



www.jates.org

Journal of Applied Technical and Educational Sciences

Engineering, Vocational and Environmental Aspects

ISSN 2560-5429



doi: 10.24368/jates.v7i4.16
<http://doi.org/10.24368/jates.v7i4.16>

Connective Practices in Sustainability Education

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Abstract

Connective practices are affective educational activities and critical for sustainability education. They bridge the gap between knowledge of environmental problems and the will, personally, to do something about them. Three sources of pedagogic theory are tapped for this application to sustainability education. From Deep Ecology comes the pedagogic ladder leading to recognition of the *Ecological Self*, the deep intuitive appreciation of being a part of the living Earth. The *Connective Practice* concept comes from Social Sculpture and the provocative artistic and political work of Joseph Beuys, whose notion of participatory *response-ability* envisages actions that unleash the positive creative potential of every individual. For Beuys, everyone is an artist and everyone can become a world-maker. Finally, *Invitational Education* adds concern for the learner's inner being. Learning invitations aim to remove the obstacles that hold learners back from positive creativity. It also fosters learner engagement by developing the positive aspects of the whole learning environment, building care trust, respect and optimism from the sum of people, places, processes, programs and policies. Two case studies illustrate the task of inviting learners to develop pro-sustainability values and affirm them by a personal creative response. In the *Karma to Climate Change* project, scriptural quotations and environmental information combine to invite learners to make a personal religious pledge to adopt a more pro-sustainability lifestyle. In the *Restoration of Wychwood Forest* project, learners join local community volunteers to plant trees and later reflect on the wider personal significance of their enacting sustainability values.

Keywords: affective education; service learning; active learning, Invitational Education; Joseph Beuys; Deep Ecology; Education for Sustainable Development.

1. Introduction

Connective practices are affective educational strategies that invite learners to build an emotional and conative connection beyond their individual selves and their immediate social circle. They aim to build participatory consciousness rather than on-looker consciousness (Sacks, 2007) and to overcome the knowledge-action, sometimes value-action, gaps that inhibit positive behavior, not least pro-environmental (Burford et al., 2015). In educational terms, they are strategies within transformative education that aim to “transform hearts and minds to serve the world” (cf. Cunningham, 2014, p.1). In the context of education for a sustainable future, the Connective Practice concept links with the pedagogies of Deep Ecology, Social Sculpture and Invitational Education. This paper suggests some practical ways of using connective practices to

enhance the educational benefits to learners from participatory engagement with environmental action in the community. It draws heavily upon the author's three decades in applied sustainability education.

1.1. Connective Practices : Why they Matter:

The development of connective practices, educational activities that are emotionally affective and personally conative, is critical in Education for Sustainability. They matter because, while the world is full of information about every aspect of environmental degradation, there is insufficient concerted will to do what is necessary to change human social behavior and so change the situation. Everybody knows about the problems (cognition) and many worry about the future (affection) but there remains a dearth of individual commitment to effective action (conation) (Hilgard, 1980).

When asked why, personally, they do so little to counter negative environmental change, most respond that the problems are just too big and too distant. They reflect that anything they do will be too small to make any difference.

Often they add in self-justification that, actually, the problem is not their personal responsibility but that of someone else, perhaps the Government, perhaps the business community, perhaps the United Nations. In 2009, Olav Kjørven, then United Nations Assistant Secretary-General, characterized the 20 year history of climate change negotiations as "everyone generally wanting to do as little as possible, while pushing for others to do as much as possible [and] making sure that someone else pays the bill" (Colwell et al., 2009, p.15). The problem is often compounded by "hubris – insolent pride and arrogance – brought about by our belief that human ingenuity and technological sophistication will solve every problem" (Smith et al., 1999, p. vii). In a rallying call to America's Hindu students to support the People's Climate March on April 29, 2017, Allegra Lovejoy of the Hindu Students' Council, quoted verses from the Devi Mahatmyam that describe how the Goddess restored peace and order, dharma, to the Earth by slaying two demons representing ego, self-interest, and attachment to worldly status and possessions (Lovejoy, 2017).

Obviously, there is a need to find a way of connecting learner, personally, more selflessly, and more proactively to the problems of environment and sustainability. There is a need to encourage them to feel more personal responsibility for those problems by reflecting that they result from the billions of small decisions different humans make every day and from their lack of care for the consequences. There are parallels in the arguments for democracy, one vote may make little

difference and, for this reason, many do not vote. However, many votes can change a government with far-reaching, not always positive, impacts on both society and its habitat.

1.2. Connective Practices in Education.

On a smaller scale, in the theatre of formal education, others seek ways of helping learners connect what they have learnt in their course of their studies (or work experience) and how they perform in life (Griffiths and Guile, 2003; Corbett, 2002). Connectivism theory, which emerges from on-line learning and networking, is something rather different. Here, the concept of connective practice is more closely linked to Contemplative Education and to E.F. Schumacher's idea that the culture of the inner human being is critical to the creation of a sustainable future (Miller, 2014). Similarly, education for Global Citizenship includes a desire to recast the learner as an active global citizen or, as Tagore puts it, a “visvakarma” (world-worker or world-maker) (Tagore, 1930, p.42). This is someone who accepts a personal responsibility to act for the welfare of all and so demonstrate the “union of education and life” (Tagore, 1961, p.43).

2. Connective Practices: The Educational Theory

The question arises how do you construct a Connective Practice and how can you ensure that the connection forged is conative as well as emotional? Here, three schools of affective education are trawled for insights on practice, construction and application. These are Deep Ecology, which was built from foundations in Indian thought by Arne Naess and followers, Social Sculpture, where the term Connective Practice originated, which is inspired by the art and political thought of Josef Beuys, and Invitational Education, a mode of educational practice founded by William Watson Purkey and others from roots in perceptual psychology and self-concept theory.

2.1. Deep Ecology Pedagogy

Deep Ecology education is constructed upon a theory of personal maturation rather than learning. This rises through three conceptual steps, each involving a redefinition of the personal self (Naess, 1987): Step 1, *Childhood*, involves the recognition of the Personal self - an individual with an individual will, including (as every parent of a two-year-old knows) the will to express contradiction. Step 2, *Adolescence*, is marked by the emergence of realization of the Social Self. Here, the small individual self becomes redefined in terms of a place in a larger Self, human society, first as part of a small social group such as family, peer-group, tribe, but eventually, hopefully, as part of the larger community of all humanity. In any case, the individual *I-self* becomes subsumed within a larger *we-Self* (Coward, 2000). This intuition manifests in the

world as eco-socialism, which Naess and colleagues dismiss as shallow ecology because it is wholly anthropocentric. For Deep Ecologists, Step 3, *Maturity*, is the goal and involves recognition of an *ecological Self*. Here, the small individual self and even the larger social Self become subsumed within a role inside the entirety of the living world, the community of all life. Stephan Harding argues: “When an ecological world view is well developed, people act from their whole personality, giving rise to tremendous energy and commitment. Such actions are peaceful and democratic and will lead towards ecological sustainability. Uncovering the ecological self gives rise to joy, which gives rise to involvement, which in turn leads to wider identification, and hence to greater commitment. This leads to extending care to humans and deepening care for non-humans (Harding, 1997, p.16).

