourselves and our students. It's about believing in something strongly, and having the guts to do something about it. It's about who we are. It's a moral issue.¹⁷

From this excerpt (and from my own memory) it is difficult to tell exactly the overall message. But this use of language does seem to raise the importance of going beyond “greenwashing” or “lip service” to a higher debate involving more weighty morals. The excerpt goes on, explaining that staff are invited to connect this “eco-action” project with the larger vision statement of the school, in which the school aims to help to produce students who are respectful and responsible citizens who contribute positively to the world. Staff are reminded that some of the school’s founding values include compassion and non-violence, and that these are not limited only to other *human* beings as perhaps commonly presumed. Rather, “non-violence naturally extends beyond our species to all living things, to all of nature, to the Earth itself”¹⁷. Certainly this is a more significant attempt to get to the root of ecological issues than has been reported from the discourse so far.

Lastly, there are several brief attempts to broaden the conversation beyond only “the environment” to those social issues intimately connected to the Land, such as the employment of workers⁴, poverty, poor health, famine and war⁸. In these cases an assumption underlies the discourse about ecological issues as being both complex and profound, extending beyond the “environmental” to the social realm.

Document filename references:

- ¹ A Kenyan Truth (Powerpoint slideshow); June 8, 2008
- ² HEAT Intro (Powerpoint slideshow); November 17, 2007
- ³ Conservation Canada Kenya comparison (Powerpoint slideshow); April 27, 2008
- ⁴ Conserving paper presentation (Powerpoint slideshow); May 25, 2008
- ⁵ Zero G Day (Powerpoint slideshow); July 13, 2008
- ⁶ Goals Summer 2008 (PowerPoint slideshow); March 29, 2008
- ⁷ An Inconvenient Truth eco action (Word document); June 8, 2008
- ⁸ A Kenyan Truth (Word document); June 8, 2008
- ⁹ HEAT Intro speech to students jan 2008 (Word document); January 5, 2008
- ¹⁰ HEAT Sustainability Policy New (Word document); November 16, 2007
- ¹¹ Eco-Action Group (Word document); October 27, 2007
- ¹² Launch intro letter to staff (Word document); December 1, 2007
- ¹³ RESPECT SURVEY RESULTS Presentation (Powerpoint slideshow); February 3, 2008
- ¹⁴ Zero-G Assembly (Word document); July 13, 2008
- ¹⁵ Admin Meeting Oct 22 07 NOTES (Word document); October 27, 2007
- ¹⁶ HEAT Summary July 2007 (Powerpoint slideshow); July 19, 2008
- ¹⁷ Eco-Action Group Intro at Staff Meeting (Word document); September 17, 2007
- ¹⁸ Opening Ceremony (Word document); February 27, 2008
- ¹⁹ Your Ecological Footprint (Powerpoint slideshow); July 20, 2008
- ²⁰ Duane, R. (2008, February 27). Organizers looking to connect with __ community. _____ *News*. Retrieved from _____ (information omitted to protect school anonymity)

Glossary of key terms

Term	Definition
anthropocentrism	a human-centered perspective on reality
capitalism	view that every “thing” can be commoditised for monetary trade
Cartesian dualism	belief that there is separation between humans and nature, humans and animals, mind and body, etc.
collectivism	belief that the collective is most important social unit (for social change)
complexity	view of nature which does not reduce every “thing” to simple terms, and claims some things are irreducible
cultural/bio-diversity	belief that we should respect all cultures and life forms equally, that we should conserve of culture and life which are ecologically responsible
ecocentrism	view of reality from the perspective of the Land
ecological justice	initiatives which attempt to rectify inequities for all forms of life being exploited or oppressed
empiricism	belief in the importance of measuring and counting
ethnocentrism	reality perceived from the view of only one ethnic group at the expense of all others
holism	seeing all life as part of the Land, including humans

individualism	belief that the individual is the most basic social unit of society
instrumental rationality	way of thinking in which every “thing” exists for use and exploitation by humans
interdependence	idea that all life forms depend on one another to survive and thrive
interdisciplinarity	faith in all disciplines (the Arts, Humanities, science) as meaningful ways of perceiving world
intrinsic worth	idea that all that is in the Land has innate purpose, not dependent on economic value
Language for the Land	language for education which challenges the assumptions of modernity
mechanistic philosophy	view of the world in mechanical terms
modernity	period since 17 th Century wherein the belief in the importance of rationality and science spread out from Western Europe across much of the world
non-quantifiable worth	belief that not everything needs to be countable or measurable to matter
reductionism	the view of the world in overly simplified terms, in parts
sanctity of the Land	idea that the Land, and all that is in her, is sacred
scientism	faith in science as the ultimate source of truth about reality

