

## **Higher Education for Strong Sustainability (Chapter 6)\***

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UNESCO (2010) observes that “many, perhaps most, formal educational institutions, as well as many nonformal and media based educational/advertising enterprises, are not promoting education for sustainable development (ESD). Rather they are conditioning individuals to work for other ends, whether that is overconsumption or the promotion of fundamentalist and intolerant social projects.” Solving the social and environmental problems of our time will require that our higher education institutions, to paraphrase Einstein, teach and practice a different mindset than that which created these problems.

This article describes some characteristics of this new mindset, which we term strong sustainability, in contrast to the weak form of sustainability currently in practice in higher education. We review the current status of sustainability in higher education and describe the changes in the critical dimensions of university life that this new mindset would require. It is very difficult to create a university that embodies strong sustainability in an economy that is unsustainable, and with disciplines and professions that are not oriented toward research and practices that are necessary for a sustainable future. We highlight some academic leaders, projects and programs at the healing edge of transformative change toward strong sustainability.

### **Still Stuck**

Despite 25 years of global debates concerning sustainable development, climate change, poverty alleviation, and so on, we are making insufficient progress toward a just, sustainable and peaceful future for all. National governments pursue their own narrow short-term interests, civil society is fragmented, multinational corporations shape the global agenda to achieve short term profits with little real concern for the environmental and social dimensions of a triple bottom line.

Little progress has been made towards creating a truly sustainable world because the mainstream response to the challenge of sustainable development has been to focus on eco-efficiency in the service of economic growth. Our voracious globalizing economy has been greened in part, but we have not altered its course to embrace a stronger vision of sustainability.

### **Status of Sustainability in Higher Education**

Since the late 1990s, when higher education started to take sustainability seriously as a philosophical and organizing principle, colleges and universities have steadily increased their efforts to incorporate sustainability in their academic programs and operations. Yet most of this progress is achieving ecoefficiency gains in campus energy use and in the design and operation

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\* Source: *Intergenerational Learning and Transformative Leadership for Sustainable Futures*, Peter Blaze Corcoran and Brandon P. Hollingshead, Eds., Wageningen Academic Publishers: The Netherlands, 2014.

of buildings while integrating sustainability concepts in only a small minority of disciplines and professions.

The Association for the Advancement of Sustainability in Higher Education (AASHE), America's premier professional association focused on sustainability, publishes a weekly e-bulletin of "Higher Education Sustainability News, Education & Events" (see [www.aashe.org/connect/enewsletters/bulletin](http://www.aashe.org/connect/enewsletters/bulletin)). The bulletin provides an accurate account of what is actually happening in institutions across the US and Canada, offering, in effect, a working definition of sustainability in action. It is divided into three sections: Education & Research; Campus Operations; and Planning, Administration & Engagement. An analysis by these authors indicates that from 2011 through 2013 the bulletin consistently reported approximately three times more activity in campus operations than in either of the other two categories. Within campus operations, most news items fell under the subtopics of buildings, energy, dining services, grounds, transportation and waste.

While most colleges and universities are showing consistent improvement in the 'greening' of their campuses, this predominant focus on physical operations over leadership, curriculum, research, or social equity has remained more or less the same since the late 1990s (see Calder and Clugston, 2002). In other words, their cultures have not substantially shifted. This critique is quite pervasive in the higher education for sustainable development (HESD) literature (Calder and Dautremont Smith, 2009; Blewitt, 2012; Sterling *et al.*, 2013). Many have pointed to the power and intractability of the disciplines in keeping their knowledge base firmly entrenched in reductive and narrow specialization. The academic reward system – promotion, tenure, and publication in prestigious disciplinary journals – does not support sustainability (Sterling *et al.*, 2013: 30).

Sterling (2004) describes the cultural challenge this way: "First, higher education institutions are not primarily reflexive learning systems (learning organisations) but teaching and research systems. Second, higher education is not primarily engaged in the provision of deep learning to students, but in first-order learning: the transmission of information and the development of instrumental skills aligned (increasingly) to the perceived needs of the economy." The result of this precondition is that colleges and universities will make various operational changes, such as energy conserving projects that are financially beneficial, but little that might threaten the underlying culture and worldview. "The notion of the sustainable university presents a challenge which is both pressing and difficult to realise because it involves deep learning across whole educational communities and amongst policy-makers" (Sterling, 2013: 38). If we are to meet the sustainability challenges of our time, higher education will need to teach and practice a much stronger form of sustainability than ecoefficiency and 'greening' a small set of courses.