Recognition of the ecological Self is a logical necessity of the argument of General System Theory (von Bertalanffy, 1968). However, Naess taught the Philosophy of the Mahatma Gandhi and, hence, ecological Self-realization has deep roots in Indian thought, where Self-realization is a spiritual goal. Here, Sāṃkhya-yoga philosophy contains a similar three step spiritual ladder in the form of Triguna theory, which raises learners from ignorance and indolence (*Tamas*), through engagement and action (*Rajas*), to serenity and sentience (*Sattva*) (Haigh, 2016a; Kumar, 2007). However, some degree of ecological Self-realization is essential in education for a sustainable future. Anthropocentric thinking has to be mitigated by an awareness that present human needs cannot always take priority because of the greater need to conserve and, where necessary, reconstruct, the wider human habitat for the future.

Of course, full ecological Self-realization is not easily achieved. It depends upon a kind of epiphany, a flash of insight, like that of St Paul on the road to Damascus or that achieved by Naess himself while employing Scandinavian *friluftsliv*, at his mountain hut at Tvargastein (Naess, 2016). *Friluftsliv*, “free air life”, is about experiencing immersion and participation in Nature to the extent that a new sense of oneness within Nature emerges, a new level of consciousness and spiritual wholeness (Gelter, 2000). Harding (1997; 2006, pp. 42-44) repeats the famous example of Aldo Leopold (1949), the wild-life manager who gave the Deep Ecology Movement its slogan “Think like a mountain” (Seed et al., 1988). In the 1920s, Leopold was involved in a cull of wolves in Arizona and New Mexico because they competed with the sport of deer hunting and, of course, it was assumed that human welfare was the key criterion in environmental management. Leopold writes: “In those days, we never passed up a chance to kill a wolf. ... When our rifles were empty, the old wolf was down... We reached the old wolf in time to watch a fierce green fire dying in her eyes. I realized then, and have known ever since, that there was something new to me in those eyes – something known only to her and the

mountain. I thought that because fewer wolves meant more deer, that no wolves would mean a hunter's paradise. But after seeing the green fire die, I sensed that neither the wolf nor the mountain agreed with such a view" (Leopold, 1949, p.130). Leopold goes on to reflect how, with the wolves gone, deer overgrazed the hillsides and destroyed the land. Subsequently, he formulated his 'Land Ethic', noting that: "When we see land as a community to which we belong, we may begin to use it with love and respect" and that: "we can only be ethical in relation to something we can see, understand, feel, love, or otherwise have faith in" (Leopold, 1949). Harding (1997, pp.14-15) wonders: "What could Leopold have experienced in that pivotal moment in his life? Clearly, he is using the word 'mountain' as a metaphor for the wild ecosystem in which the incident took place, the ecosystem as an entirety, as a living presence, with its deer, its wolves and other animals, its clouds, soils and streams. For the first time in his life, he felt completely at one with this wide ecological reality... He felt that it had its own life, its own history, and its own trajectory into the future. He experienced the ecosystem as a great being, dignified and valuable in itself. It must have been a moment of tremendous liberation and expansion of consciousness, of joy and energy – a truly spiritual or religious experience. His narrow, manipulative wildlife manager's mind fell away. The mind which saw nature as a dead machine, there for human use, vanished."

The key to Deep Ecology pedagogy is the creation of a deep experience through direct participation. Its problem is that it requires a flash of insight that is unique to an individual learner – none of Aldo Leopold's colleagues shared his experience. So, this kind of special event is not something that can be preprogrammed into instruction. Even more seriously, when it happens, its impact on an unsuspecting learner is unpredictable. The Deep Ecology transformative flash of insight involves an expansion of consciousness, a self-critical reappraisal, in other words, a fundamental change in self-concept. It marks the crossing of a threshold of awareness.

However, beyond such a threshold, paths diverge. Some find a gentle personal readjustment. Others experience acute psychological shock that causes deep personal questioning and re-evaluation. Still others become unsettled and enter a liminal state of distress and confusion (Mezirow, 2009; Haigh, 2014). The second two of these outcomes both stress the learner and lead to unpredictable consequences that most teachers might sooner avoid, for ethical and also health and safety reasons. Certainly, in the UK, many scoff at the notion that some educational processes threaten a learner's well-being (Furedi, 2004). Presuppositions of "emotional vulnerability", they say, must not "distract professionals and students from educational experiences that encourage risk, challenge and discomfort as part of striving for autonomy"

(Ecclestone, 2007, p.467). However, a 2016 Yougov poll of 1061 students reports that 63% already feel levels of stress sufficient to interfere with their everyday lives and that 71% of these identify academic work as the main cause. Overall, 27% report mental health problems, 77% relating to depression and 74% to anxiety, typically in combination (Aronin and Smith, 2016).

Providing an intellectual challenge is necessary and good teaching - but within limits. As Hans Selye (1956) pointed out, both too little stress and too much stress inhibit learning; too little leads to boredom and disconnection, while too much causes counterproductive anxiety. Optimum performance, *eustress*, is found somewhere between. It is hard to find an ethical or educational argument for adding to the distress, *dystress*, that many learners already feel. The teacher's challenge is to find that optimum level of stress that maximizes learning across a whole cohort, without damaging any individual within it. In this respect, Deep Ecology's ecological Self-realization may provide an apt goal but, for the majority, its pedagogy does not provide the way. Indeed, Geographers tend to settle on two lower levels of affect – topophilia, a fondness for particular places, and tropophilia, which means becoming affected by, stimulated by, challenged by and hence positively connected to the changing face of particular places (Holton, 2017).

