

## The Future of Sustainability in Higher Education

Nathan Hensley  
Bowling Green State University  
nhensle@bgsu.edu

**Abstract:** In this article, I explore the future of higher education within the context of teaching and learning for sustainability. Challenges currently facing sustainability education are identified along with opportunities to face these challenges in ways that are transdisciplinary and holistic. I make the case that envisioning the future of sustainability education enables practitioners and educational theorists to better meet the needs of today's generation without compromising the ability of future generations to meet their needs (World Commission on Environment and Development, 1987). My vision of the future of sustainability education in higher education is grounded in transformative, experiential, and place-based approaches. Engaging students in authentic inquiry in the classroom enables students to become better citizens and stronger problem solvers within the context of sustainability and beyond.

**Keywords:** Sustainability education; place-based education; future casting; experiential learning; transformative education

## The Future of Sustainability in Higher Education

### Introduction

The eyes of the future are looking back at us and they are praying for us to see beyond our time. They are kneeling with hands clasped that we might act with restraint that we might leave room for the life that is destined to come. To protect what is wild is to protect what is gentle. Perhaps the uncertainty we fear is the pause between our own heartbeats, the silent space that says we live only by grace. Wild mercy is in our hands. -Terry Tempest Williams (2002, p. 229)

The destiny of humans cannot be separated from the destiny of earth. -Thomas Berry (In Bosselman, 2016)

Early in the process of my doctoral coursework I submitted a draft of my research interests to a professor. After reviewing it, he said, “So, you want to promote a world where people have optimal experiences and live in harmony with the planet. But then what?” *Then what?* I had thought getting to that point was enough; what more was needed? Since then, I have completed my dissertation and taught sustainability-related courses for almost seven years as a faculty member. I now realize that the question “...then what?” deserves the attention of sustainability scholars and practitioners worldwide. Asking what is supposed to come next is important because it enables us to envision the future and our role in creating a healthy and sustainable future. The “then what?” question pushes us to connect the dots between where we are, where we want to be, and beyond, while weaving together a more fully integrated picture of sustainability.

Since it is unclear what sustainability will look like in the future (Meadows, 1996), there is a need to co-create a vision for the future to imagine what a sustainable world will look, feel, and sound like. We need to anchor this vision in the pluralistic framework that enables all humans to participate in building a sustainable future while understanding that sustainability is an ongoing process and that the sustainability movement doesn't end once certain criteria have been met. Reflecting on the current environmental and social challenges that we, as humans, face on this planet provides an excellent foundation with which a transformative picture of the future can be built. Environmental philosopher David Orr (2016) warns that we “have initiated very large [negative] changes in Earth's atmosphere with a duration measured in centuries to millennia, but our institutions, organizations, systems of governance, economies, and thinking are geared to the short term, measured in years to a few decades” (p. ix). The opportunity for sustainability education is lined up well with the level of crisis that we now face (Orr, 2009; Hensley, 2012). Future-casting is a powerful visionary tool for drawing the most optimistic picture of what can be within the context of sustainability and sustainability education, but it isn't an easy process. Recognizing the challenges of envisioning a sustainable world, the environmental philosopher Donella Meadows (1996) argued that vision is “the most vital step in the policy process” adding that if “we don't know where we want to go, it makes little difference that we make great progress” (p. 9). To future cast is to explore the opportunities for transformation in “as-yet-unimagined ways that create new learning platforms for change.” In this article I will investigate and “future-cast” sustainability education possibilities within the realm of higher education. A well-crafted vision for the future of sustainability, within higher education, will enable practitioners and theorists to better meet the needs of today's generation without

compromising the ability of future generations to meet their needs (WCED, 1987).

