

## **Toward a Pedagogy Focused on Sustainability and the Health Benefits of Nature**

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### **ABSTRACT**

Our purpose is to show how making sustainability central to college/university pedagogy can provide a powerful focus to teaching for socio-psychological, cognitive change and can reduce the dissonance between thinking about sustainability and developing sustainable behaviors. Our hypothesis is that building on and going beyond eco-psychology and phenomenology to incorporate research on the verifiable benefits of immersion in nature will enrich the courses we teach and challenge students to think critically about sustainability. Our method is to review literature on the psychological benefits of immersion in nature, to reflect on the implications of that literature for the urgency of sustainability, and to apply these insights to specific courses that we teach. Our contributions are a more acute appreciation of the urgency of socio-cultural change for sustainability and some specific strategies for a sustainability-oriented pedagogy.

### **INTRODUCTION**

The UNESCO website (2021) defines Education for Sustainable Development (ESD) as empowering learners with knowledge, skills, values and attitudes to make informed decisions and take responsible action for environmental integrity, economic viability, and a just society. Education for Sustainable Development is a lifelong learning process and an integral part of quality education. It enhances the cognitive, social, and emotional and behavioral dimensions of learning. It is holistic and transformational, and it encompasses learning content and outcomes, pedagogy and the learning environment itself. ESD is recognized as a key enabler of all Sustainable Development Goals and achieves its purpose by transforming society. ESD empowers people of all genders, ages, present and future generations, while respecting cultural diversity. ESD's goal is to enhance an individual's perception of and respect for the natural environment.

A 2019 article, "An Eco-Psychological and Phenomenological Approach to Sustainability," made the case that eco-psychology and phenomenology provide theoretical grounding for a productive, comprehensive approach to the issue of sustainability (Riggs & Hellyer-Riggs, 2019). The argument began with the observation—the conviction—that the obviously unsustainable practices of contemporary humanity illuminate a cognitive problem, a problem of mindset, that cannot be solved by applying the same thinking and methods that created it (Riggs, 1999). The usefulness of eco-psychology and phenomenology derives, in significant part, from the questions that they pose, questions that become more pressing each year. Why do we not conceive of and inhabit the earth sustainably? Why do

we not take seriously the needs of the entire biosphere, as well as our own perceived needs and those of other/future humans? How can we restore the earth, both materially and as a factor in our consciousness, perhaps reconceiving “needs” with sustainability in mind? What is the mindset that positions us as separate from, and even in a domineering, hostile relation with, the earth? Why do we not perceive nature as alive, as many of our ancestors did (Sheldrake, 1994; Suzman, 2021)? What are the psychological costs of the currently dominant conception of development and of our present relation to the earth? How can “development” be made realistically compatible with sustainability? Can we reimagine what development means in a way that explicitly includes developing and sustaining a mode of consciousness incorporating and serving the entire biosphere (Plotkin, 2006; Losurdo, 2014). What is it in the background of contemporary consciousness that makes that so difficult? Perhaps the most interesting and crucial question is, will sustainability require that a change in awareness come first, or will real steps toward sustainability gradually change our awareness as we seek sustainability? (Riggs & Hellyer-Riggs, 2019). In sum, what IS the problem? And how can we define and escape the level of consciousness within which the problem has arisen?

### **CURRENT SITUATION/MINDSET**

It seems clear to us that the desperate need for a new mindset, a new cognitive paradigm for understanding ourselves as inhabitants of the finite world, and an updated phenomenology of our actual experience, has become even more obvious. The intensification of climate change—2021 was yet another hottest-year-ever—also intensifies the imperative for fundamental change. More immediate in its impact and implications, and probably connected directly with climate change and other forms of unsustainable damage to natural systems, is the Covid-19 pandemic. As we write, devastating drought and catastrophic flooding haunt much of the earth. Enormous fires destroy forests and pour carbon dioxide into the atmosphere. It is long past time to get beyond what Suzman (2021) called the “breezy rhetoric of sustainability.”

