Transformative Learning and Systems Thinking: NWEI’s Pedagogy for Sustainability

Transformative learning is centered on “the notion of recreating underlying thoughts and assumptions about the systems, structures, and societies that we are part of.” Through critical reflection, participants make visible their invisible assumptions about the way the world works and their places in it.

Educational institutions educate and prepare the citizens, policy makers, teachers, business people, and molders of opinion of today and the future. While the ideas of sustainability education have gained significant interest in many parts of the world, educational institutions have accomplished little toward the transformation of academic culture called for by key sustainability education advocates (Sterling, 2002). In fact, most education today still “contributes daily to unsustainability” and “does little to sustain the ‘whole person’ – spirit, heart, head and hands” (Sterling, 2002, p. 12).

Education has historically functioned to reproduce society and societal systems, but sustainability education aims to follow a new path: to re-create society and shape human systems and approaches to the rest of nature that are just, equitable, and regenerative. Instead of continuing to educate for the current environmentally and socially degrading global marketplace, education can transform and renew society by helping citizens discover new ways of thinking and being and by modeling collaboration and critical thinking. In so doing, educational institutions can shift our current destructive and unsustainable societal paradigm to one that is creative and life-sustaining. In essence, sustainability education aims to transform students into leaders who are critical thinkers and active doers.

The connection between transformative learning and sustainability education is an emergent theme in literature about sustainability education. UNESCO’s Report of the International Experts’ Workshop on Faith-based Organizations and Sustainability (Pigem, 2007), proposes that all education for sustainability, whether formal or non-formal, should “aim at learning to transform oneself and society” (p. 14). Others agree that in order for sustainability education to succeed, it must be transformative (Haigh, 2006; Sterling, 2004).

So what does transformative education look like? Transformative learning is centered on “the notion of recreating underlying thoughts and assumptions about the systems, structures, and societies that we are part of” (Moore, 2005, p. 86). Through critical reflection, participants make visible their invisible assumptions about the way the world works and their places in it. In short, “transformative learning develops autonomous thinking (Mezirow 1997, p.5).” The goal of transformative education is to empower individuals to change their perspectives, and the educator's role is to create an environment that is supportive and open to critical self-reflection.

Transformative learning requires practitioners to take risks, be willing to be vulnerable, and possess openness to having their attitudes and assumptions challenged. Within this paradigm of learning as change (as opposed to learning for acquisition), learning is understood as a creative, participatory, and reflexive process, and knowledge is recognized as approximate, provisional, and relational (Kelly, 2010). Because transformation cannot be taught but must be learned, the role of the educator in transformative learning is to create the space for critical reflection and transformation to occur (Cranton, 2002).

However, it is important to remember that because of the deconstruction necessary for worldview transformation, transformative learning can be both threatening and regenerative. Creating
safe trusting spaces is essential to allow for greater risk taking and transformation that is hope-based, renewing and regenerative (Kelly, 2010). The constraints of formal classrooms and assessment methods can make true transformative learning difficult. If participants don't have the necessary reflection skills, transformative learning can be frustrating, awkward, and scary. However, Mezirow suggests that a certain amount of discomfort is needed in order to undergo transformation in our understanding (1997).

Transformative learning involves experiencing a deep, structural shift in the basic premises of thought, feelings, and actions. It is a shift of consciousness that dramatically and irreversibly alters our way of being in the world. Such a shift involves our understanding of ourselves and our self-locations; our relationships with other humans and with the natural world; our understanding of relations of power in interlocking structures of class, race and gender; our body awarenesses, our visions of alternative approaches to living; and our sense of possibilities for social justice and peace and personal joy (O'Sullivan, 2003).

It is important to remember that as students are learning about big and complicated issues and deconstructing their own assumptions and worldviews, the learning environment remain a safe place to express feelings, be vulnerable, and ask questions. Students need to be able to look for solutions and opportunities for positive action or to make change. Otherwise, sustainability education and transformative learning become processes devoid of hope, and students become apathetic and cynical.

**Transformative Learning and Systems Thinking**

![Image of the Iceberg diagram](image-url)

Systems thinking is a foundational concept in sustainability education and shares many of the components of transformative learning, particularly the focus on making visible the invisible assumptions we have about the world. The term *systems thinking* broadly refers to a way of approaching problems that asks how various elements within a system — which could be an ecosystem, an organization, or something more dispersed such as a supply chain — influence one another. Rather than reacting to individual problems that arise, a practitioner of systems thinking will ask about relationships to other activities within the system, look for patterns over time, and seek root causes.
One systems thinking model that is helpful for understanding global issues is the iceberg model. We know that an iceberg has only 10 percent of its total mass above the water while 90 percent is underwater. But that 90 percent is what the ocean currents act on, and the iceberg demonstrates the influence of those forces at its tip. Global issues can be viewed in this same way.