### **Strong Sustainability**

Higher education and many other sectors have been debating the meaning of sustainable development and its implications for policy and practice. Increasingly governments in the United Nations recognize that economic development has destructive as well as beneficial consequences, and that we must shift to a new form of development that takes into account its environmental and social consequences. The UN sustainable development dialogues have

produced much talk about internalizing social and environmental costs in a new bottom line, as well as transferring green technologies and providing financial assistance to developing countries to leapfrog to a sustainable future. But such schemes have not been implemented, and are generally disconnected from the economic decision-making of governments.

The intergovernmental negotiations on the outcome document for the World Conference on Sustainable Development did not significantly address the critical sustainability challenges facing humanity, but they did end up adding promising inputs to the processes for developing Sustainable Development Goals and for shaping the post-2015 UN development agenda. There were many calls for a deeper, stronger form of sustainability.

For example, the *Earth Negotiations Bulletin* (2012), in its analysis of Rio+20, reported:

The Elders of the process and members of the Secretary-General's High Level Panel on Global Sustainability ...issued profound calls for a "great transformation" and a "new narrative" for the age of the Anthropocene... As the Nobel Laureates, scientific leaders and others reminded those in Rio Centro, this is the era where humankind has become the dominant driver of geological change on earth, forcing a recognition that all activity must now be judged against its contribution to the creation of a civilization that can flourish within the 'safe operating space for humanity' defined by social and ecological boundaries. This will be an era that some believe demands... an unprecedented turn in our approaches to all three dimensions of sustainable development [social, environmental and economic]—viewed not in isolation but as a "triple helix."... Discussions on the green economy were also a pale reflection of current global research on a new political economy of sustainable development that would place new economics at the heart of macroeconomic decision making at this time when fresh thinking is required to respond to the systemic crises around traditional models of growth.

These eminent persons are pleading for a great transformation based on new cultural narratives and new economics that value nature and future generations. Strong sustainability requires embracing new (and old) world views and ethical frameworks that care for the whole community of life on Earth, present and future. It also requires that we adopt policies and practices that embody such ethical concerns. Strong sustainability requires accomplishing two critical tasks.

*Task One: Reorienting cultural narratives, values and ethics*

Many have been pointing to the need for new narratives that move us out of the mechanism, materialism, reductionism, and utilitarianism of modernity (Bowers, 1995 and 2001). Bill Rees (2012), in commenting on the dominant development model, writes,

We have socially constructed a world in which competitive individualism and short-term self interest (sometimes simple greed) dominate individual and corporate behavior, and the marketplace has become the well-spring of all other social values... We are literally addicted to the myth of progress and infinite growth and, in the thrall of this myth, we deny all contrary data and ignore any argument that we are on a collision course with biophysical reality.

The Earth Charter is the product of an extensive global consultation to establish a shared ethical framework to guide sustainable development (see [www.earthcharter.org](http://www.earthcharter.org)). It provides “a strong definition of sustainable development,” write Bosselman and Engel (2010: 67), “recognizing the three standard pillars but organizing them in a particular way.” Environment, for example, “incorporates the greater community of life including human beings and the life-support systems on which we all depend. This shift to a broader life-centered perspective marks one key difference between ‘weak’ and ‘strong’ sustainability.” The social dimension of sustainable development, which the Earth Charter associates with economic and social justice, democracy, non-violence, and peace, “represents a set of pre-requisites and goals for sustainable development rather than negotiable or merely optional considerations.”

The Preamble of the Earth Charter states that “Fundamental changes are needed in our values, institutions and ways of living. We must realize that when basic needs have been met, human development is primarily about being more not having more” (paragraph 1). The task of reorienting cultural narratives asks, what is development really for, and requires that we reorient our sense of who we are and the purpose of the journeys we are on to live in a way that all can live.

#### *Task Two: Living in a way that all can live*

Two frameworks for understanding how we should approach a sustainable future were major topics at Rio+20. The first was the “Human Development Index and Ecological Footprint of Nations” chart (2012) (See Figure 1 below). The second, the “Oxfam Doughnut” (2012), builds on the “planetary boundaries” analysis carried out at the Tällberg Forum in June 2008, hosted by the Stockholm Resilience Centre, the Stockholm Environment Institute, and the Tällberg Foundation (2009) (See Figure 2 below).