It is ever more undeniable that human activity which disrupts and damages ecosystems also damages the entire biosphere, and that the biosphere is us (Rich, 2021). Human decisions and actions cannot affect “nature” without affecting us. We do not exist outside and in opposition to “nature.” Making use of other elements of nature, in any form, for narrowly conceived human “needs”—wet markets selling wild animals for meat, clearing rainforest for beef production, burning fossil fuels to power industrialization—is symptomatic, but symptomatic of what, exactly? We must recognize that the fate of future people cannot be thought about or pursued only by reference to narrow human needs and wants as currently defined. The epistemologically convenient and powerful, but ultimately disastrous, separation of the human from the natural is suicidal. Human needs are inextricably entangled in the viability of biospheric processes.

It is clear to us that these destructive acts and processes are symptomatic of a

pathological and no-longer-sustainable—it never actually was sustainable--mindset. We must, cognitively, some would say “spiritually,” inhabit a new level of consciousness in order to inhabit the earth sustainably. We must redress our delusional attempt to secede from the biosphere. We are animals (Wolfe, 2012, 2020). Honest consideration, phenomenological analysis, of our current experience is crucial to defining a new way of understanding sustainability. Has the suspension of some of our aggressive exploitation and profit-seeking imposed by Covid-19 permitted many to recognize what has been lost? Could honest appreciation--phenomenological contemplation—of our experience of reduced pollution; less consumption; and more conscious, even leisurely, contact with our environment make us more aware of the costs, the loss, entailed by our unsustainable practices and the mindset that makes them seem unavoidable, or even desirable? Phenomenology asks what is our current experience actually like? Are we experiencing, all at once, the pleasure to be derived from nature, the inadequacy of the current paradigm to serve and protect us, the consequences of invading and dismantling natural systems, and the crushing human costs of social inequality? Are moral, psychological, and material sustainability inextricably linked? Are they not even really distinguishable?

### **HEALTH BENEFITS OF CONTACT WITH NATURE**

There is a considerable and growing body of research arguing persuasively that direct experience of, phenomenological immersion in, nature can contribute to better health and a change in mindset. Berman, Jonides, & Kaplan (2008) documented the cognitive benefits of close interaction with nature. Donovan, Butry, Michael, Prestemon, Liebhold, Gatzolis, & Mao (2013) showed that contact with trees has positive health effects in humans. As demonstrated by Hanson, Matt, Bowyer, Bratkovich, Fernholz, owe, Groot, & Pepke (2016), even in urban settings, experience of forests enhances both individual and social health. Paul (2021) argued that intelligence itself, far from residing exclusively in the “mind,” or even the brain, is a function of relations among the body and the aspects of environments. Clearly, human “needs” should be defined as including direct, bodily experience of nature. Arvay’s (2018) work has illuminated the positive effects of what Wilson (1984) originally termed the “biophilia effect.” It is evident, not only that we humans need to experience our love of nature and our sense of loss at being alienated from it, but also that immersion in nature can foster a mindset that favors sustainability. Given the voluminous research showing that “mind” is a bodily function, the current emphasis on “mindfulness” can be understood as recommending awareness of one’s bodily presence in particular, phenomenologically specific, moments and places (Damasio, 1994; Haidt, 2006). With those moments of bodily presence in natural places, healing and movement toward sustainable cognition can occur.

According to the World Economic Forum (2021), students who spend just 10 minutes a day in nature could reduce stress. Overall, the review found that compared with equal time spent in an urban setting, walking in a range of natural settings led to significant health

improvements. These included reduced heart rate, blood pressure, and cortisol, improved mood and reduced anxiety. Students might want to incorporate nature exposure into their daily lives as a way of combating stress and improving mental health ([www.weforum.org](http://www.weforum.org)).

### **ORIGINS OF THE MINDSET**

Western philosophy, and, at least since the seventeenth century, modern science, have been heavily invested in separating mind from body and humanity from nature. (Sartwell, 2021). Even before the seventeenth century, Aristotelian science was being criticized for being too “passive” in its attitude toward nature, for perceiving nature as alive (Berman, 1981). It has often been argued that the manipulation of nature for human ends, and the beginning of unsustainable culture, began with systematic agriculture (Suzman, 2021). However, there is no doubt that the ambition, and the capacity, to alter nature in major ways arose in earnest in Europe in the seventeenth century.