### **A New Story**

The theologian and environmental philosopher Thomas Berry (1990) emphasizes that the story which currently guides human civilization is not adequate, because it overemphasizes themes of overexploitation and consumption, and he insists that we need a “new story”. We need a narrative that embraces compassion and mindfulness (Fox, 1999; Mueller & Greenwood, 2014). Instead of operating from an epistemic orientation that embraces fragmentation and overspecialization, ecological mindfulness values the “integration and blending of thought” (Mueller & Greenwood, 2014, p. 2). In the future, mindfulness will need to be recognized as essential to well-being especially in contrast to the major amount of time spent on screens (Zaradic & Pergams, 2007; also in Sol & Wals, 2015). In higher education, one goal is to help prepare students to become effective citizens and this goal must include building upon awareness and problem solving skills pertaining to ecological literacy (Orr, 1992).

There is little doubt that human activity casts a negative impact on the ecological health of the planet (Wackernagel & Rees, 1996; Steffen et al., 2015; Rockstrom et al., 2009; Orr, 2016). This impact is manifested in many ways and confirmed through data collected by major studies such as the Millennium Ecosystem Assessment (MEA) and the Intergovernmental Panel on Climate Change (IPCC). From an educational standpoint, it is critical that students are informed of existing environmental challenges and presented with alternative and less pervasive methods of consumption because lack of awareness and understanding about the environment leads to unchecked consumption patterns and destroys prospects for sustainable stewardship (Orr, 1992; Hensley, 2011; Hensley, 2015). To promote sustainability now and in the future, students must be equipped with the tools to critically participate in the discourse regarding stewardship and consumption. Students must also be informed of anthropogenic impacts on the planet and the opportunities for action because, when armed with this knowledge, they can be more intentional about reducing fossil fuel use, increasing community resilience, and advancing sustainability. When looking to the future of sustainability education we must recognize the ethical implications of how curriculum and pedagogy in higher education influences the trajectory of future generations.

### **Teaching Towards Sustainability**

Educational philosopher Susan Santone (2004) maintains that sustainable education aims to create “a more just, humane, and secure world” (p. 5). Numerous institutions and individuals are beginning to recognize the moral imperative associated with sustainability (Hawken, 2007). However, current economic practices are based on what the environmental activist, Wes Jackson (1993), refers to as the “extractive economy” or an economy that is dependent upon extracting resources from the earth without concern for replenishment of those resources. Companies are still pumping rivers full of poisons, consumers continue to buy products that generate large ecological footprints, and trees are being harvested at a drastically higher rate than they are being replanted (Goudie, 2013). Sustainable education has the capacity to send ripples of change throughout human and non-human communities. These changes come in various forms that include dialogue, action, and agency. Authors Habermas, Derrida, and Borradori (2003) identify

obstacles to the critical dialogue that can promote change. They contend that catastrophes such as the environmental crisis are “the product of a ‘dogmatic slumber’ from which only a new philosophical reflection can awaken” (p. 100). In the educational context a ‘dogmatic slumber’ is demonstrated by the general “ignorance of ecological principles and their inseparability from social realities” (Gruenewald, 2004, p. 77). Gruenewald adds that there is an unsustainable link between education and economics with the “seldom-questioned commitment to prepare students for employment in the competitive, high-tech world of the 21<sup>st</sup> century” (p. 77). The overemphasis on economic productivity and financial success is challenged through the transformative approach of sustainability education.

Sustainable education works at moving beyond what John Dewey (In Greene, 2001) calls the “crust of conventionalized thought” which involves the entrenched educational allegiance to materialism and attaining big bank accounts and subsequently evokes the aesthetics-oriented “wide awakesness” that the educational philosopher Maxine Greene (2001) refers to in *Variations on a Blue Guitar*. Becoming wide awake helps prevent the phenomenon of just blindly stumbling through life as it is and not challenging the status quo. The current mode of education promotes what Greene (2001) calls sleepwalking, the uncritical acceptance of the existing economic-centered discourse in education and in life itself. Cornel West (2004) observes that “The oppressive effect of the prevailing market moralities leads to a form of sleepwalking from womb to tomb, with the majority of citizens content to focus on private careers and be distracted with stimulating amusements. They have given up any real hope of shaping the collective destiny of the nation” (p. 27). Addressing issues of sleepwalking and stimulating amusements, sustainable education utilizes a relevant and active curriculum to promote student agency and critical thinking skills. Students exposed to sustainable education are more likely to become citizens that are dedicated to reducing the poverty gap while simultaneously working to restore the earth’s natural regenerative capacities (Orr, 2004). Sustainability education helps to graduate students who are better equipped to promote positive change at economic, social, and ecological levels.