The first shows various countries developmental trajectories, plotting the size of their per capita ecological footprint vs. how well they are providing the basic conditions necessary for a decent life for their citizens (expressed in the human development index or HDI). As nations develop economically they increase their score on the HDI, which is good, but they also increase their ecological footprints well beyond their fair share of Earth’s resources. The second framework, the Oxfam donut, advocates for paths of development that do not cross planetary boundaries and provide a floor of social protection for all people (the outer and inner circles of the two dimensional donut).

## Sustainable Development: 1980 - 2007

Human Development Index and Ecological Footprint of Nations

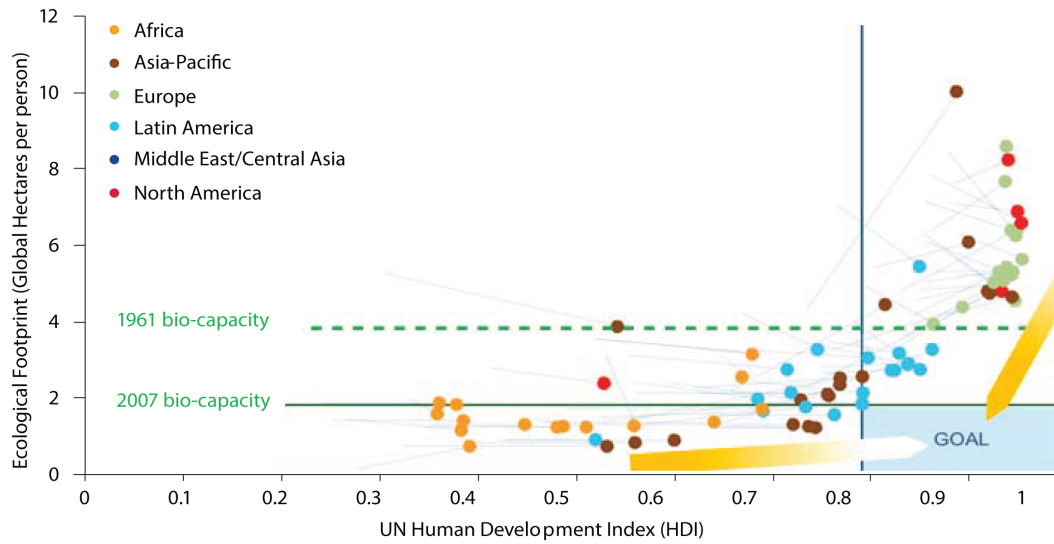


Figure 1: “Human Development Index and Ecological Footprint of Nations” chart, WBCSD Changing Pace, Global Footprint Network, Footprint Atlas 2011. [www.footprintnetwork.org](http://www.footprintnetwork.org).