References

- Alsop, S., Diplo, D., & Zandvliet, D. (2007). Teacher education as or for social and ecological transformation: place-based reflections on local and global participatory methods and collaborative practices. *Journal of Education for Teaching*, 33 (2), 207-223.
- Arran, S. (2007). Haiku and beyond: Language, ecology, and reconnection with the natural world. *Anthrozoos*, 20 (2), 101-112.
- Ascher, W., & Mirovitskaya, N. S. (2001). *Guide to sustainable development and environmental policy*. Durham, NC [u.a.]: Duke Univ. Press.
- Bang, J.C., & Døør, J. (1993). Eco-Linguistics: A Framework. *Aila Review*, 93, 2-18.
- Barrett, M.J. (2005). Making (some) sense of feminist poststructuralism in environmental education research and practice. *Canadian Journal of Environmental Education*, 10, 79-93.
- Berman, M. (1981). *The reenchantment of the world*. Ithaca, New York: Cornell University Press.
- Blohdorn, I. (2002). Unsustainability as a frame of mind - and how we disguise it: The silent counter-revolution and the politics of simulation. *The Trumpeter*, 18 (1), 1-11.

Bonnett, M. (1997). Environmental education and beyond. *Journal of Philosophy of Education*, 31 (2), 249-266.

Bonnett, M. (1999). Education for Sustainable Development: a coherent philosophy for environmental education? *Cambridge Journal of Education*, 29(3), 313-324.

Bonnett, M. (2002). Education as a form of the poetic: A Heideggerian approach to learning and the teacher-pupil relationship. In Peters, M.A. (Ed.), *Heidigger, Education, and Modernity* (229-244). USA: Rowman & Littlefield Publishers, Inc.

Bonnett, M. (2006). Education for sustainability as a frame of mind. *Environmental Education Research*, 12 (3), 265-276.

Bowers, C. (1997). *The culture of denial: Why the environmental movement needs a strategy for reforming universities and public schools*. Albany: State University of New York Press.

Bowers, C. (2001). How language limits our understanding of environmental education. *Environmental Education Research*, 7 (2), 141-151.

British Columbia Ministry of Education. (2007). *Environmental learning and experience: An interdisciplinary guide for teachers*. Retrieved March 3, 2009 from http://www.bced.gov.bc.ca/environment_ed/enviro_n_learning_exper.pdf

Brulle, R.J. (1996). Environmental discourse and social movement organizations: A historical and rhetorical perspective on the development of U.S. environmental organizations.

Sociological Inquiry, 66 (1), 58-83.

Burgess, J., Harrison, C.M., & Filius, P. (1998). Environmental communication and the cultural politics of environmental citizenship. *Environment and Planning*, 30, 1445-1460.

Chapman, D.J. (1999). So You Want to Teach For the Environment ... *Environmental Education Research*, 5 (3), 267-272.

Choudry, A. (2007). Transnational activist coalition politics and the de/colonization of pedagogies of mobilization; Learning from anti-neoliberal indigenous movement articulations. *International Education*, 37 (1), 97-112.

Deschenes, S., Cuban, L., & Tyack, D. (2001). Mismatch: Historical perspectives on schools and students who don't fit them. *Teachers College Record*, 103 (4), 525-547.

Devine, N., & Irwine, R. (2005). Autonomy, agency and education: He tangata, he tangata, he tangata. *Educational Philosophy and Theory*, 37 (3), 317-331.

Dillon, J.J. (2008). Reclaiming humanistic psychology from modernity: Problems and solutions. *Journal of Humanistic Psychology*, 48, 221-242.