2.2. Social Sculpture

Social sculpture arises from the work of the conceptual artist Joseph Beuys and reflects his belief that art has the power to transform society. This would be achieved by engaging society through participation, so transforming society by releasing the creativity of the people (Beuys, 2007). For Beuys, “art is now the only evolutionary-revolutionary power. Only art is capable of dismantling the repressive effects of a senile social system in order to build a social organism as a work of art ... every human being is an artist who – from his state of freedom – the position of freedom that he experiences at first-hand – learns to determine the other positions of the total art work of the future social order” (Beuys 1973 in Tisdall, 1974, p.48). Such political ideas share much with the *Situationistes* who believed that they could improve the *psychogeography* of places by changing their subliminal messages through a process called *detournement* (Coverley, 2006). This was often achieved by spray painting, as on John Lennon's Peace Wall, opposite the French Embassy in Prague. However, Beuys action was to plant, together, 7000 oak trees and basalt stone columns in Kassel, Germany. He suggested that “each would be a monument, consisting of a living part, the live tree, changing all the time, and a crystalline mass, maintaining its shape, size, and weight.” as a symbolic marker of new beginnings. Beuys chose oak trees because: “It has always been a form of sculpture, a symbol for this planet ever since the Druids, who are called after the oak. Druid means oak. They used their oaks to define their holy places.”

Beuys saw his work as teaching and considered teaching to be his greatest work of art. He compared his approach with that of the shaman (Druid) who provokes affective responses by manipulating symbols. “Future goals for the project included: a) an ongoing scheme of tree planting to be extended throughout the world as part of a global mission to effect environmental and social change ‘the purpose of educational activities’; b) a growth of awareness within the urban environment of the human dependence on the larger ecosystem through educational outreach; and c) an ongoing process whereby the society would be activated by means of human creative will” (Beuys quoted in Anon, 2011, p.9).

Unfortunately, Beuys’ social sculpture is more political argument than practical enactment (Moore, 2012). It concerns building a positive, hopeful, role for art, one less esoteric and elitist and one more capable of effecting positive change in the world. For Beuys, everyone is, or can be, an artist in a socially engaged art that inspires the education, consciousness raising and political action “needed to overcome cold forms of rationalist thinking” (Sacks, 2011, p.96).

McGarry describes the Social Sculpture approach to ecological citizenship as an: “alchemical ... approach to learning that expands the range of capacities available to the citizen and the citizen’s immediate community... enabling both communal and personal forms of agency: new ways of being and doing in the world.” (McGarry, 2013, p.iii). Its connective practices enable the development of empathy, empathetic imaginative contemplation and links between inner and outer thought processes. For Sacks (2011, p.89): “Ecology relates to the social organisms’ capacity for life [and] as a living being that cannot be perceived today with our normal sense organs without practice” and it is the provision of that practice and, subsequent reflection on practice, that is critical. Social sculpture aims to connect learners with their hidden personal motivations as well as with the larger social and ecological organism. One typical teaching exercise asks learners to hold a handful of soil and humus in their hands and consider it as a living creature, an activity with echoes of Deep Ecology’s Council of All Beings (Seed et al., 1988). A particular benefit of this approach is the way it changes the negative litany of personal responsibility to one of the freedom of response(ability), the capacity to do something in response to an obstacle or challenge, something guided by empathy, intuition and imagination, even if that something is largely symbolic (McGarry, 2013).

2.3. Invitational Education

If Deep Ecology pedagogy suggests the goal of mature ecological self-realization, and Social Sculpture suggests the way this may be achieved through creative participation, then Invitational Education shows how to help learners overcome the inhibitions that prevent them from active engagement and independent thought. Invitational teaching is “an intentional and caring act of

communication” that invites positive feelings and a desire to learn (Shaw & Siegel, 2010, p. 109).

Effective *learning invitations* encourage learners to engage and help them overcome the inhibitions that hold them back (Purkey, 1991). Certainly, many learners have confidence and self-motivation enough to tackle the challenges offered by their education but others do not. They lack sufficient self-confidence, self-belief and motivational fire. They have to be persuaded that they are capable of learning, that participation is a good thing for them, that there is help to be had if they need it, and that they will feel better when they engage. Without sufficient reassurance, they may be unable to overcome their mental obstacles and remain inactive, resentful, and frozen. Purkey uses the example of the ‘wallflowers’ in a dancehall who are too shy and self-conscious to join in and need to be coaxed onto the dancefloor, where they will relax and have fun.

An invitation is a signal that requests companionship or consideration. A good learning invitation is a signal that helps learners overcome their inhibitions and engage with an educational process. Its key is positive intentionality and its practice devoted to finding ways of intentionally modifying the sum of the (often nonverbal) signals that affect human self-belief (Haigh, 2011). The idea is constructed from perceptual and self-concept theory (Purkey and Stanley, 1991), but it has roots in John Dewey’s *democratic ethos* (Dewey and Ratner, 1939).

So, Invitational Education aims to design learning experiences that exert positive psychological influence and to create “environments and climates where people want to be and where they want to learn” (Paxton, 2003, p. 23). Such learning experiences emerge from the combined influence of people, processes, and places, as supported by empowering programs and policies, in other words, from the constructive alignment of the messages transmitted by, and contained within, any given learning project (Biggs, 2003, Haigh, 2011). In sum, the invitation encourages belief in both the value of the learning and the learner’s own capacity to achieve goals, which are supported by trust in the authenticity teacher and teaching and confidence in the care and support of the institutional context (Pajare, 2001).

Haigh (2016a) identifies five styles of positive learning invitation, which he links to Triguna theory. Using the terminology of Sāṃkhya-yoga, they are styled, respectively: sattvic, rajo-sattvic, rajasic, rajo-tamasic, and tamasic. Shorn of the technical details the five are described as follows.

The first invitation involves attraction by good example and the will to be good. Here the invitation is produced by a role model who inspires the learner to follow their path. One example is Satish Kumar, a leader of the UK’s Deep Ecology movement, who describes how he was

inspired by the Bhoodan (land gift) Movement of the Gandhian Acharya Vinoba Bhave. Kumar writes: Vinoba “went to the landlords and said, ‘If you have five children, consider me, the representative of the poor, as the sixth child, and give me one-sixth of your land to distribute among the landless.’ And it was quite a miracle. He collected five million acres of land in gifts ... So, I ... joined Vinoba and walked with him for three years ... But for Vinoba, the land-gift movement was only one aspect of his work. The people who walked with him were his students” (Kumar 2007, p.12). Their engaged participation invited discussion and learning. Together, they provided the kind of political theatre that is envisaged by Beuys and his concept for Social Sculpture and, as Kumar demonstrated, the practice connected him to solving the problems of the Earth (Kumar, 2007).

