

# Can We Make the Changes? Insights from the Edge

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## Abstract

*Asking a question like 'can we make the changes' implies that changes are necessary. So why do we have to change and what? I engage with this question in a Sustainability in Higher Education context, based on my experiences working in transformative education with undergraduate engineers and working in academic staff development in a variety of Australian universities. Not being a part of any particular discipline means working on the edge, but it also offers opportunities to see gaps and try to find effective ways of bridging them. Working in academic development means thinking about what teachers need to know, do and be in order to face the acknowledged challenges of teaching in the 21<sup>st</sup> century. Futures thinking offers a meta-dimension to the resulting insights, which may be useful to other educators on similar paths.*

*This paper aims to contribute to this discourse, which would include attempts to reach consensus as well as engaging in 'respectful dissensus'. Engaging with sustainability is a marathon, not a sprint. There is the prerequisite of support from the top and the need to understand 'resistings' to change which include recent aggressive arguments that sustainability is "eco-corruption" (Wood, 2010) and "corroding the curriculum" (Williams, 2010). The most challenging responses are transformative, based on deep understandings that we need to envision a sustainable world and take responsibility for creating it.*

**Keywords:** sustainability, transformative education, global citizenship, resistance

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## Introduction

### Why do we have to change?

We have to change because the way we are living is not sustainable. Almost twenty years ago Posch (1993, p.448) warned about the "growing 'death potential'" of economic/technological development confronting its 'life potential' to the point where human activity was threatening our survival. The ecosystem does not recognise political boundaries and we face new challenges, particularly the current and predicted impacts of global warming as a main aspect of climate change. I

accept the evidence of the majority of the world's climate scientists that (human caused) global warming is real and that it poses potentially catastrophic threats to sustainable life in the 21<sup>st</sup> century (UNEP, 2007).

Climate change is a symptom of an accumulation of unsustainable human practices which have cascading and multidimensional effects. The Global Humanitarian Forum (GHF) report on the impact of climate change on humans (2009) estimates that climate change is already responsible for over 300,000 deaths a year, severely affects over 300 million people, with another 500 million living at 'extreme risk' and 20 million displaced persons, with economic costs estimated at over 100 billion US dollars. Humans lose food security because of reduced yields and environmental degradation; suffer worse health through increased disease, infections and heat effects; increased poverty through lost livelihoods, forced movement when their land is lost to climatic events, and threats to personal security caused by social breakdown, as seen in New Orleans and more recently in Haiti. Taiwan and Southern China are among the many areas identified on the Climate Vulnerability Index as at "extreme risk" of increasingly extreme weather events (GHF, 2009, p.16). Climate change is also intimately linked to "population dynamics, poverty and gender equity" (UNFPA, 2009, p.v), connections some are unwilling to discuss because they involve powerful religious, cultural and economic interests. For example, Judge (2010, n.p.) reminds us that ecologist Garrett Hardin suggested referring to problems resulting from population pressure as population 'longages' rather than resource 'shortages'.

We are now living in what Ziauddin Sardar calls "post-normal times," a risky period of transition in which we face increasing challenges of "complexity, chaos and contradictions" (2010, p.16) with little time to reflect on how best to respond.

### **What do we have to change?**

Our current 'business as usual' approaches are premised on what Daly calls "Growthmania...the paradigm or mindset that always puts growth in first place, the attitude that there is no such thing as enough, that cannot conceive of too much of a good thing" (2004, p.1). This is hard to contest because "every force in our society is trained to want more growth" (McKibben, 2010, p.49). Scientist Richard Eckersley concluded that the seven deadly sins (pride, envy, greed, wrath, gluttony, sloth, and lust) have been rehabilitated and "domesticated" as the "seven marketing imperatives" of an unquestioned consumer hyper – culture (1999, cited in Slaughter, 2004, p.11). Yet continuing without change could result in temperature rises of up to 6.0 with associated known risks such as sea level rise, and unknown risks. Reaching tipping points could result in abrupt environmental changes such as forest die-back and melting ice sheets. This is why even the World Economic Forum (WEF) has accepted that current food, fuel and finance crises are "alarm bells warning of the unsustainability of global consumption". It warns that "business as usual" is not an option (2009, p.8) and has called for a "fundamental reboot" of the world's basic operating systems. The WEF criticises the current global economic system in which the richest 1% earn as much as the 57% poorest and has called for mindset shifts to create a "moral economy," observing that "where there is no moral values framework, the market ends up devouring itself" (2010, p.76). Unfortunately, it will take us with it.