A key part of this model is the deepest and most challenging level of systems thinking: transforming mental models. Mental models are the attitudes, beliefs, morals, expectations, and values that allow structures to continue functioning as they are. These are the beliefs that we often learn subconsciously from our society or family and are likely unaware of. Practicing systems thinking allows practitioners to see the patterns and structures behind the more visible events and crises in our current social structure. Both systems thinking and transformative learning aim to help practitioners identify their own invisible mental models, deconstruct them, and then consciously reconstruct them through a process of engaged evolution.

**Northwest Earth Institute’s Model**

NW Earth Institute offers a catalog of programs that encourage systems thinking and inspire participants to make positive change in their own lives. All of NW Earth Institute’s programs are centered around three important elements of transformative learning: collaborative discovery, personal reflection, and opportunity for action. These can be incorporated into many different kinds of education and classroom experiences.

*Figure 2. NW Earth Institute Pedagogical Process*

**Connect: Shared Discovery**

An important aspect of NW Earth Institute programs is the collaborative construction of knowledge—what sustainability looks like in our current context is an unknown, and requires the
participation of people from all levels and experiences. Program participants bring their own unique experiences and perspectives to the learning process and share their insights and knowledge with each other. Together, they construct an idea of what sustainability means for them in their time and location. This collaborative learning process is rich and social—learning is easier and more fun when it happens as a community. More than 90% of surveyed NW Earth Institute discussion course participants report that the group process and support inspired them to make personal changes. Together, participants discover new ways to live, work, create and consume that make sense for who they are and where they live.

Reflect: Personal Reflection

A second key component of NW Earth Institute programs is personal and critical reflection. By reflecting on their own values and experiences, participants understand themselves, their peers, and their world better. The critical aspect is vital to transformation—participants must become critical of their own assumptions in order to transform their unquestioned frame of reference. NW Earth Institute discussion courses encourage transformation learning by posing questions targeted at personal and critical reflection. Some examples:

- We read in this session about how the American standard of living is dependent on moving our environmental costs elsewhere. Can you think of a specific way that the consequences of your consumption might be shifted elsewhere? Explain. (from Seeing Systems)
- Consider Marion Nestle’s outline of seven strategies food companies use to encourage us to eat more. Which of these, if any, are you most influenced by? (from Menu for the Future)
- David Orr contends that our innate “biophilia” is the best hope for our future, as opposed to technological cleverness or abstractions about progress of one kind or another. How do you respond to this? (from Reconnecting with Earth)
- When looking at our society’s reaction to climate change, where have you observed the “split between what we think and what we do” that Michael Pollan mentions? How does this split play out in your own life? (from Change by Degrees)

Act: Positive Action

NW Earth Institute programs are designed to facilitate community and relationship development. When program participants have built-in support from their own community of change, taking action feels easier and more rewarding. Taking action encourages feelings of inspiration and empowerment, an important antidote to the feeling of being overwhelmed that commonly occurs when presented with new and challenging information about the current crises we face.

Participants are encouraged to start where they are, with small actions that make sense in their own lives. From changing an incandescent light bulb to an LED bulb, to divesting from fossil fuels in their portfolios, to planting a garden, participants take small and achievable steps toward sustainable living. Collectively, those steps lead to real impact. The reward of feelings of accomplishment and satisfaction help participants feel encouraged to make more positive actions and engage in positive lifestyle change. NW Earth Institute programs lead students from taking small individual actions to taking larger collective action in their communities and circles of influence. Participating in social action can lead to critical reflection (Mezirow, 1997), which closes the loop on NW Earth Institute’s pedagogical model (see figure 2).

Results

NW Earth Institute’s pedagogical model offers a case study for effective transformative learning in action. NW Earth Institute discussion courses are designed to be self-facilitated in small groups and
are used in faith communities, businesses, and educational institutions. The goal of the courses is to “inspire people to take responsibility for Earth.”

Although educators who have used the courses often focus on the quality of content and broad coverage of topics as the reason why the courses are effective, students and participants overwhelmingly comment on the importance of discussion with others and commitment to action as the most important aspects of the courses to their learning and growth. And NW Earth Institute courses have seen real results. Of course participants surveyed from 2009 to 2013:

- 80 percent feel a greater sense of personal obligation for solving environmental challenges
- 72 percent take more seriously the challenges of declining ecosystem health
- 87 percent feel their small group was helpful in creating change
- 79 percent buy more local and organic produce
- 73 percent make reductions in household energy and water consumption
- 60 percent more frequently volunteer for environmental causes and make alternative transportation choices

NW Earth Institute offers a sustainability education resulting in much more than just knowledge acquisition – an education that results in outcomes of true transformation, a sense of agency, and real world application. Through proven transformative learning methods, NW Earth Institute programs guide participants through the difficult process of identifying, questioning, and recreating their invisible assumptions about the world, and toward empowerment and tangible positive action in their own lives and communities.

**Works Referenced**