- Dussel, E. (1993). Eurocentrism and modernity. *boundary 2*, 20 (3), 65-76.
- Entman, R.M. (1993). Framing: Toward Clarification of a Fractured Paradigm. *The Journal of Communication*, 43 (4), 51-58.
- Fill, A. (2001). Language and ecology: Ecolinguistic perspectives for 2000 and beyond. In: Graddol, D. (Ed.), *Applied linguistics for the 21st century (AILA Review 14)* (60-75). Retrieved January 25, 2009 from <http://edocs.ub.uni-frankfurt.de/volltexte/2005/3011/pdf/Aila14.pdf#page=66>
- Fill, A., & Penz, H. (2008). *Sustaining language: Essays in applied ecolinguistics*. LIT Verlag Berlin-Hamburg-Münster.
- Foster, H. (1995). *Postmodern culture*. London: Pluto Press.
- Freire, P., & Freire, A.M.A. (2004). *Pedagogy of hope: Reliving pedagogy of the oppressed*. London [u.a.]: Continuum.
- Furman, G.C. (1998). Postmodernism and community in schools: Unraveling the paradox. *Educational Administration Quarterly*, 34 (3), 298-328.

- Furman, G.C., & Gruenewald, D.A. (2004). Expanding the Landscape of Social Justice: A Critical Ecological Analysis. *Educational Administration Quarterly*, 40(1), 47-76.
- Gadottil, M. (2008). Education for sustainability: A critical contribution to the Decade of Education for Sustainable Development. *Green Theory & Praxis: The Journal of Ecopedagogy*, 4 (1), 15-64.
- Gale, T. (2000). Rethinking social justice in schools: How will we recognize it when we See it? *International Journal of Inclusive Education*, 4 (3), 253-269.
- Gayford, C. (1998). The perspectives of science teachers in relation to current thinking about environmental education. *Research in Science & Technological Education*, 16 (2), 101- 113.
- Gelobter, M., Dorsey, M., Fields, L., Goldtooth, T., Mendiratta, A., Moore, R., et al. (2005). *The soul of environmentalism: Rediscovering transformational politics in the 21st century*. Retrieved from <http://www.rprogress.org/soul/soul.pdf>
- Gidden, A. (1991). *The consequences of modernity*. Stanford: Stanford University Press.
- Gidley, J.M., & Hampson, G.P. (2005). The evolution of futures in school education. *Futures*, 37 (4), 255-271.

- Gillham, J., & Reivich, K. (2004). Cultivating Optimism in Childhood and Adolescence. *The ANNALS of the American Academy of Political and Social Science*, 591, 146-163.
- Gough, A. (2002). Mutualism: a different agenda for environmental and science education. *International Journal of Science Education*, 24 (11), 1201-1215.
- Gough, N. (2002). Thinking/acting locally/globally: Western science and environmental education in a global knowledge economy. *International Journal of Science Education*, 24 (11), 1217-1237.
- Gough, N., & Price, L. (2004). Rewording the world: poststructuralism, deconstruction and the 'real' in environmental education. *Southern African Journal of Environmental Education*, 21, 23-36.
- Grace, M.M., & Ratcliffe, M. (2002). The science and values that young people draw upon to make decisions about biological conservation issues. *International Journal of Science Education*, 24 (11), 1157-1169.
- Gray, J.S. (2005). On the death of environmentalism. *Marine Pollution Bulletin*, 50(7), 699-700.

- Gruenewald, D.A. (2004). A Foucauldian analysis of environmental education: Toward the socioecological challenge of the Earth Charter. *Curriculum Inquiry*, 34 (1), 71-107.
- Habermas, J. (1995). Modernity—An incomplete project. In Foster, H. [Ed.], *Postmodern culture* (3-15). London: Pluto Press.
- Harper, D. (2001). *Online Etymology Dictionary*. Retrieved from <http://www.etymonline.com>
- Hart, P. (2002). Environment in the science curriculum: the politics of change in the Pan-Canadian science curriculum development process. *International Journal of Science Education*, 24 (11), 1239-1254.
- Hart, P., Jickling, B., & Kool, R. (1999). Starting points: Questions of quality in environmental education. *Canadian Journal of Environmental Education*, 4, 104-125.
- Hicks, D., & Holden, C. (1995). Exploring the future: A missing dimension in environmental education. *Environmental Education Research*, 1 (2), 185-194.
- Huckle, J. (1999). Locating environmental education between modern capitalism and Postmodern Socialism: A reply to Lucie Sauvé. *Canadian Journal of Environmental Education*, 4, 36-45.

I Hate Al Gore (author unknown). Retrieved March 8, 2009 from <http://www.ihatealgore.com>

Jacques, P. (2006). The Rearguard of Modernity: Environmental Skepticism as a Struggle of Citizenship. *Global environmental politics*, 6 (1), 76-101.