By separating mind from body, and associating the body with nature, modern epistemology, and the cognitive style it depended on and fostered, made dominance and manipulation of nature the test of knowledge. It seems as if modern science was born out of fear of nature, and out of determination to subjugate and exploit it. It is a fascinating and frustrating paradox that modern science, whose warnings of environmental catastrophe are now being widely ignored or angrily rejected, arose to fulfill the desire to conceive the world as a servant of human desire and ambition. Climate science is demolishing delusions that were first those of modern science, itself. It is the promise and ambition of early modern science—the alliance of scientific knowledge and technological power-- that has turned out to be unsustainable. The vision of what Crutzen & Schwägerl (2011) termed the “Anthropocene” has turned out to be dystopic, not the paradise of human appropriation of nature for human-defined purposes imagined by seventeenth-century epistemology and its associated mode of cognition (Paul 2021).

The current “debate,” and of course the term gives much too much credit to one side, about climate change provides an interesting, and desperate, occasion for reexamining the origins of modern science and its dominant style of cognition. The basis of modern epistemology—of what eco-feminist Plumwood (1993) called the “master model,” and what has been called even more evocatively, “conquistador cognition” (Riggs, 1999)-- is that nature is simultaneously nothing but dead space and matter, available for exploitation in the service of human projects, and somehow also a fearsome witch who must be subdued, dominated, and made to serve the purposes of culture ((Bacon, 1620, as cited in Rifkin, 2004). The arrogant dream of replacing the “female” biological world with one conceived and built by a process of masculine manufacture, using materials drawn from nature and dumping the effluent of the manufacturing process into the “dead extension” of the physical world, is our nightmare, today. As Virilio (1989) argued, natural perception itself has been replaced in modernity by increasingly mediated perception. We are totally dependent on the same physical world—and body—that we pretend to transcend and

manipulate.

### **OUR PEDAGOGY IN TWO COURSES**

Some work on the theory and practice of pedagogy for transformative/engaged learning, contemplative learning, and critical thinking combines very well with our recent concentration on sustainability (Riggs & Hellyer-Riggs 2010, 2011, 2014). Pedagogical strategies we have developed for specific courses can profitably be adapted to teaching for awareness of issues related to sustainability. One of the basic concepts in transformative learning is the activating event: a challenge to conventional thinking and perception deep enough to motivate significant change. Sustainability is a question of values, of styles of cognition, and even of emotion, before it can be a matter for science. What do we want to sustain? What have we lost by being alienated from nature? What has been in the way of sustainable consciousness and behavior? This is where education comes in.

A course on modernizing Europe and colonial/post-colonial Nigeria provided a number of excellent opportunities to make sustainability a theme, and to encourage critical thought about the origins and development of our crisis of sustainability. This course was a re-reading and re-thinking of the history of events and processes that we have always been taught to admire. Today, college students are sufficiently aware of crises that threaten their future to be receptive to critical thinking about “our” history. Making the issue of sustainability, or unsustainability, a central theme of the course provided a strongly constructive focus for their unease.

The course began with consideration of the fifteenth and sixteenth centuries as a watershed in the accelerating modernization of Europe. The voyages of “discovery,” motivated by the desire for new material wealth, inaugurated the steadily intensifying competition among some European states that we call “imperialism/colonialism.” In the course, we recognized the “discovery” of the Americas as an early, and completely missed, opportunity to learn from “traditional” societies and cultures (Diamond, 2012). The relationship between Native American peoples and their natural environment could have served as a model for Europe and the modern West. Contact between European imperialists and colonialists and “native” peoples had always been central to the course; now, sustainability provided a unique urgency to recognizing what might have been learned from people and cultures devastated, even exterminated, by “modern” people. Instead of contemplating the ways in which Native Americans inhabited their environment and husbanded their resources, the invaders dehumanized them so as to be able to treat native people themselves as resources serviceable for European purposes.

A crucial element in our reconsideration of modernization was the issue of property. It is understandable that eighteenth-century reformers, in a time when property ownership was largely monopolized by kings and aristocrats, saw in property ownership a key to liberation. However, as Losurdo (2014) and many others have pointed out, John Locke, for example, conceived of property ownership as requiring that “waste”—natural—land be

“improved.” Native Americans were seen as having no entitlement to their lands because they did nothing to “improve” them (Losurdo, 2014). This disastrous conception of property rights persists in our concept of “development.” People who do not exploit their natural resources intensively enough, by modern standards, are “under-developed,” or, indicating that development is regarded as both desirable and inevitable, “developing.”