The second style invokes the desire to do good so engaging compassion, empathy and the desire to make situations better. Problem based learning, which aims to build the skills and expectation of problem solving, a key skill valued by employers, is used in many applied disciplines but it originated in medical education (Walker et al., 2015). Problem based learning is often a communal activity, undertaken as group-work, and it yields the reward of success, achieving successful solution and, often, doing some good if it tackles a real world problem (Pawson et al., 2006). The approach is often linked to the ‘disaster’ case-study approach (Taylor, 2014). However, here, the focus is, typically, positive and focuses on the construction of a solution.

The third style of learning invitation invites action for its own sake namely the joy of accomplishment, the ‘adrenalin rush’, perhaps accompanied by a form of self-assertion and self-validation. This creates a problem common in Geography and Geology fieldwork, for example, where the activity involved in accessing a field site, climbing a mountain for example, may become more important to the learner than the site that the climb was intended to access. However, in the Integral Education system of Sri Aurobindo, training and enhancement of the physical body is seen as a necessary first step. Sri Aurobindo argued: “... the body is the material basis, the body is the instrument which we have to use ...the body is the means of fulfilment of dharma, and dharma means every ideal which we can propose to ourselves and the law of its working out and action” (Anon, 1995, p.13). His disciple, The Mother added: “those who practice physical culture, scientifically ... acquire a control over their bodies that is unimaginable for ordinary people ... [achieved] ... by material means and an enlightened use of human will ... spiritual mastery and the material mastery ... one is always incomplete without the other” (Anon, 1995, p.33). Research suggests that the experience of mastery, whether of a

physical or intellectual skill, is the most important source of self-belief and self-efficacy, which is why action is a key learning invitation (Usher and Pajare, 2008).

The fourth evokes the spirit of competition and the will to win and to defeat. The lure of victory invites the learner to be the best, to overcome and destroy rivals, to gather the spoils and so, ultimately, to beggar their neighbor. In a way, this invitation is inherent to our system of education that rewards the 'best' with good grades, prizes and so forth and then holds them above those who achieve less. This encourages hard work and engagement, certainly, but it also encourages conflict and base instincts such as pride, greed and selfish behavior. Haigh (2016a) repeats a fable from the Indian Mahabharata epic, which concerns training for archery (Ganguli, 1883-1896, Mahabharata, Adi Parva, Sambhava Parva, Section 124-125). The teacher sets his class a test. He offers a target and asks what each contestant sees? One sees the target, the tree where it stands, and the whole environment after the fashion of Deep Ecology. He fails this test. Another sees nothing but target's eye. He passes. However, later, this winner uses subterfuge to have a rival of superior skill disabled simply to preserve his being the best. Competition breeds pride, envy, stress, discrimination, greed and dishonesty, as the Olympic doping scandals prove, as well as resentment depression and despair among those who are not winners. In fact, it is the source of many of the destructive attitudes that pervade our modern world. Invitations based in competition appeal to ambition and to some, usually selfish, future goal.

The fifth style of learning invitation invites action by evoking repulsion from bad example. Here, the teacher acts as devil's advocate to hold up a mirror that shows learners some unpleasant aspects of themselves, their life or their environment and so provoke their desire to react and make the situation better. Of course, much of Beuys' work was based in subtle forms of provocation. However, in technical education, the provocation is often given the form of diagnosing what went wrong. Much case-study analysis in the applied disciplines: engineering, medicine, business, etc., describes some kind of problem, failure or disaster. The question discussed becomes what were the causes, what can be learnt from the experience and what can be done to prevent such problems in the future? Learning from past mistakes is a fundamental aspect of education and key to the practice of preventative, reactive and aspirational ethics (Harris et al. 2005).

In sum, Invitational Theory contributes by focusing, not on the consequences or methods of using connective practices, but on the motivations of participants and upon the intentional design of appropriate reward systems. Reviewing the five styles of learning invitation enables a critique of the pros, cons, relative strengths and appropriateness of each style, which abets the design of invitational systems that are best suited for particular education tasks and contexts.

3. Two Connective Practice Case Studies

Three sources of theory for the application of the Connective Practice concept to sustainability education have been discussed. Deep Ecology provided the concept of the ecological Self that is achieved by a deep intuitive recognition that one is a part of, not apart from, the global system, which it would call Gaia (Harding, 2006). Social Sculpture, arising from the artistic and political provocations of Joseph Beuys, contributes the notion of the connective practice as well as its essence of universal, affective, creative, participatory, positive response-ability that aspires to unleash the creative potential of the whole of society for the benefit of a better world (Beuys, 2007). Everyone can be an ‘artist’ and everyone can be a *visvakarma*, the world-maker envisaged by Rabindranath Tagore. Finally, Invitational Education encourages concern for the inner being of the learner. Its learning invitations aim to overcome their inhibitions by considering different forms of motivation and reward. It also emphasizes the role of positive intentionality in fostering learner engagement with education, not only sustainability education. This is achieved by considering the whole learning environment and intentionally creating positive messages of care, trust, respect, and optimism from the sum of people, places, processes, programs and policies (Haigh, 2011).

The question remains: how can this be applied in practice? This section explores two case studies of connective projects that have deeply involved the author (Haigh, 2016b; Chauhan et al., 2012; 2009). The first involves creating a culturally appropriate sustainability education for one of the larger British Ethnic Minority communities, in this case, Hindu people of mainly Indian origin, who are now first, second and sometimes third generation citizens of the UK. Peer reviewers often comment on the intellectual discomfort they feel when emphasis is given to unfamiliar Indian authorities and theories. This case study deals with the reverse of this situation. Sustainability education messages in the UK tend to be framed in the language and thought of the majority English community. Often these ideas seem alien to audiences in Britain’s cultural and ethnic minorities. Consequentially, they have little conative effect. The challenge was to create a cross-cultural community educational program that invites such people to explore more pro-sustainability lifestyles. The *Karma to Climate Change* project sought to connect British Hindus to pro-sustainability behavior patterns using resources from their own culture and religion.

The second case study involves an attempt to connect British undergraduates with the world outside their university, to build a connection with both the natural world and local community and invite them to ground their classroom learning in sustainability within the realities of the outside world. It adopts the conventionally familiar method of engaging the learners in tree

planting but moves beyond simple physical exercise, first by embedding the experience within the academic curriculum and then by fostering reflection on the meaning of such participatory pro-sustainability actions.