The WEF sees the need to articulate the current values and develop a "moral discourse" through dialogue and enquiry about them. This may not be enough. The Global Scenario Group's Great Transition calls for a New Sustainability Paradigm "that would challenge both the viability and desirability of conventional values, economic structures and social arrangements" (Raskin, Banuri, Gallopin, Gutman, Hammond, Kate et al, 2002, p.x). Like the problems we have created, any solutions will have to be global. They depend on decision makers able and willing to think and act beyond national and transnational interests as well as global citizens who understand the issues and are prepared to support such decision makers. Sardar (2010) suggests we need to develop an ethical imagination based on the virtues of humility, modesty and accountability, which all cultures and traditions exercise and through which they contribute diverse solutions. There is no easy solution, "painless is just delay" (Mckibben, 2010, p.51)

### **Sustainability in Higher Education**

Sustainability was originally defined as meeting "the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987, p.8). It has since been co-opted by many discourses to mean various and sometimes incompatible things. Dobson (1996) in Jickling and Wals (2008, p.12) found over 300 definitions for sustainability and sustainable development. She also found that many of these had been developed by private enterprise. As Jickling and Wals warn, the term 'sustainable development' can be used as a "diversionary concept...incapable of imposing sanctions on government or industry" (2008, p.15).

An international engineering team offers a revised concept of sustainability which centres on responsibility and expands to include all other species, on which our survival depends (Ehrenfeld, Conceico, Heitor & Viera, 1999, p.12).

*Sustainability is a possible way of living or being in which individuals, firms, governments, and other institutions act responsibly in taking care of the future as if it belonged to them today, in equitably sharing the ecological resources on which the survival of human and other species depends, and in assuring that all who live today and in the future will be able to satisfy their needs and human aspirations.*

Tarah Wright (2010) identifies Sustainability in Higher Education as an emerging field that needs more research into what university stakeholders know about it and how they view the university's role in relation to it. Stephen Sterling's work offers a useful overview of three levels of response and their associated problems. Level one is "Education about sustainability," by which he means First Order change/learning or "learning as maintenance of current paradigm" (2001, p.15). Sustainability here is used as an increasingly important, but controllable "add-on" in which learning means transmitting knowable, uncontested sustainability as a separate content area. The second, more progressive level, "Education for sustainability" involves "learning for change" and includes examining values (Ibid., p.60). It examines the assumptions of "first-order thinking" and engages with the metacognitive dimension of learning about learning. The underlying myth is that with policy reform, humans can "manage" the

world's complex eco-systems in the same way as a business. Third Order change is "education as sustainability" or "learning as change which engages the whole person and institutions" (Ibid., p.61). This kind of education and these educators would help to develop graduates who will live and work with a futures awareness and an openness to evolving alternative ideas, hopefully *Globo sapiens* or wise global citizens.

Wals and Jickling see the very complexity and multiple perspectives of sustainability as positive opportunities to grapple with its meanings and impacts on every aspect of universities: "their core values, their practices, their entrenched pedagogies, the way they program for student learning, the way they think about resources and allocate these resources and their relationships with the broader community" (2002, p.129).

### Implications for educators

In terms of sustainability, ideally universities and their staff would begin to think "not merely about the world but on *behalf* of the world" (Rappaport 1994, p.292, in Barlett, 2008, p.1079). So what skills and qualities might teachers in Higher Education need and how do they acquire, challenge and or extend them? Graham Badley's notion of the globally competent practitioner is a useful model (2000). Globally Competent practitioners in Higher Education need "academic competence" in a content area, (knowing what). Even in terms of knowing 'what', many of us are not science trained but climate change means that we need to understand and integrate new areas of substantive knowledge into our respective areas of expertise. This keeps us up to date. Secondly, we need "operational competence" (knowing how) which for most academics now involves knowing how in different socio-cultural conditions. There is increasing pressure for academic staff to acquire formal teaching qualifications, just as teachers at every other level must have. Badley also calls for a "transformatory and democratic approach to one's own teaching" (2000, p.245) which would help to create the supportive conditions for active learning. This makes some educators nervous, but Mezirow points out that public institutions that empower individuals, reap the rewards in the collective transformative effects on society. As my research (Kelly, 2006) also demonstrated, empowered individuals are "more public spirited, more tolerant, more knowledgeable, more attentive to the interests of others and more probing of their own interests" (Warren, 1992, p.8 cited in Mezirow, 2000, p.28).

