

Review of *Learning Gardens and Sustainability Education: Bringing Life to Schools and Schools to Life*, By Dilafruz R. Williams and Jonathan Brown

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Tricia Francis-Morgan's research interest involves examining the socio-political and economic implications of food production and consumption in the present globalized political economy and how cooperative student engagement with food systems can foster critical understandings of place and education that promote sustainability throughout the Caribbean. More information about her work can be found on her website at caribsusted.com.

Two years ago I began work on a paper to examine the role of small-scale agriculture and school gardens in revitalizing local economies and local culture in the Caribbean. My efforts to find a comprehensive theoretical framework for applying the concept of food growing to education seemed lacking until I came across *Learning Gardens and Sustainability Education: Bringing Life to Schools and Schools to Life*. In *Learning Gardens*, Williams and Brown establish living soil in its literal and metaphorical contexts as an ecologically grounded framework for challenging the dominant mechanistic paradigm that characterizes modern educational systems and for supporting sustainability pedagogy. Through rich, sensory educative experiences with the soil of learning gardens students begin to understand and appreciate the complex interconnections between soil, plants, animals, and people thus facilitating solid steps toward sustainability.

Drawing upon the literal and metaphoric significance of soil, Williams and Brown have identified seven guiding principles that serve as an analytical framework for understanding how learning gardens provide an alternative, regenerative paradigm for ecologically grounded sustainability education. As a unique ecological milieu, the soil of learning gardens facilitates the nexus of pedagogy with pedology by helping learners cultivate a sense of place, foster curiosity and wonder, discover rhythm and scale, value biocultural diversity, embrace practical experience, nurture interconnectedness, and awaken the senses.

Cultivating a Sense of Place

The concept of place in place-based education evokes a call for education to be committed to serving the social and ecological well-being of particular places and to make teaching and learning relevant to the needs of the communities in which learners live through active, experiential learning (Gruenewald & Smith, 2008; Smith & Sobel, 2010; Sobel, 2004). Soil conveys the unique characteristics of places in profoundly telling ways. Williams and Brown contend that as students engage with the soil of their learning gardens they begin to develop intimate knowledge of their unique socioecological environment. Feeling intimately connected to a place increases the likelihood that people will care for their unique places (Berry, 1990; Orr 1992). “The uniqueness of place,” note Williams and Brown, “is embodied in the soils of diverse school gardens” (p. 58).

Fostering Curiosity and Wonder

In laying out his theory of experience and education, Dewey (1938) pointed out that a truly educative experience must “arouse curiosity” and “strengthen initiative” (p. 38). Williams and Brown argue that active engagement with the soil of learning gardens offers rich opportunity for reorienting teaching and learning in modern educational systems from mechanized, lifeless, uneducative experiences to meaningful ones which foster curiosity and wonder. As with life, the authors contend, the living soil of learning gardens abounds with questions. How does decomposition happen? Why do leaves change color? Questions such as these invite wondering and stimulate keen observation. Perhaps more importantly the authors note, when

students are in search of answers to questions such as these, they develop habits of investigation and expression that facilitate their full and critical engagement with the world.

Discovering Rhythm and Scale

The living soil of school learning gardens facilitates life-honoring educational processes that are attuned to the natural rhythms and scales of all living things. The authors remind us that modern educational systems, characterized by artificial and mechanistic modes of organization, promote forms of teaching and learning that are in stark contrast to the natural cadence of living systems. Meaningful learning experiences with the soil of learning gardens disrupt the mechanistic discourse of modern day schooling and promote the creation of social systems that are mindful of the rhythm and scale of the natural systems that sustain all life.

Williams and Brown inform us that tactile engagement with living soil supports awareness of the natural tempo of life. Observing changes in growth in a garden that correspond to seasonal changes provides students with rich opportunities for authentic engagement with the natural rhythms of life. In stark contrast to modern day conceptions of progress commonly evidenced in the present globalized growth economy, growth and development in sustainability education are not based on paradigms of linear progress but are viewed instead within the context of the recursive rhythms and scales that characterize nature. The authors highlight important pedagogical implications presently of global significance that stem from examination of what happens when the normal rhythms of nature are disrupted. Examples include students discussing the use of non-reproductive hybrid seeds, pesticides, and chemical fertilizers and the implications of such use on socio-ecological environments.

Valuing Biocultural Diversity

The living soil of school learning gardens, note Williams and Brown, presents a rich milieu for observing the co-evolution and interdependence of ecological and cultural systems. Meaningful engagement with the soil of learning gardens provides students with wonderful experiential opportunities for guiding them into sustainable living practices that help to foster biocultural diversity. Gardening methods such as companion planting and multi-cropping promote vibrant biodiversity. The authors also point out that learning gardens present students with opportunities to learn not only about growing food and the nutritional value of food but also the interdependence between food and social experience.

Embracing Practical Experience

Williams and Brown emphasize that physical engagement with life and life-sustaining processes is key for promoting sustainable living. The authors mention two prominent educational theorists – Dewey and Gandhi – who both believed that truly educative experiences are experiential but who also cautioned that experiences need to be accompanied by critical reflection if they are to be educative. Williams and Brown urge that practical experience of the kind presented by learning gardens should not be perceived as thoughtless activities with no

connection to texts and previous experiences. Well-designed learning garden experiences, they argue, allow for a truly connective education where synthesis between head, heart, and hands can be realized.

Nurturing Interconnectedness

All life is based on a complex system of interconnectedness and interdependence. This basic understanding which runs counter to core principles of modern industrialized economies is necessary for creating sustainable societies (Capra 1996, 2002). For Williams and Brown, tending the living soil of school learning gardens presents students with an opportunity to discover the frequently obscured connections between soil, self, and society. The authors discuss planting a Three Sisters Garden comprising corn, beans, and squash as a wonderful demonstration of companion planting and the mutually influential relationships between living things.

Awakening the Senses

Experiences are made more educative when all the senses are engaged. Williams and Brown contend that the living soil of school learning gardens provides rich opportunities for enlivening all the senses and for promoting educative experiences that are finely calibrated with the myriad interconnections of all life. They argue that engaging the full range of sensory experience in garden based experiential learning through sight, sound, smell, taste, and touch promotes ecological awareness and ecological thinking.

For Williams and Brown, sensory educative experiences with the soil of learning gardens stand in stark contrast to the inauthentic and sterile life experiences many students now have in schools as a result of teaching and learning environments that are heavily mediated with technology. In the age of “smart boards” and social media, heavy reliance on technology such as computers disconnects students from real engagement with life. The authors point out that this artificially constructed state of being is essentially a disconnection from our humanness – our sensory capacities.

Williams and Brown provide pedagogical examples of the kinds of rich experiential educative opportunities that learning gardens provide. Sit spots involve children sitting in one place in a garden while fully engaging their senses with the wonders of the natural world around them as well as the reciprocity between themselves and their physical environment. Constructing a cob bench also affords children meaningful opportunities for deep sensory engagement. Children enjoy feeling sand, clay, and water beneath their feet as they use their feet to mix these materials together in preparation for constructing the bench. Rich, sensory educative experiences such as these enable children to be finely attuned to the complexities of their socioecological environments.

I highly recommend *Learning Gardens* as a seminal contribution to sustainability education discourse and practice. The authors have outlined a cogent analytical framework for gardening-

based education that provides a much-needed alternative to the mechanistic practices of modern educational systems.

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