We have, in the introductory part of this paper, mentioned the origin of modern science’s instrumental power in the separation of mind from body, and of “man” from nature. The ideal of power over nature is discernible in both Baconian science and Lockean property: transforming given nature in service to human projects was being fully “human” (Solomon, 1998; Losurdo, 2014). Consideration of scientific inquiry as motivated by the ambition to “improve” the material conditions of life—again understandable under conditions prevailing in eighteenth-century Europe—led us to reconsideration of the Enlightenment. While seeing in the Enlightenment emphasis on evidence-based knowledge and independent thinking a precursor of what we try to do in this course, we also recognized that Enlightenment thinkers failed to discredit slavery and endorsed the crudely instrumentalist view of the natural world.

The Enlightenment period also saw the beginning of the industrial revolution, and Adam Smith’s formulation of *laissez faire* capitalist ideology. Non-white people were routinely regarded as less than fully human, and therefore as available to be exploited for purposes conceived by Europeans and other whites. Slavery was at its height—or depth. The wealth of nations was defined in terms of productivity and commerce, and new machines were powered by the burning of coal. When assessing the “positives” and “negatives” of industrialization, students were asked to see the process as having led to the crises we face today. We read some of Thomas Malthus’s *An Essay on the Principle of Population*, and students were asked to decide whether or not Malthus was correct to regard resources as finite, and exponential population growth as eventually disastrous (Malthus, 1998). This issue is complicated, of course, by Malthus’s contention that the poor are inherently defective, and that aid to them is both futile and immoral. Discussion of Malthus led us to consider the distribution of costs and benefits of social and economic change. How will the costs and benefits of movement toward sustainability be distributed? Who is most responsible for today’s crises, and who will suffer most from them?

At this point in the course, an online discussion forum—a crucial element of our transformative pedagogy—asked students to respond to a prompt, and then to reply to another student’s initial response. Among the prompts were the following. In what ways is Malthus correct, and what criteria do you apply in making this judgment? Can the Enlightenment ideal of independent thought be applied to criticism of some Enlightenment ideas? Do the current environmental crises mandate a reconsideration of what we have understood as “progress”? These questions obliged students to develop criteria of judgment and to look at issues from multiple perspectives.

The next major focus of this course was Social Darwinism and European imperialism

and colonialism in Africa, and particularly in Nigeria. Students are usually well prepared to recognize the injustice of regarding some humans as inherently superior to others as a way of justifying oppression and exploitation. However, making sustainability a theme of the course obliged us to look critically, not only at the assertions of superiority, but at the definition of “progress” in terms of powerful technologies and their use in exploiting nature and people. It is obvious enough that documents like Kipling’s “White Man’s Burden” (in *Change and Tradition*, 2010) exemplify a racist hierarchization of “types” of humanity and anticipate the genocidal horrors of the twentieth century. However, thinking in terms of our crises of sustainability, and of the mindset and practices that produced them, led us to recognize the wealth of cultural wisdom that was destroyed by colonialism.

Like the European invaders of the Americas, and like the permanent colonists who followed them, imperialists in Africa were so convinced of their superiority, and so driven by the greed that was disguised by claims of superiority and by the “civilizing mission,” that they never imagined learning anything from traditional African societies. The savagery of forced labor and calculated removal or eradication of peoples are obvious and horrifying. However, we also now focused on the systematic, often violent, replacement of locally adapted subsistence agriculture by large-scale, monocultural cash-cropping for export. How much knowledge and wisdom about sustainable relations with specific environments were lost by remaking much of Africa into another reservoir of resources to be exploited for European purposes?

Despite the official end of colonialism in 1960, Nigeria, today, still has a colonial-style economy: the country is dependent on the extraction of petroleum for consumption by foreigners; the oil industry has ruined the Niger River delta and the sustainable local economies that used to thrive there; once self-sufficient agricultural communities are now dependent on imported food that must be bought on the international market with the volatile earnings from oil exports. Famine and pervasive poverty are endemic in today’s Nigeria. In another discussion forum, students were asked to reflect on what the material we had looked at had taught them about the ideas and practices that have led to the crisis of sustainability and what resources—cognitive, practical, and emotional—we can bring to bear on the search for a more sustainable relation with the earth. Can our fear of and flight from the specter of scarcity be replaced by the confidence, exemplified by our forager ancestors, that the earth can and will supply what we really need (Suzman, 2021)? Do our mode of cognition and our ruthless exploitation and despoliation of nature actually *produce* the scarcity that we fear? Is our obsessive focus on what Suzman (2021) calls the “economic problem”—the allocation of allegedly scarce material resources—a major ideological/cognitive reason for the difficulty we still have in trying to confront the crisis of sustainability?