### Transformative learning

Because worldviews are not just cultural and social abstractions but embody "our sense of self in the world" (Thaman, 2002, n.p.) changing them involves the risky business of personal transformation as we unlearn and relearn how to reconnect with our roots, nature and each other. This affects what we know, what we do and how we do it. Transformation is complex and deeply personal, so educators need an ethical commitment not to "indoctrinate" students by trying "to convert them to our views" but to be aware of the legitimate opportunity to "foster learner awareness of the need for change through transformative learning" (Mezirow, 2000, p.231). Mulder (2010) also argues against preaching but for active learning, which he admits calls for new teaching capabilities that lecturers may not have.

Mezirow sees the democratic educator's role as helping learners become more aware of the context of what they understand and believe, more critically reflective on their own and others' assumptions, more engaged in discourse and more effective in taking action on any reflective judgements they then make (2000, p.31). It may involve what he described as "correcting distorted assumptions, epistemic, sociocultural, or psychic – from prior learning or 'un-learning'" (ibid). This needs appropriate professional development programs to support new approaches as well as time to attend and do the personal and professional work involved. Simply adding another expectation to academics' lives will not help.

As a teacher in Higher Education, my aims were to set up a welcoming and respectful context for students with their diversities:

- *to help them to communicate more effectively in writing, orally, interpersonally, interculturally*
- *about issues that were important in the 21st century*
- *in a vocational setting (as developing engineers)*
- *in a globalised context*
- *but in a learning environment (oasis) that would nurture them to develop qualities and awarenesses enabling them to contribute to alternative, sustainable futures;*
- *as developing *Globo sapiens*, or wise global citizens and responsible professionals.*

It was not until well into my research that I realised that these aims were also the basis of a transformative pedagogy.

## **Nurturing Gaiademia**

Since Growth has not proved a sustainable meme, what might nurture a different academy, a Gaiademia? Rorty in Princen, (2008, p.1093) argues that fundamental changes are more likely to come when we hear people "*speak differently*", offering a new language to create a different consciousness. Critical futurist Sohail Inayatullah offers Healing, of ourselves and the planet, as the alternative meme to growth (2002, p.142). A meme is an idea that transforms, as opposed to informing (the educational perspective) or empowering (such as a strategy, or capacity building) (Inayatullah, 2003, p.3). Healing is already challenging the current, destructive, no-limit growth and adversarial meme that underpins our present. Hints of such a cultural struggle are evident in the recent US film *Avatar*, which, although still wedded to a violent solution, experiments with an alternative world *Pandora*. In the Greek legend, Pandora's box, along with the ills of the world, also contained Hope. In the film, *Pandora's* indigenous inhabitants use a science of their own, based in their collective, powerful electro-chemical interconnections with Nature, to heal the Earthlings damaged in mind and body by their own denaturalised and violent world.

At various levels, many universities are trying to engage with what they need to do to face the challenges of the 21st century (Barlett, 2008). Australia's Monash University recently advertised for a Professor and Convenor, Education for Sustainability, whose job is to work with faculties on planning and processes to

"enable sustainability initiatives to be embedded into the curriculum". This is one action towards the university's stated vision of "making significant improvements to the human condition" (The Australian, 28 April, 2010, p.26) and implies an awareness of equity for humans, if not other species. Going further, the Universiti Sains Malaysia (USM) with leadership from the Vice-Chancellor and workshops run by Sohail Inayatullah, used scenarios to develop an alternative preferred vision of "the University In a Garden" (Sayer, 2010). This provides a healthy environment which nurtures "flowering of minds" with the university as a "tree of knowledge" whose roots are nourished by academics and whose branches "represent the holistic development of young minds without abandoning their interconnectedness with nature in a sustainable way" (USM, 2007, p.69, in Sayer, 2010, p.63). Using Brenda Dervin's Sense-Making Methodology (2003) could extend this, by changing the noun knowledge to 'knowings', thus opening up the concept and reducing the risk of knowledge becoming one assumed knowledge.