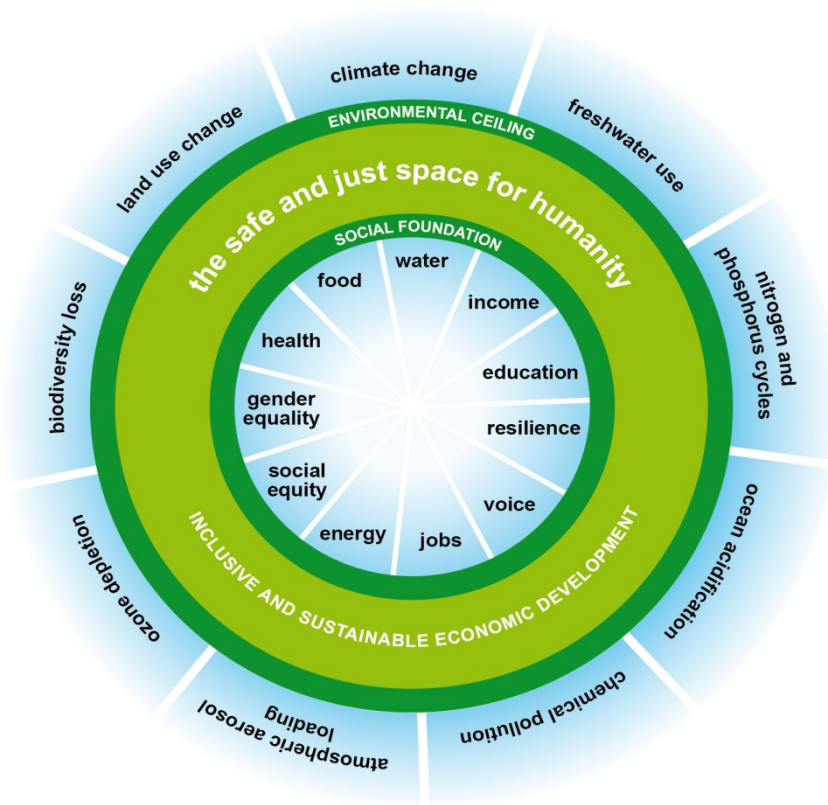


Figure 2: “Oxfam Doughnut,” Kate Raworth, Oxfam International, 2012. [www.oxfam.org/en/grow/video/2012/introducing-doughnut-safe-and-just-space-humanity](http://www.oxfam.org/en/grow/video/2012/introducing-doughnut-safe-and-just-space-humanity).

Both frameworks provide important perspectives on where our current development approach is taking us (past planetary boundaries, beyond the carrying capacity of our planet) and where we need to go. What would we really need to do in order to move all seven (soon to be nine) billion humans into the “safe operating space for humanity,” or into the “sustainability quadrant,” where each of our ecological footprints is small enough, and our scores on the Human Development Index are large enough, that each human being has the opportunity to lead a full life within a flourishing Earth community? This will require major shifts in our lifestyles, in the functioning of our communities, and in our social and economic policies.

### **Education for strong sustainability**

UNESCO has presented various lists of competencies to be developed by education for sustainable development (ESD) to enable such shifts. “ESD is a vision of education that seeks to balance human and economic well-being with cultural traditions and respect for earth’s natural resources. [It is] interdisciplinary and holistic, values driven, critical thinking and problem solving, multimethod, participatory decision making...and locally relevant.” (Toh and Cawagas, 2010) These are all important, but education will need to go farther. Education for strong sustainability would enable us to:

1. Cultivate our capacities to experience our interconnectedness with the whole living world (including diverse cultures of people, animals, the cycles of life and the seasons, as well as the unfolding cosmos) and to act from compassionate concern for others.
2. Live within the boundaries of Earth’s capacity to support us, reducing one’s ecological footprint, consuming no more than one’s fair share of Earth’s bounty, and choosing products and services (e.g., food, energy, transportation, housing) that are ecologically sound, socially just and economically viable (e.g, local, fair trade, organic, carbon and pollution neutral, humane).
3. Ensure that our decision-making and conflict resolution processes are open, enabling all to participate and clarify their preferences and grievances. Our process capacities – to be humble, honest and respectful; not to blame and to forgive; and to compromise for the good of all – are foundational for arriving at structures and solutions that further everyone’s development.
4. Act to shift policies to support a just and sustainable future by voting, lobbying, and participating in political decision making at all levels to promote policies to better care for future generations and the whole community of life, e.g., creating better measures of genuine progress than GDP, internalizing social and environmental costs in pricing goods and services, instituting carbon taxes.
5. Build a global citizens movement that demands the future we need for all. Organizations at the leading edge of sustainable development must combine programs and resources in an integrated effort to build the social movement to make those shifts in lifestyle, community and professional practices, and social policies that are necessary to create a just and sustainable future.

## Envisioning a University Committed to Strong Sustainability

The major purpose of a college or university would be to identify, teach and model the knowledge, skills, and attitudes necessary for strong sustainability. Based on our research at University Leaders for a Sustainable Future ([www.ulsf.org](http://www.ulsf.org)) developing and using the Sustainability Assessment Questionnaire (SAQ) ([http://ulsf.org/programs\\_saq.html](http://ulsf.org/programs_saq.html)), we identified the critical dimensions of university life and the changes we would expect to see if institution were committed to a sustainable future. The following describes five key dimensions in relation to strong sustainability.

1. The *administration, mission, policies, and strategic plans* of the university would make strong sustainability a central commitment of teaching, research, service and operations. In visiting the university's campus or website this commitment would be prominently featured. University leaders, particularly presidents and provosts, would take explicit public positions in support of strong sustainability and would allocate financial resources accordingly.

Transformational leadership in higher education requires bold action to make these necessary shifts. Elizabeth Coleman (2011), the president of Bennington College, describes their efforts to adopt elements of a strong sustainability paradigm:

We needed to find a compelling alternative to the departmentalized, discipline-based structures that dominate every aspect of higher education—one that would enable the challenges from the world to assume a fundamental informing position in the curriculum... Our assumption was that rethinking the uses of force, how we educate our young, attend to the health of our citizens; come to grips with the consequences of the disparities in the distribution of wealth; face up to the enormity of human effort it will take to confront and contain global warming; re-imagine our structures of governance; is as potentially rich for generating curriculum as the disciplines that currently serve to organize education.