Jickling, B. (2001). Environmental thought, the language of sustainability, and digital watches. *Environmental Education Research*, 7 (2), 167-180.

Jickling, B., & Wals, A.E. (2007). Globalization and environmental education: looking beyond sustainable development. *Journal of Curriculum Studies*, 40 (1), 1-21.

Kahn, R. (2008). From education for sustainable development to ecopedagogy: Sustaining capitalism or sustaining life? *Green Theory & Praxis: The Journal of Ecopedagogy*, 4 (1), 1-14.

Kaplan, S. (2000). Human nature and environmentally responsible behavior. *Journal of Social Issues*, 56 (3), 491-508.

Khatchikian, C. (2008). A holistic perspective in natural sciences. In Diriwächter, R., & Valsiner, J. [Eds.], *Striving for the whole: Creating theoretical syntheses*. New Brunswick: Transaction.

- Kirk, J. A. (2007). *The future of reason, science and faith: Following modernity and post-modernity*. Aldershot [u.a.]: Ashgate.
- Kollmuss, A., & Agyeman, J. (2002). Mind the Gap: why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, 8 (3), 239-260.
- Lacan, J. (2002). *Ecris: a selection*. (Fink, B., Fink, H., & Grigg, R., Trans.). New York: W.W. Norton & Co. (Original work published 1966).
- Levin, B. (1998). The educational requirement for democracy. *Curriculum Inquiry*, 28 (1), 57-79.
- Lewko, J., Hein, C., & Clanger, B. (1991). Adolescent attitudes toward the environment: Preparing them for sustainable development. *Technology & Society (ISTAS '91)*, 33-40.
- Lockie, S. (2004). Collective Agency, Non-Human Causality and Environmental Social Movements: A Case Study of the Australian 'Landcare Movement'. *Journal of Sociology*, 40; 41-57.
- Loughland, T., Reid, A., Walker, K., & Petocz, P. (2003). Factors influencing young people's conceptions of environment. *Environmental Education Research*, 9 (1), 3-19.

- Lousley, C. (1999). (De)Politicizing the Environment Club: environmental discourses and the culture of schooling. *Environmental Education Research*, 5 (3), 293-304.
- Marin, L. (Producer), & Imperial, B (Producer), & Taylor, A. (Director). (2008). *Examined Life*. [Motion picture]. Canada: Sphinx Productions.
- Marouli, C. (2002). Multicultural Environmental Education: Theory and Practice. *Canadian Journal of Environmental Education*, 7 (1), 26-42.
- Meira Cartea, P.A. (2005). In praise of environmental education. *Policy Futures in Education*, 3 (3), 284-295.
- Meyer, J.M. (2008). Populism, paternalism and the state of environmentalism in the US. *Environmental Politics*, 17 (2), 219-236.
- Muhlhausler, P., & Peace, A. (2006). Environmental Discourses. *Annual Review of Anthropology*, 35, 457-479.
- Nocella II, A.J. & Best, S. (2006). Revolutionary environmentalism: An emerging new struggle for liberation. *Green Theory & Praxis: The Journal of Ecopedagogy*, 2 (2).

- Opotow, S., & Weiss, L. (2000). Denial and the process of moral exclusion in environmental conflict. *Journal of Social Issues*, 56 (3), 475-490.
- Ortlipp, M. (2003). The risk of voice in practicum assessment. *Asia-Pacific Journal of Teacher Education*, 31 (3), 225-237.
- Orr, D. (1992). Environmental Literacy: Education as if the Earth Mattered. *Twelfth Annual E. F. Schumacher Lectures*. Great Barrington, Massachusetts: E.F. Schumacher Society.
- Pajak, E., & Green, A. (2003). Loosely coupled organizations, misrecognition, and social reproduction. *International Journal of Leadership in Education*, 6 (4), 393-413.
- Payne, P. (1997). Embodiment and Environmental Education. *Environmental Education Research*, 3 (2), 133-153.
- Potts, M.W. (2002). Arun Gandhi Shares the Mahatma's Message. *India-West*, XXVII (13).
- Reay, D. (2004). Education and cultural capital: The implications of changing trends in education policies. *Cultural Trends*, 3 (2), 73-86.
- Rogers, R.A. (1994). *Nature and the Crisis of Modernity*. Montreal, Canada: Black Rose Books Ltd.