The National Council for Science and the Environment (NCSE, 2003) published a guide to effective implementation of sustainable education entitled *Education for a Sustainable and Secure Future*. The guide addresses several different aspects of sustainable education. The moral argument for this enterprise is cogent:

[sustainable education is] important from a moral perspective. Because our schools and universities educate our citizens and train our future teachers, policymakers, and community and business leaders, these institutions bear a deep and moral responsibility to provide the expertise and vision needed to foster a sustainable future. Furthermore, academic freedom, tax-free status and public resources are granted to American educational institutions in exchange for the dissemination of knowledge and values to ensure the health and well-being of society. (NCSE, 2003, p. 10)

I maintain that education needs to involve a democratic exchange of ideas that promotes a healthy landbase and equips each student to become transformative leaders. Educators in public and private institutions, educational theorists, and administrators need to be aware of these goals and be challenged to meet them. David Orr (2004) explains that environmental disorder stems from educational disorder:

Ecological disorder reflects a prior disordering of thought, perceptions and values. The

ecological crisis is a crisis of mind, which makes it a challenge for those institutions which purport to improve minds. It is, in other words, an educational crisis. (In NCSE, 2003, p. 10)

Sustainable education is not simply a symptomatic approach; instead it facilitates the process of addressing ecological problems directly. The focus of sustainability education is on eliminating the “crisis of mind” that perpetuates the ecological problems that we continue to face.

### **A Call to Action**

Within the realm of education, we need to implement a well-coordinated and deliberate effort directed at revitalizing the earth’s restorative capacity. The great injustices that the earth is facing are continuing to increase in the form of development and imperialism (Bowers, 2006). Also, the globalization movement is homogenizing cultural practices and extracting place-based stewardship practices (Bowers, 2006; Hensley, 2011; Capra, 1996). This is exemplified in the educational context when curriculum developers focus on one authoritative source such as textbooks for a definitive information source. Sustainability education promotes both interdisciplinary and critical thinking. Remaking our presence on the earth involves a place-based approach (Hensley, 2011).

When we consider what needs to be conserved and how to be more ecologically sustainable, place comes into the forefront. Place is the platform on which relevant environmental practice can be identified and acted upon. Environmental educator Chet Bowers, indicates that “place-based intergenerational knowledge and practices within both rural and urban settings contribute to lifestyles that have a smaller ecological impact” (2006, p. 20). We must know *where* we are to reduce our impact. Wendell Berry states “if you don’t know where you are you don’t know what you are” (In Ackley, 2003, p. 172). Once we know what we are we are more likely to work towards preserving the integrity of the land base. Understanding *what* we are involves a critical interpersonal and intrapersonal dialogue.

Within the realm of higher education, I envision that by midcentury (2050) there will be a place-based education component integrated throughout all curriculum and pedagogy. This place-orientation will be recognized as relevant within and throughout each discipline especially within the context of advancing sustainability. Thus, college students will encounter, within each of their classes, the significance of place and the value of sustaining the interconnections of ecological integrity, social solidarity, and economic vitality. College students will be recognized as part of the solution to the ecological and social dilemmas that we face and they will be required to develop their critical thinking skills especially in relation to environmental problems that appear to be intractable and unsolvable.

When looking at the prediction of the earth’s human population in 2050 (estimated to be at least 9 billion) the sustainability imperative becomes even more obvious, especially within the realm of education. Accordingly, it is essential that education takes on the role of transforming unsustainable human-earth interactions and when this takes place we will see an increase in efforts to build resilient communities, robust alternative energy infrastructure, and a restructuring towards place-based municipalities (Hensley, 2011; Hensley, 2013).