Leaders like President Coleman, who are willing to challenge the foundation of the academic disciplines, are rare. Leadership for strong sustainability will have to come from all parts of the university, including activist faculty and students, sustainability directors, and indeed, presidents.

Drew Faust (2014), president of Harvard University, publically declared the University's commitment to fighting climate change in a formal letter to the Harvard community in April 2014. "As a university, (Harvard) has a special obligation and accountability to the future, to the long view needed to anticipate and alter the trajectory and impact of climate change." She points to progress in "research at the vanguard of energy and climate science," and "development of law and policy to advance sustainability and to address the hazards of climate change worldwide, from advancing climate agreements, to fashioning legal frameworks for regulating shale extraction, to designing models for sustainable businesses" among other examples. Faust calls for a bolder, more unified effort on the part of "students, faculty, staff and alumni." While not challenging the foundation of the academic disciplines, Faust declares climate change a priority within all dimensions of Harvard University life.

Arjen Wals' 2012 global review of the UN Decade of Education for Sustainable Development (DESD) supports this multi-dimensional perspective. In *Shaping the Education of Tomorrow*, Wals describes an institutional approach that could help advance strong sustainability. "Whole-institution approaches – which require the active engagement of multiple actors in the joint redesign of basic operations, processes and relationships – are increasingly put forward as a mechanism for making meaningful progress towards sustainability." These approaches include "visionary leadership, social networking, new forms of research and high levels of participation" (p.5).

2. The *operations* of the university would consistently model sustainable behavior, striving for net zero energy and zero waste over time, through strict reductions of the institution's carbon and ecological footprints, a long-term commitment to renewable energy, sustainable transportation, water conservation, sustainable landscaping, and humane and sustainable food systems. All new construction would strive for Living Building Challenge standards or equivalent (see <http://living-future.org/lbc>). All old construction would be continuously retrofitted to meet the highest possible green standards.

The University of Colorado, Boulder, USA, has pioneered several new approaches to sustainable operations that include the social and economic dimensions of sustainability. Since 2009, describes Dave Newport, Director of the University's Environmental Center, the school has offset a small percentage of their carbon emissions by funding carbon-mitigation projects in local and regional communities. They have funded solar hot water for low income homes in Loveland, a landfill methane-to-renewable power project in Ft. Collins, and a coal bed methane recovery system on the Ute Nation lands in Colorado (see [www.colorado.edu/center/cu-and-energy/carbon-offsets-and-recs](http://www.colorado.edu/center/cu-and-energy/carbon-offsets-and-recs)). On campus, the University has completed the transition to a natural landscape management system that uses only organic fertilizers and pays low income residents a fair hourly wage to hand pull weeds. In the process, the school helped develop and is now patenting a 'compost tea' irrigation system that prescribes the type and quantity of compost tea to apply to ensure a healthy level of organisms in the soil.

3. *Community outreach and service* would support sustainable community development in its local area and in the surrounding region through projects and partnerships with primary and secondary schools, local governments and businesses. Universities would also seek international cooperation in solving global environmental justice and sustainability challenges through conferences, student/faculty exchanges, and service opportunities.

Allegheny College, a small liberal arts institution in rural northwestern Pennsylvania, USA, has been fostering sustainable community development in the region since 1997 with its Center for Economic and Environmental Development (CEED). Each year nearly 10% of undergraduate students work with community partners on watershed protection, local business development, forestry and agricultural projects, environmental art installations, educational outreach, environmental justice issues, and other sustainability challenges. (See <http://sites.allegheny.edu/ceed/>)

4. *Students and the wider campus community* would engage in "transformative discourses" concerning worldviews, ecological integrity, the good life, and sustainable production and



consumption, with a focus on such questions as: How can we create conditions so that the soon to be 9 billion humans can lead decent, healthy, fulfilling lives, while enhancing biological and cultural diversity, and preserving opportunities for future generations to live full lives? How can we create a financial system that respects and cares for social and environmental well-being, as well as economic growth, and no longer discounts future generations? How can we live in a way that all can live, eliminating poverty and violence, and achieving justice and peace?