The most powerful discourse in universities remains preparing graduates fit for the 'real world,' by which they mean the all powerful 'market'. For example, at the same time as USM is developing its healthy vision, their Bulletin of Higher Education advertised a USM publication intended to help the Ministry of Education and university authorities to devise university curricula to "meet employability needs" (Pandian, 2009). Consulting industry is not the same as regarding it as the arbiter of curricula which can only produce globally portable Mcgraduates. We will know change is on the way when we talk about markets 'fit' for our graduates!

Scenarios can be useful at various levels. As Inayatullah explains, at the "Strategic" level they suggest what should be done, while at the "Educational" level they can map that preferred future. They also have a "Cautionary" level, which outlines what should be avoided (2003, p.6). Solutions or strategies must be directed at all three levels if they are to be effective and they must respond to the differing time dimensions involved in meeting short term needs and long-term visions. The Vice-Chancellor of USM, Professor Razak has accepted that tinkering around the edges won't be sufficient, that its vision involves transformation, and that this involves challenging comfortable myths, exploring alternatives and 'unlearning' (in Sayer, 2010, p.2). In May, 2010, Taiwan's Tamkang University held an international conference to begin considering the implications of climate change for that university.

A Gaiademia would involve deep stakeholder involvement and redesign, and willingness to learn from other places and other cultures. The concept of global citizenship is one example.

### **Global citizenship**

Global citizenship is an ancient idea, given vast new capacities by communication technologies (Attfield, 2005, p.43). A deep interpretation of global citizenship goes beyond a commitment to some kind of "global ethic" and inter-human responsibilities, to our responsibilities to all "non-human members of the biotic community" (Ibid. p.44). This includes the communal natural resources known as the global commons. In the non-anthropocentric view, these are not just resources for humans to exploit. We hold them in trust for future generations of humans and other species.

Attfield's work is heartening since he challenges the power of the "domination over nature" myth which has led us into this mess. He reminds us of an alternative Western tradition of stewardship, from which healthier attitudes can flourish and which can be nourished by similar traditions from very different cultures. Here are several of the limitless potential sources. The Pacific-based educator and poet Konai Thaman argues passionately for education that recognises and responds to the knowings embedded in indigenous worldviews. For Thaman, "Indigenous wisdom offers an °βinclusive, holistic, and interdisciplinary way of thinking that champions stewarding nature, participating in community and valuing inter-personal relationships" (2002, n.p.) This provides a healthy alternative to the mainly Anglo-American form of globalisation and current, associated values of privatisation and commercialisation which have had such destructive impacts on "communal self-sufficiency and sustainability" in Pacific nations among others.

Confucian heritage offers another example. This is important because China's cooperation and leadership are critical to resolving major global problems. Harris argues that currently "wealth creation usually trumps environmental protection in China" despite awareness at government and elite levels and a raft of environment laws. General awareness is low, there is a legitimate desire for higher standards of living and consumerism, as elsewhere, is a convenient distraction (2005, p.134). He suggests combining the best of the West and best of China's traditions to develop "new Chinese environmental values" (2005, p.136). Julia Tao describes a source of sustainability wisdom from the Chinese Confucian moral tradition. "*Relational resonance with nature*" is based on the duties of "care and reciprocity" (Tucker and Berthrong, 1988, xxxviii, in Tao, 2005, p.69). Reciprocity here means "returning good for good" and seeing oneself "as part of a larger overlapping network of reciprocal relationships" (Tao, 2005, p.76). From this I suggest a cross-cultural neologism in which *Globo sapiens*, a wise global citizen, could become a Confucian heritage *Globo sapi-ren*. According to Tao, the Confucian *ren* is a person with the four basic virtues of "benevolence, righteousness, propriety and wisdom" (2005, p.72). You can also apparently create a meaningful symbol this way. For example, the Graduate Institute of Sociology of Taiwan's Academia Sinica uses three Chinese *ren* characters in the shape of a triangle, denoting the meaning of social groups<sup>1</sup>.