3.1. Connective Case Study 1: Karma to Climate Change Project.

Sustainability education employs connective practices to persuade people to consider their behavior and avoid unconscious waste and pollution. The *Karma to Climate Change* project was designed to help the British Hindu community reduce its ecological footprint (Chauhan et al., 2009; Sita Rama das et al., 2014). In Hindu tradition, every thought and every action has an effect called *karma*, which attaches each individual to the material plane and to a cycle of reincarnation. The Laws of Karma, not unlike the Laws of Science, suggest that for every action there is a reaction, good, bad - not necessarily equal, but a line of credit or debit to be settled in the future. Bad karma is created by short-sighted self-indulgent behavior, which may yield immediate gratification but, ultimately, causes distress - much as inhaling tobacco smoke leads to respiratory disease and much as reliance on fossil fuels causes carbon dioxide emissions that lead to climate change. By contrast, good karma is created by respect for dharma, far-sighted and dutiful action, compassion, good citizenship, healthy living and treating both people and the habitat with care and respect. These actions can seem challenging at the time but, in the long run, they lead to good consequences and a brighter future. Better still, however, is *niskarma*, which means no karma. Karma-free actions are those undertaken as service to, and whose results are surrendered to, God. These lead to spiritual advancement and, ultimately, to liberation from the endless Hindu cycle of rebirth.

Because of reincarnation, each life carries karma in three forms. First, there is a reservoir of karma from past lives that remains to be resolved, partly in the present life. Second, there is new karma, created in the present life, whose consequences will also be experienced in the present life and, third, there is new karma, created in the present life, which will affect a future life (Klostermeier, 1986). In the same way, environmental degradation and pollution has impacts that affect the present generation and create burdens that future generations will have to carry.

The educational problem was how to alert the Hindu community to the link between their present lifestyle and future environmental consequences and so invite more pro-environmental behavior; in other words, how to invite behavioral change away from the generation of bad karma and toward the generation of good or *niskarma*? The core team assembled for this work consisted of three individuals, two from the Indian diaspora and the author. Creative input as well as logistics and project management was led by Sheila Chauhan, then a recycling manager

for Local Government. Inspiration, leadership and both spiritual and practical guidance was provided by His Grace Sita Rama das, founder of the Lotus Trust (thelotustrust.org), an educational agency that aspires to transform lives and improve the environment (Sita Rama das, et al., 2014). The author took responsibility for post-project reflection, data analysis and the creation of a post-project written legacy. The key insights were, first, that Britain's major Hindu festivals provided a way of reaching the community at the time when it might be most receptive and, second, that the tradition's respect for the spirit of renunciation and its concept of the *vrata*, a vow or resolution associated with religious observances, provided a path.

The campaign employed a tented educational experience, which was fielded at the Janmashtami Festival that celebrates Lord Krishna's appearance on Earth, at the Bhaktivedanta Manor temple at Watford, northwest of London. This is the largest Hindu Festival in Europe. In 2013, it attracted around 70,000 devotees across two days (BBC News, 2013). For a few years, the project's 'Eco-tent' became a regular feature on the festival grounds. Simultaneously, smaller versions were fielded at other festivals including the annual Diwali celebrations in Trafalgar Square in central London, which attracts 10-15,000 rather more diverse participants, as well as some smaller events including the Shaka Festival in Wembley, 2010, and two annual meetings of the National Hindu Students Forum.

The educational agenda of the *Karma to Climate Change Ecotent* exhibition aimed to lead individual and family participants through some of the core precepts of Hindu religion and philosophy, through the challenge of sustainability, which was cast as a personal responsibility, and toward reflection upon what greater personal contribution they could make. The Ecotent's sequence of exhibits engaged with four step educational process. Step one involved instruction in the form of a trail through a series of both religious and sustainability-related tableaux, scriptural quotations and audio/visual displays. Step two engaged self-appraisal; each participant was encouraged to complete a modified *ecological footprint* questionnaire, here rebadged as a *karmic footprint calculator*, which assessed the environmental impact of their lifestyle in terms of the number of Planet Earth's (one, two or three) that would be needed if everyone lived the same way (Best Foot Forward, 2007). Step three fostered reflective introspection; each participant was encouraged to discuss their questionnaire scores and, usually, to justify why they were as high as they were. Step four engaged action; participants were guided towards thinking of some small or larger change they could make that would reduce their karmic burden (ecological footprint) on the Earth. Most Hindu's begin their day with a recitation of the Gayatri mantra and the request to Mother Earth (Bhumi-mata) to allow them to place their feet upon her. Here, they also are reminded that Lord Krishna's appearance was requested by Bhumi-mata in order to reduce her

heavy burden of evil kings and people. So, especially at Janmashtami, the idea that good Hindus should aim to be less of a burden upon the Earth is not hard to convey. The final step is to consider pledging to make a pro-sustainability change in their lives by writing their personal vow to Lord Krishna upon a wall of pledges, or sometimes by attaching their message as a leaf on a pledge tree (Chauhan et al., 2009). The two main versions of the display are described and illustrated with photographs in Chauhan et al. (2009) and Sita Rama das et al. (2014). However, in both cases, the design moves the learner from knowledge, through consciousness raising, introspective personal reflection, and toward engaged targeted action (Jensen, 2002). The hope was that connecting pro-sustainability behavior to religious observance might have a lasting effect on some of those who participated by converting awareness to intentionality (Chauhan et al., 2011).

Questionnaire Rank (Options from less to more sustainable)
1. Electricity supply (fossil fuels - renewable sources)
2. Holiday travel (by air - by car - by bus or train)
3. Purchasing Decisions (by price and quality - organic, fair trade, low food miles - local or home produced)
4. Local Travel (car - bus (car pool) - cycle or walk)
5. Diet (non-vegetarian - vegetarian - vegan)
6. Priorities (me and my family - my community - the world and its future)
7. Money and Possessions (make me proud, I want more - just sufficient for comfort - not important to me)
8. Wants (More and better - sufficient for comfort - no more than I need to live)
9. Advocacy for Sustainability (I do nothing - occasionally - set a good example/encourage others)
10. Food (Mostly pre-packed convenience foods - a mixture of fresh and convenience foods - mainly organic, fresh and home produced)
11. Recycling (I don't bother - partly recycled or reused - most recycled, reused or composted in my garden)
12. Switch off Electrics (I leave them on - switch them off - use low energy lightbulbs etc)
13. Water use (I use a power shower or bath - a shower)
14. Home Insulation (full home insulation and double glazing - partial - none)
15. Fashion (When one of my possessions falls from fashion I throw it away - make do as long as it functions)

Figure 1. Self-appraisal questionnaire. Results in rank order.

Red on the chart indicates those topics where the participants indicated that, currently, they performed badly in sustainability terms; green shows where they did well; blue represents intermediate or mixed self-assessments.