## **Transformative Higher Education**

I envision that, in the future (ie. 2050), higher education institutions will be radically reinvented to respond to the multiplicity of social-ecological challenges that will continue to emerge. Community and place-based education will become more of the rule than the exception and top-ranked colleges will exemplify high impact practices such as service-learning, project-based learning, and bioregional education in an effort to better equip students for the rapidly changing socio-ecological landscape that awaits them. This form of higher education will involve many formats, but will be easily recognizable, with classes from virtually all academic disciplines actively learning content in ways that benefit the local community and serve as think and do tanks for facing wicked problems (Hensley, 2017) such as climate change, the rapidly deteriorating public water supply, poverty, and much more.

Wicked problems are “problems the solutions to which are not obvious, wherein complexity is high, uncertainty is rampant, values are in dispute and trade-offs are the norm” (Miller, 2015, p. 6). When trying to implement solutions for a wicked problem, it is typical that other problems occur. For example, when trying to prevent soil erosion by implementing no-till farming practices in the 1960s and 1970s, the result was an increase in the amount of phosphorus that ran off of farmer fields, thereby increasing the harmful algal blooms in places like Lake Erie (McDowell & McGregor, 1980). It was later discovered that phosphorus was more likely to bond to the soil when it was tilled and stay there during rain events as opposed to non-tilled land (McDowell & McGregor, 1980). This is just one example of the highly interconnected and complex nature of wicked problems. When looking to the future of higher education, there is little doubt that there will be an increase in the wickedness of environmental and social problems and that different perspectives, creativity, transdisciplinarity, and innovative thinking will be central to addressing these problems (Huutoniemi & Tapio, 2014; Hensley, 2012).

When looking to the future, I also envision an expansion of collaborative programming not unlike the Engineers for a Sustainable World Wicked Problem Sustainability Initiative (WPSI: ESW, n.d.) which is a response to the seemingly intractable but increasing wicked problems facing people and the planet. The WPSI promotes cross-university, interdisciplinary student and faculty interaction by hosting a common learning management page in which a number of courses from multiple universities (such as Bowling Green State University, Rose-Hulman Institute of Technology, University of South Florida, Rochester Institute of Technology, and others) contribute videotaped guest lectures and other content. Each year the focus is on a pre-selected theme associated with a wicked problem (such as public water supply, public housing, or hunger) to tackle the problem from multiple perspectives and develop strategies to make the problem less wicked. The WPSI utilizes peer review on student projects between institutions to increase the rigor of student work, increase dialogue, innovativeness, and increase creativity.

### **...Then What?**

Now, if I am asked the “then what?” question, I will be ready to share that through sustainability education, humanity will become better equipped to foresee, identify, and address wicked problems in ways that are more innovative and more pluralistic. Also, strong sustainability

education provides a heuristic, grounded in place, that is dedicated to helping the next generation read their surrounding landscape and make decisions that are appropriate for the bioregion in which they are situated (Hensley, 2011). Thus, the vision is to enhance critical thinking, sense of place, and ecological literacy while advancing the capacity for current and future generations to face seemingly intractable problems with resilience and hope.

Educational theorists and practitioners are uniquely positioned to help transform this vision, pertaining to ways that humans view and interact with one another and with the natural world. To invoke the question of “then what?” we are releasing the imagination (Greene, 2000) of current and future generations to consider ways that we can further mobilize the sustainability movement (Hawken, 2007). A new vision of education is necessary to facilitate the habits of mind and heart which can move us along this path (Berry, 1990) and framing this vision within the transdisciplinary framework of sustainability is the best way forward. Education is our greatest resource (Sterling, 2001) and education is well situated to help us face today’s and tomorrow’s socio-ecological challenges in ways that are meaningful and transformative.

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*Hensley*

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