Ryan, J. (2002). Inclusive leadership for diverse schools: Initiating and sustaining dialogue. In Fennell, H. [Ed.], *The role of the Canadian principal* (119-141).

Sammel, A. (2003). An Invitation to Dialogue: Gadamer, Hermeneutic Phenomenology, and Critical Environmental Education. *Canadian Journal of Environmental Education*, 8, 155-168.

Saul, J.R. (2008). *A fair country: Telling truths about Canada*. USA: Viking Canada.

Sauvé, L. (2005). Currents in Environmental Education: Mapping a complex and evolving pedagogical field. *Canadian Journal of Environmental Education*, 10, 11-37.

Schleppegrell, M.J. (1997). Agency in Environmental Education. *Linguistics and Education*, 9, 49-67.

Schleppegrell, M.J. (1997). What makes a grammar green? A reply to Goatly. *Journal of Pragmatics*, 28, 245-248.

Schultz, P. W., & Zelezny, L. (2003). Reframing environmental messages to be congruent with American values. *Human Ecology Review*, 10 (2), 126-136.

- Selby, D. (1999). Global education: Towards a quantum model of environmental education. *Canadian Journal of Environmental Education*, 4, 125-141.
- Selby, D. (2000). A darker shade of green: The importance of ecological thinking in global education and school reform. *Theory Into Practice*, 39 (2), 88-96.
- Shallcross, T., & Robinson, J. (2006). Is there a common language of environmental justice and global citizenship? In Shallcross, T., & Robinson, J. [Eds.], *Global citizenship and environmental justice: At the interface/probing the boundaries*. Amsterdam: Rodopi.
- Sillitoe, P. (1998). Knowing the land: Soil and land resource evaluation and indigenous knowledge. *Soil Use and Management*, 14 (4), 188-193.
- Smyth, J. (1999). Is there a future for education consistent with Agenda 21? *Canadian Journal of Environmental Education*, 4, 69-82.
- Smyth, J.C. (2005). Environment and education: a view of a changing scene. *Environmental Education on Research*, 1 (1), 3-20.
- Stables, A. (2001). Language and meaning in environmental education: An overview. *Environmental Education Research*, 7 (2), 327-334.

- Stables, A., & Bishop, K. (2001). Weak and strong conceptions of environmental literacy: implications for environmental education. *Environmental Education Research*, 7 (1), 89-97.
- Stevenson, R.B. (1987). Schooling and environmental education: contradictions in purpose and practice. In Robottom, I. (Eds.), *Environmental Education: Practice and Possibility* (139-153). Victoria: Deakin University Press.
- Stibbe, A. (2001). Language, Power and the Social Construction of Animals. *Society & Animals*, 9 (2), 145-161.
- Taylor, C. (1991). *The Malaise of Modernity*. Cordcord, Ontario: House of Anansi Press Limited.
- UNESCO & United Nations Environmenta Program (UNEP). (1977). *International Conference on Environmental Education, Tbilisi (USSR): Final Report*. Retrieved Dec. 23, 2008 from http://www.gdrc.org/uem/ee/EE-Tbilisi_1977.pdf
- UNESCO. (1997). *Educating for a Sustainable Future: A Transdisciplinary Vision for Concerted Action*. Retrieved Dec. 24, 2008 from http://www.unesco.org/education/tlsf/TLSF/theme_a/mod01/uncom01t05s01.htm#i

- UNESCO-UNEP. (2007). *4th International Conference on Environmental Education, Ahmedabad: Moving forward from Ahmedabad... Environmental Education in the 21st Century*. Retrieved Dec. 24, 2008 from <http://www.tbilisiplus30.org/Final%20Recommendations.pdf>
- Usher, R., & Edwards, R. (1994). Subject disciplines and disciplining subjects: The subject in education. In Usher, R., & Edwards, R. (Eds.), *Postmodernism and Education: Different Voices, Different Worlds* (82-100). Routledge.
- Verhagen, F.C. (1999). The Earth Community School: A back-to-basics model of secondary education. *Green Teacher*, 59, 28-31.
- Weston, A. (1996). Deschooling Environmental Education. *Canadian Journal of Environmental Education*, 1, 35-46.
- White, M. (1999). *Isaac Newton: The Last Sorcerer*. Da Capo Press.