More than 3,000 individuals and family groups participated in these events. Figure 1 ranks the responses to those self-appraisal questionnaires that were left with project researchers, 1075 in total. On the down side (red), these show that most were unaware of the possibility of sourcing their energy from renewable resources, that most were involved in long haul holiday travel, made purchasing decisions on the basis of price and quality more than environmental impact, and travelled by car. On the positive side (green), few were concerned about fashion, and most were concerned to conserve electricity and water by whatever means possible.

More than 1900 pledges were made on the pledge wall. The list includes several topics that were not included in the questionnaires; although arguably most should have been. They are

highlighted in amber on Figure 2. There are also several items the questionnaire combined that are treated separately. However, the broad pattern is clear. In general, participants pledged to do better those things that, already, they did well (green). In most cases, apart from local transport, their less pro-sustainability behavior featured much less in the pledges. There were suspicions about Green Energy suppliers, reluctant to give up long haul travel because of their wish to visit family or go on pilgrimage in India, and a lack of interest in the merits of organic and locally produced food.

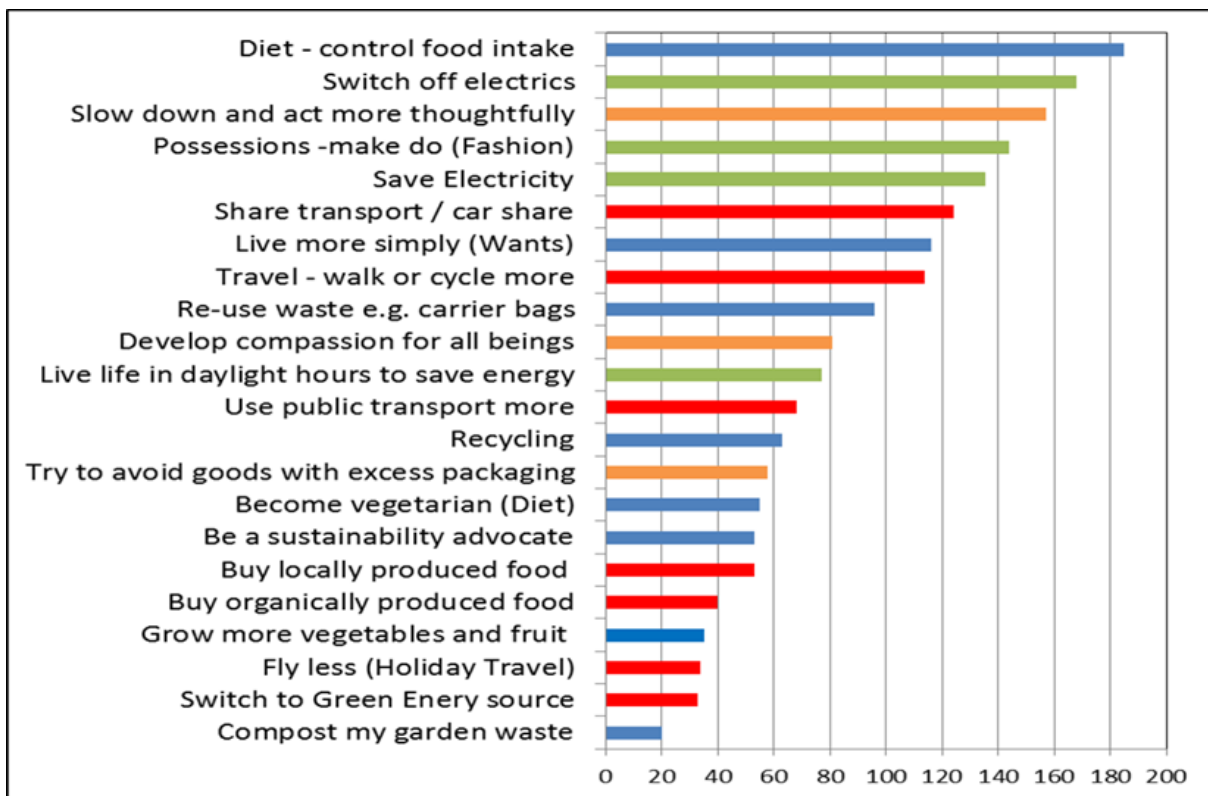


Figure 2. Number of pledges made in rank order. For obvious reasons, most participants committed to a single pledge but a few made more. (Green indicates where the self-appraisal questionnaires indicate existing strong pro-sustainability behavior, red the opposite, blue intermediate or mixed and amber indicates where the pledge was not mentioned on the questionnaire.)

The Karma to Climate Change project connected everyday knowledge and awareness to something personally conative by connecting that knowledge to scriptural injunction and religious devotion through the culturally specific contexts of karma and vrata, the religious pledge. The project also highlights the limits to this approach by showing that there are things that that will not be renounced, such as long haul travel, and that the approach only works where there is already knowledge and awareness. In this case, lack of awareness, about the provision of renewably sourced energy or lack of conviction about the merits of organically produced or local produce, meant that the connection was less often made.

The Karma to Climate Change project concluded in 2011, partly because it had saturated its audience and partly because the Lotus Trust wanted to move to a new venture, the production of *Ahimsa* - ethically pure milk, (i.e. milk production that places animal welfare first). However, the message about consciousness raising was taken aboard and, for several years ahead of its launch, the new project was preceded by massive publicity about the problems of conventional and even organic milk production, which involves the slaughter of healthy cows after a very few years of life and almost all male calves on the day of their birth, of course, alongside scriptural invocations. The Ahimsa milk project is discussed by Sita Rama das et al. (2014) and in regular updates on the Lotus Trust website.

3.2. *Connective Case Study 2: Restoration of Wychwood Forest.*

Involving learners in tree-planting is a common educational strategy at all levels of education. Usually, this is done in the name of environmental improvement or carbon-sequestration to combat climate change. However, tree planting is a simple action that can have deep personal significance for those involved. They may reflect on the environmental benefits of their actions, in terms of restoring land to Nature, combatting climate change, improving landscape aesthetics, etc. For Beuys: “the tree is an element of regeneration which in itself is a concept of time...[and]...a symbol for this planet” (Beuys, 1982, in Demarco, 1982, p.46).