My final cross-cultural example refers to leadership. Indian scholar P.R. Sarkar developed the Sanskrit leadership concept *Sadvipra*, which integrates the qualities of courage to protect the weak, intellect to advise, practical knowledge to manage finance and devotion to duty. A *Sadvipra* not only supports change for the better but creates opportunities for others to do the same (Inayatullah, n.d. n.p.). This is an ideal. A recent study casts light on the complex reality for leaders in one context.

## Leadership

Tarah Wright (2010) surveyed 21 University presidents and vice-presidents from sustainability-aware Canadian universities, to illuminate the pivotal role that leadership plays in accepting or hindering sustainability moves in Higher Education. This is true at every level. Most of her leaders welcomed the opportunity to have a focused discussion which enabled them to think deeply about specific issues. However, when

they then used her checklist of potential concepts associated with sustainable development, it brought concepts to the surface that they had not mentioned defining sustainability. In particular, none included gender equity in their own definitions but 76.5% identified it as an essential component of sustainability on the checklist. Similarly, 70.6% considered "giving inherent value to the non-human world" essential but had not considered it before seeing the checklist (Wright, 2010). Her research makes clear that all stakeholders in the university need to develop their understandings of sustainability. This involves time and opportunities. She concludes that along with poor awareness of the issues, "both the structure of the university and people's attitudes to change within the institution served to maintain and perpetuate the status quo" (Wright, 2010, n.p.).

### Resistance

Like our students, we and our institutions are sites of a values struggle between marketised or corporatised futures and sustainable futures. Dutch educator Karel Mulder acknowledges that "neglecting norms and values means in fact that the implicit norms of our society are taken for granted" (2010, p.82). My own research with large cohorts of first year engineering students from diverse backgrounds and ethnic groups gave me greater understanding of several issues I have raised in this paper, transformative pedagogy and 'resistance'. I have written about these at length elsewhere (Kelly, 2006 & 2008). In terms of transformative pedagogy, we may begin with great enthusiasm, often as an individual curriculum effort, assuming others will welcome what we have to say: *Boy, have I got an idea for you!* However, without support and careful preparation, there may be an equally strong negative response: *No one asked me if I wanted sustainability!*

It is important to acknowledge the strength and impact of negative reactions from students or staff because they can seem so overwhelming and intimidating. 'Resisters' often claim to speak for everybody else, and are often loud and aggressive in their criticisms. For example, Peter Wood's work is not a helpful contribution to the "respectful dissensus" suggested by Smyth (2002, in Jickling & Wals, 2008, p.16) but it illustrates the tenor of resistings that may be met at any level when working for attitude change. Wood (2010, p.11) is one of the vocal critics who welcomed what they call "Climategate" because in his words, it "has made global warming skepticism respectable". He regards "global warmingism" as "quasi-religious", "cultic" and having produced "close-minded (sic) zealots" (Ibid., p.15) whom he labels 'sustainatopians' (Ibid., p.16) or 'sustainabullies' (Ibid., p.19). He finds the idea of 'reenchantment' particularly threatening, damning an article by anthropologist Peggy Barlett (2008) as a "manifesto" which promotes pushing aside rational scientific approaches to nature (Ibid., p.15).

I read Barlett with interest. She does not reject or 'push aside' scientific views. She does argue for a "reenchanted" relationship, by which she means a "personal reconnection" to "other species and to the earth's living systems" (2008, p.1077) as part of a new contemporary worldview. She suggests that "expanding" and "complementing" current scientific thinking as part of a new "stereoscopic vision" would result in increased awareness and willingness to take the actions we need (Ibid., p.1078). This

might also nurture the imagination and creativity which Sardar (2010, p.16) sees as essential to developing alternatives to business as usual and which will allow spaces for other knowings. For example, in African and South Pacific nation contexts, Baker and Taylor (1995) reported more effective science learning from a 'harmonising of old way/new way' approach rather than one based on rejecting any past knowledge that did not fit a western model. My own image of 'disconnection' is that of an international student who was being shown the Brisbane Botanical Gardens as part of a student induction tour. His response was not admiration for this beautiful space in the centre of a large city but puzzlement as to why such prime land was not being 'developed'.