Perception was the focus of an excellent article by Jessica Belue Buckley (2013). She outlined a phenomenological approach to restoring a mindful, sustainable relationship with nature. Living sustainably implies a certain way of perceiving the earth and our relation

to it. Such perception leads to concrete choices informed by that perception (Buckley, 2013). Buckley began by analyzing some elements of our current language that imply the lack of such a relationship. She pointed out, for example, that we speak of throwing trash “out” or “away.” This clearly suggests that the trash will no longer be connected to us in a place that we inhabit, that it will be consigned to an abstract non-place. Mindful contemplation of reality would recognize that there is no such abstract space that is separate from us and immune to being damaged by us. The concept of the circular economy seems to represent a move toward theorizing a sustainable economic paradigm (Sustainable Management School Switzerland Business School, 2019).

A psychology course about Child Development taught at a large campus with abundant greenspace seemed a perfect place to teach the importance of mindfulness of nature to be passed on to the next generation. Mindfulness is the mental state achieved by focusing one’s awareness on the present moment, while calmly acknowledging and accepting one’s feelings, thoughts, and bodily sensations. Students in this class were asked to focus on what they were aware of while walking through the greenspace to class. Several students commented they were mindful of the squirrels gathering food for the winter, the stream going through the middle of campus, the different bird species, and the fresh scent of the newly mowed lawn. Other students had difficulty thinking of anything other than the song that was playing on their earbuds, or of talking or texting to friends on their cellphones.

Throughout the semester, many of the class sessions were conducted outside. We beganS class by talking about what we saw and heard until most students became more aware of the beauty of the natural environment. The goal was to help students become mindful of nature and the precarious condition of our environment. Students thought of ways in which they could be activists for sustainability on campus. Creating an activating event enabled students to see that there is much work that needed to be done in our own campus culture to improve and sustain the greenspace. We discussed ways in which sustainability could be incorporated into the psychological theories we were studying, including the phenomenological theory.

Buckley’s (2013) phenomenological account reminds us of our own actual experiences of connectedness with nature. Mushroom hunting in the woods, hiking and fishing in the mountains, lying at night under the stars in places far from urban light pollution, cultivating and harvesting vegetables and other crops for home consumption, all are potential models for an intense experience of our embeddedness in the earth. One author lived as a child on three acres where most of what was eaten was grown or raised, organic waste was composted, and all family members contributed labor. We now realize that this was much closer to sustainability than what we have achieved, now, in suburbia. We can be intensely mindful of our earth-embeddedness as we watch the birdlife and trees in our yard and walk around our neighborhood ponds and the nearby lake. Close attentiveness reveals an amazing wealth of wildlife and plant life even here, in the suburbs. How would we find

our way back to an overall practically sustainable life? How can keeping nature in mind lead to living sustainably in/on the earth? We buy organic food whenever possible; we shop at the local farmers' market; we eat mostly plant-based food; we exercise outdoors, trying to be mindful of our bodies in interaction with the earth; we use LED light bulbs and energy-efficient household appliances; we use reusable grocery bags, and we have installed energy-saving insulation and windows in our house. We have only battery-powered yard equipment, and we have joined a coalition of citizens and business/community groups that promotes the greening of our city. We do not pretend that these choices have made our lifestyle fully sustainable, but they are all small moves toward that goal, and they are also exercises of mindfulness that contribute to a change in our overall awareness. Taking such measures has changed our way of thinking, motivating us to make further choices and to redefine our needs with those of all of humanity and of the earth in mind. The phenomenology of our way of inhabiting the earth is changing.

### CONCLUSION

The current situation, which is beyond urgent; our students' huge stake in the future; our own experiences; and our work in pedagogy for transformative learning and critical thinking make sustainability a powerful new explicit focus for our courses. Sustainability as a central theme of the courses, along with incorporating concrete experiences of nature, is now at the heart of our pedagogy.

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