However, tree planting activities may have deeper affective impacts. Those involved may reflect that the tree they planted may outlive themselves, possibly by many centuries. Like parenting, it offers a connection with a future that lies beyond their own life-spans and, in this case, possibly beyond those of their children and grandchildren. Hence, it encourages thinking about intergenerational ethics. Equally, like parenting, this activity has the power to connect the tree-planter to the welfare of another living creature. Tree planters commonly care for their trees and also for trees their loved ones have planted. In the author’s *Cradle for Nature* project, which concerns the community-based forestation of degraded former opencast coal-lands in South Wales, some of the initial volunteers have remained with the project for decades, some rejoining the annual field camps for more than 25 years (Haigh, 2018; 1998)

Here, the subject is the *Wychwood Project*, a Local Government supported community volunteering initiative aimed at engaging young people in community projects. Its logo declares that it is about restoring landscapes and inspiring people (www.wychwoodproject.org). Its goal is to restore parts of the former Royal Hunting Forest of Wychwood, including awareness of its history and identity. In 1086, Wychwood Forest covered much of what is now West Oxfordshire District, England, perhaps 310 km², which, although never entirely forested, is a landscape now

much degraded by years of neglect. To counter this, the Wychwood Volunteer program encourages (especially young) people to volunteer their help in conserving and restoring its landscapes and wildlife habitats. As the local university, for 4 years, Geography undergraduates at Oxford Brookes University were enabled to volunteer to plant trees with the Wychwood volunteers as coursework for a larger exercise on education for sustainability, (global) citizenship, ethics and team building (Haigh, 2016b).

Arguably, the very act of working with and alongside volunteers from the local community is a connective practice, although reports from those students involved suggest that its affective impact is quite small. However, students hidden away in the academic 'Ivory Tower' and student-focused social whirl of a university can be largely oblivious of the local community. In Oxford city, there is a long history of often not very positive interactions between 'town and gown'. It might be hoped that engaging learners in helping the community solve its problems and achieve its dreams would help build bridges of empathy and understanding. Such positive participation, as with all such *Service Learning* should be good both for the university, demonstrating its relevance, and for the community, which benefits from the physical and technical assistance that the university provides (Jacoby, 1996).

As Jacoby emphasizes, service learning involves more than just participation in good works in the community, it also requires structured reflection to connect the experience with its learning goals (Jacoby, 1996). Here, this process was initiated by inviting student participants to attach to trees, which they themselves had planted, a message of 18 words describing their hopes for the future (Haigh, 2004, 2016b). Preparatory classes discussed the function of Buddhist prayer flags, the *Karma to Climate Change* pledge wall described above, Diana Bell's *Remembering* installation from our local Museum of Modern Art, Oxford (Bell, 2004) and Yoko Ono's *Wish Tree*, which has invited >1 million participants to attach their personal messages for peace to a tree branch (Imagine Peace Tower, 2010).

At the end of their tree planting experience, learners were required also to complete a participation questionnaire, which functioned both as the off-campus class register and the first step in a process of guided reflection continued through following classes (Figure 3). The questionnaire, following the ideas of Sri Aurobindo and Deep Ecology, moves from near the learner to further away. It begins with their selves. Participants reflect on what they have just finished doing and the activity's meaning in their course curriculum and for themselves (if any). It then moves outwards to consider what this exercise might mean to their instructors, something many found very difficult. Finally, it links the activity to sustainability via the concept of *Global Citizenship*.

1. "My deepest hope for the future and the world is..."; the 18 word message that I posted on the trees that I planted ...
2. Given the curriculum of "The Ethical Geographer" module, the purpose of this exercise is...
3. But, what (if any) significance does this exercise hold for me, personally?
4. What (if any) significance might this exercise hold for my instructors, who designed this event? What is their real purpose?
5. What do I understand by the term: "Global Citizenship"? What are its main components?

Figure 3. Guiding reflection: tree planting participation questionnaire

A complete analysis of the testimonies and questionnaires obtained by all iterations of this exercise is published in Haigh (2016b). The present report excludes data from on-campus plantings, which proved less affective, partly because of some cynicism about the motives of the university in allowing the work. Just 89 of the total of 283 participants supported the four off-campus tree planting events but they are the focus of the following analysis. This analysis is based on independent-sample t-testing. Here, values of p indicate the probability that the observed result could be due to chance alone. Where this is <1 in 20 (i.e. $p < 0.05$), it is suggested that the finding is significant.

The first question asked participants to record the 18 word message that they had attached to their trees. The main themes concerned environmental sustainability (47), followed by peace on Earth (29), the welfare of future generations (17), the welfare of self or family (11) and prosperity (8). Forty-seven of the participants recorded themselves as female and 40 male. T-testing showed that only significant difference was that a higher proportion of the females hoped for family wellbeing ($p=0.044$).

Question 2 asks the participants what purpose this tree-planting activity served in their education. Many thought that was to help them think about their role in Nature (37) and about giving something back to the environment (34). A few (10-13) mentioned ethics, their ecological Self, the future, and carbon neutrality. There were no significant gender linked differences in these responses.

When asked what the experience meant to them personally, most replied that it allowed them to do something for the environment (42) and helped them remember their personal responsibilities for sustainability (24). Smaller numbers felt that they were doing something practical (21) to help the future (16) and/or the local community (13) through volunteering (12). However, a few valued the exercise merely as a change from the classroom (14), a means of gaining assessment (5) or a futile gesture (5). Significantly more females felt that the exercise was about doing practical work ($p=0.023$) and/or connecting them to their personal responsibilities ($p=0.027$).

Few felt able to imagine what was in their teachers' minds. However, some thought it was something to do with education for sustainable development (23) or the future (10), or having them reflect on their life styles (12). Just 6 considered it might be about building links with the community. Significantly more females felt that the teachers intention was for them to reflect upon their life practices ($p=0.019$) and that the activity was simply education for sustainable development ($p=0.044$).

The final question asked participants, at least those in the final year of the exercise, just 25 in all, to suggest what they thought was included in the concept of Global Citizenship. Four topics led the field: social justice (16), sustainability (14), interdependence (12) and personal responsibility (10). Despite the messages they attached to the trees, peace on Earth and the welfare of future generations were hardly mentioned.

This case study employed tree planting as a connective practice. In the *Cradle for Nature* project, which involves the community-based forestation of degraded former opencast coal-lands in South Wales, participant testimony shows clearly that the project has connected these volunteers with the fate of their trees (Haigh, 2017; 1998). However, in the present case, the trees themselves get hardly a mention and very few participants expressed any interest in returning to see how their trees fared in the future.

So, the question arises, did the academic context and reflective exercises detract from the connective power of the act of planting? Here, the students' 18 word hopes-for-the-future and the academic context of education for sustainability may have directed the learners thoughts to larger issues. This might explain why thoughts about helping the local community were not in the forefront. However, the Deep Ecological concept of connecting with another living creature also went missing and, as their comments on global citizenship indicate, the attitudes of most learners remain firmly anthropocentric. It is possible that another kind of connective practice, such as working with disadvantaged people, might have had much greater affect in this respect.