David Gruenewald (2004) provides a useful perspective on the Earth Charter's potential contribution to such transformative discourses in higher education when he states:

Thus from an educational perspective, the power of the Earth Charter is in its potential to engender conversations, to interrupt our discourse, and to challenge our norms and routines with a comprehensive, socio-ecological vision for society and education. For if ...we need to replace the destructive metaphors of modernism with new, and old, ecological metaphors, we desperately need conversations out of which these metaphors can emerge and circulate. (p.100)

Texas State University (TSU) provides one example of such transformative discourses. Using an instructional methodology called the Common Experience, TSU introduced the theme of sustainability to its over 34,000 students through formal and informal curricula during academic year 2010-2011 (Lopez, 2013). The Common Experience is designed to "cultivate a common intellectual conversation, to enhance students' participation in the intellectual life of the campus, and to foster a sense of community across the campus and extended community" (p.292). The effects of this 'experiment' endure: courses on sustainability topics continue to be offered and non-course project-based activities are still funded with a student environmental fee (see [www.fss.txstate.edu/sustainability](http://www.fss.txstate.edu/sustainability) for more information on these projects).

5. Understanding and contributing to strong sustainability would be a major factor in *curriculum and research, in the design of majors and general education requirements, as well as in the hiring, tenure and promotion of faculty members*. The nature of the disciplines and curriculum would reflect directly the needs and priorities of people and the planet. Emphasis would be placed on understanding and responding to the cultural narratives that determine human action in the world, and on developing the five capacities described above.

The UK's Plymouth University is working toward a comprehensive integration of sustainability practice and teaching. With a strong focus on sustainability since 2005, gaining national recognition for its various achievements in this area, Plymouth has recently instituted a teaching and learning strategy with sustainability as a key theme and launched a new Institute for Sustainability Solutions Research (Sterling *et al.*, 2013: 44). While there are other examples of colleges and universities that offer sustainability degree programs, this focus is not mainstreamed. We know of no universities that use knowledge of and demonstrated competency in sustainability as a determining criteria in hiring, tenure or promotion.

Of course, it is very difficult to create a university that embodies strong sustainability in an economy that is unsustainable, and with disciplines and professions that are not oriented toward research and practices that are necessary for a sustainable future. Universities are holding

companies for diverse and often antithetical views on what is real and what matters. It is nearly impossible to gain agreement on the need for and nature of transformative change. A college education is generally portrayed as a ticket to higher earning capacities, and indeed higher education is increasingly driven to demonstrate that this is true in an era of high student debt and fewer decent employment opportunities for graduates.

## **Getting There**

While the obstacles to strong sustainability are large in higher education, the awareness of the need to make such shifts has grown considerably over the past 20 years. Recent research by Wright and Horst (2013) on attitudes of faculty leaders at Canadian universities shows that a large majority believes that colleges and universities should be educating on sustainability and modeling sustainable behavior. At the same time, a majority of faculty also believe that “their role begins once leadership, incentive and demand has been realized” (p. 224). In other words, faculty leaders want their institutions to teach and model sustainability but don’t actually feel empowered to lead this transition.

Some institutions are forging ahead with efforts to challenge the status quo, as the examples above indicate. A key leverage point will continue to be university centers (such as CEED at Allegheny College), which serve as testing grounds for exploring how to teach and practice a stronger form of sustainability. Through analyzing and modeling best practices in university life, these centers are at the healing edge of higher education’s contribution to strong sustainability.

The discourse around sustainability in all sectors of society is growing steadily. Current trends in education, led by the rise of a global digital culture, are providing new opportunities for strong sustainability to take hold. Wals (2012) observes that “the boundaries between schools, universities, communities and the private sector are blurring as a result of a number of trends, including the call for lifelong learning; globalization; information and communication technology (ICT)-mediated (social) networking education; the call for relevance in higher education and education in general; and the private sector’s growing interest in human resource development” (p.5). Will Richardson (2014), author of edublog Weblogg-ed and other publications on the integration of technology in learning, has followed the online spread of content and learning networks everywhere. These developments, including free access to higher education courses wherever internet access exists, bode well for strong sustainability, which will depend on shifting cultural narratives and behaviors at all levels of society. All of this presents an opportunity for higher education to become an engaged leader in fostering compassionate and sustainable living.

Our challenge in this post DESD era is to enhance university leadership for strong sustainability and empower faculties to improve the capacities of all graduates to make their lives their messages, to create anticipatory communities, and to build social movements in support of a truly sustainable world. Like the leaders at Rio+20 quoted above, university leaders will need to deeply realize the transformative change that is needed, and be moved to transform the critical dimensions of their universities to support full human development on a flourishing planet.

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