Seeing past the attitudes to behaviours and trying to understand what lies behind resistings can help to avoid some of the more aggressive responses to change, many of which are based on fear. We need to encourage "mindful learning" which includes being open to new information and being aware of more than one perspective (Langer, 1997, p.4, in Mezirow, 2000, p.7). A mindful *transformative* learning experience involves not just using reflection to reassess our beliefs and the presuppositions behind them but going further to act on the insights this gives them (Mezirow, 2000, pp.23-4).

### **Evaluate or perish**

Curriculum change and innovation is best done with support from leadership and it needs careful evaluations to inform and support the changes. This may be difficult because negative evaluations may have even greater impact on those who teach innovative and challenging subjects, since students may take longer than one semester to absorb or appreciate them (McDonald & Mills, 2007, p.26). However, analysing my student evaluations for example, showed that far from 'everyone' hating the content and process of the unit we taught, as a small group maintained, 65% accepted it willingly or grudgingly, 25% hated it at the beginning but changed their minds, often dramatically, by the end of the unit, and around 10% remained steadfast in hating it (Kelly, 2008).

Further research and individual interviews using Brenda Dervin's Sense-Making Methodology (2003) gave me deeper understandings of what lay behind the anger and contempt of the 10%. Some students were afraid because they were entering university after some years away from study. They were being asked to write (reflective journals) which they had not done for many years and they feared failure and poor performance against their school leaver peers. Some (male and female) were challenged because they found it difficult to express feelings at all. Some felt the content had nothing to do with their constrained ideas of 'engineering' and their image of the profession. Some admitted having not thought about important global issues, or their implications on them and the planet. This is not unique. Nearly three – quarters of students aged 11-18 in Hicks' and Holden's UK-based study "felt they'd learned little or nothing about global issues at school", even though 98 percent thought it was important (1996, cited in Hicks, 2002, p.37).

Seeing beyond 'resisters' to the 'resistings' enabled me to teach these students more effectively. Acknowledging negative emotions is an important, if not essential part of the critical reflection that marks a transformative journey (Morgan, 1987, in

Taylor, 2000). This is equally true of group work, in which it is important to "embrace" rather than avoid conflict (Saavedra, 1995, in Taylor, 2000, p.314). However, all of the processes which encourage transformative learning take time, which there is little of in crowded curricula and pressured work-loads. They also assume high level skills and awarenesses that many students and teachers do not yet have. Transformation is a complex process, not a methodology you can apply.

### **Conclusion: From WIFM to WITT**

Similarly, sustainability is part of a wider conversation-in-progress that should involve us all, not the end product. Growing global crises impose new and extra expectations on educators and students. If we are serious about surviving the 21<sup>st</sup> century we are part of a struggle to move from a WIFM (What's In It For Me?) world to a WITT (We're In This Together) world. This means envisioning better alternatives and creating them together. David Orr regards equipping a generation able to "respond with energy, moral stamina, enthusiasm, and ecological competence" as "the challenge of education" (in Sterling, 2001, p.9). It is not easy and there will be many ways to do this but we need informed leadership who are prepared to support healthy visions, with time for staff and students to develop them. Responsibility and wisdom are key attributes of Barnett's 'critical being' who goes beyond critical thinking to critical action (2007) and of *Globo sapiens*, whose qualities include empathy, global consciousness, transgenerational thinking, the ability to contemplate changes to their current way of life, courage, and being able to work for healthier futures (Kelly, 2008, pp.126-7).

We *can* choose to make changes. In an imperfect context, but with a transformative pedagogy, many of my students took futurist Jim Dator's first step towards "reconceptualising environmental values in a globalising world" by recognising their "perpetual responsibility" for the Earth (2005, p.230). Many also took his second step in developing "an ethical perspective that furthers our acceptance of that responsibility" (ibid). But the critical third and fourth steps that support their development are more elusive. These are envisioning institutions that "make it easier to accept" rather than to reject our responsibility for the Earth that humans dominate and finally, doing the "hard" work of creating and evaluating them (ibid) in the short time available before events, seen and unforeseen, close off this option.

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### **Notes**

1. I am grateful to Professor Kuo Ha Chen of Tamkang University for sharing this insight with me.

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