For many years, environmentalist followers of the Mahatma Gandhi have tried to restore degraded communal lands in the Himalaya by having children from the local Primary School plant trees. The logic is simple, no-one would cut down the tree planted by their child or dare damage the tree planted by the child of their neighbors. Instead, these trees were cared for and specially tended (Haigh, 1988). Certainly, some of the Wychwood planting work has this aspect, especially the two occasions when the student volunteers helped plant out a Community Woodland for a local town.

So, while tree planting is a simple action that can have deep personal significance, this is not universally the case. Certainly, the activity is useful for encouraging the idea of self-agency,

response-ability, meaning that it makes participants aware that they can make a personal contribution to the welfare of their habitat. Those involved may reflect on the environmental benefits of their actions, in terms of restoring land to Nature, combatting climate change, improving landscape aesthetics, etc. Similarly, these activities may have deeper affect, encouraging those involved to reflect on the world of the future because the tree they plant has the capacity to outlive them by many centuries. In some participants, it may assume an affect similar to parenting, an investment in a future that lies beyond their own life-span and even that of their children. Equally, like parenting, this activity has the power, in theory rather more than practice, to connect the tree-planter to the welfare of another living creature. Tree planters commonly care for their trees and also for the trees their loved ones have planted. However, it is clear that such feelings cannot easily be created in the contexts of tree plantings by schools or universities or any situation where the symbolic meanings of the planting are diluted by other concerns, such as passing examinations and completing coursework. So while such contexts are readily used to foster deeper reflection about the learner's personal responsibilities to the environment and for sustainability, few achieve the intuition of ecological Self-realization or even its weaker Geography alternatives: topophilia and tropophilia (Holton, 2017).

4. Discussion

Connective practices are affective educational strategies that aim to create a deep, emotional bond between learners and the subject of their learning. Their aim goes beyond that of creating awareness, knowledge or even understanding by seeking to target and direct the learner's ethical and empathic sensitivities. Typically, they employ active, participatory, means to construct a sense of, yes - personal responsibility, but more importantly conative personal response-ability, the creative impulse to make a difference, no matter how small or symbolic, through personal engagement and action. In case study 2, above, several learners dismissed the action of tree planting as a futile gesture, something that would have no long term effect and, in a technical sense, probably they are correct. However, no matter how minimal may be the impact on carbon mitigation, the action was a performance that carried a message, it was something that was seen to be done, something that suggested some people cared, and an act of environmental altruism that invited others to make their own responses to the challenges of sustainability and environmental change.

Educational connective practices are effective because they engage participants through participatory action that demonstrates a public commitment. Participation may be as small as one scribbled promise to God posted, among many others, on a wall, as in case study 1. However, as

in all constructive and experiential learning, it is the public demonstration of a commitment that helps focus the learner's reflective thoughts on the action they have taken: why it is justified and what more could be done. Creative activity tends to construct a desire for more creative activity, a commitment that builds connection.

Returning to educational theory, connective practices are strategies that address the higher levels in the Bloom-Krathwohl taxonomy of educational objectives, especially where this t addresses the affective domain, rather than the psychomotor (skills) or cognitive domains (Krathwohl et al., 1964). In a revision by Anderson et al. (2001), the cognitive domain climbs upwards from *Remembering* through *Understanding*, to *Applying*, *Analyzing*, *Evaluating* and *Creating*. Connective strategies clearly tackle all levels from *Understanding* upwards but their key contribution is that they access the often neglected highest level of *Creating*. In the affective domain, the taxonomy's levels reach upward from *Receiving*, becoming aware, through *Responding*, which involves active participation, through *Valuing*, which means internalizing a feeling that the activity is worthwhile, to a phase of *Organizing*, which involves prioritization and the resolution of internal value-related confliction, and, finally, *Internalizing*, where the new values are reflected in the everyday performance of the individual. If the educational strategy achieves its goal, then the values of the learning are expressed in everyday behavior. Here, connective practice case study 1, demonstrates a real capacity to invite learners to make observable lifestyle changes. Case study 2 does the same - but mainly for that small proportion of participants who move on to more voluntary work or who carry the notion of response-ability into their lives.

5. Conclusion

Coincidentally, while writing this paper, the author received an email from W.W. Purkey, founder of Invitational Education, asking what led the author to explore Invitational Education. The same email also answered the question, in part, by avowing the movement's commitment to "efforts to create, sustain and enhance truly democratic, caring and welcoming" education (Purkey, 2017).

Beyond this, Invitational Education's value lies in its holistic approach to the educational environment. It aims to create positive messages from the interactions between people, places, processes, programs and policies working together in constructive alignment. More importantly, it explicitly recognizes that many learners are self-inhibited from learning by a simple lack of belief, often self-belief, and by a helpless sense of alienation, which learning invitations seek to overcome. Only when that initial threshold of willingness to engage is overcome can connective

practices begin their work of developing Beuys-style response-ability, the capacity and desire to make a creative contribution. Self-efficacy, or better creativity, invites acts of self-expression in the material world, which can be guided into positive paths by appropriately designed learning invitations. When reinforced by activities that are truly affective, these may encourage the kind of spiritual opening out envisaged by Sri Aurobindo (Anon, 1995) and Satish Kumar (2007). When these engaged activities are sufficiently connective and when they encourage response-ability for the welfare of the living Earth, at whatever scale or level, they signpost the long path towards ecological Self-realization, that deep connection with the whole of the living world. However, even when they fall well short of this goal, they help learners realize the highest levels of educational objective in both the cognitive and affective domains of the Bloom-Krathwohl Taxonomy, namely creativity and the internalization of values.

Some practical approaches have been illustrated by two case studies, which show how to invite learners to develop values and affirm them by creative acts that support sustainability and the needs of future generations. Joining the above email discussion, John Novak (2017) pointed out that: “we transform by way of the rich connective transactions we participate in” adding that the education outcome “depends on the quality of our participation”. In the first, scripturally-based information invites learners toward making a public commitment in the form of a personal religious pledge to engage in a (slightly) more pro-sustainability lifestyle. In the second, learner participation in environmental restoration by tree-planting with a local community volunteer group is employed as an invitation to reflect on the larger significance of this action both for themselves and for their role as ‘global citizens’. In both cases, the aim is to empower those involved to use their own independent creativity for further action and to personally enact their own sustainability values.

Acknowledgements

Thanks go to Professors William W. Purkey and John Novak (IAIE) for their comments on an early draft of this paper, Shelley Sacks for introducing me to Social Sculpture and Pénzesné Dr. Kónya Erika for encouraging this writing.

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