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Education for Sustainable Development, natural capital and sustainability: *Learning to Last*

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This paper explores the use of metaphor in public policy and learning as a context for a reflective discussion of a nationally funded initiative focusing on the dissemination of good practice in education for sustainable development in the UK's post-16 sector. *Learning to Last* was the first, and so far only, project of its kind. Its conception and management epitomised the use of the toolkit metaphor, and reinforced and reproduced the instrumental rationality characterising educational governance and public management in the UK. The potential for metaphor or metaphorical concepts such as natural capital to articulate and stimulate new ways of thinking and behaving or even possibly offering a glimpse of a paradigmatic shift in institutional policy and practice relating to education and sustainability was not fully realised.

On metaphor

Lakoff and Johnson (1999) have argued that metaphor is deeply rooted in our experience of the world, effectively enabling us to make sense of it in various literal and non-literal ways. Although it is quite possible to think and even to reason without metaphors, it is only by applying particularly complex ones that we are able to explore and develop these understandings of the environment and our place within it. Additionally, significant portions of the linguistic expressions we use evoke mental imagery and in many instances words are frequently supplemented with a whole feast of visual signifiers, symbols, icons that serve a range of cultural, political and epistemic functions. We can envisage a toolkit while simultaneously drawing on a stock of experiential knowledge and assumptions about its purpose—tools to do a job, fix or make something. 'Toolkit' suggests the doing of something practical in a given period of time. In this way, linguistic and visual metaphors may at various times promote

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intellectual exploration, channel thought but at other times close off possibilities for creative engagement, learning and discussion. The commonly used term 'out of the box' or 'blue skies' thinking is a tacit recognition that there is something lacking in the way thought and action is sometimes directed and constrained particularly within institutional settings and here it is possible to use metaphors in a liberating and generative manner (Schön, 1979; Kemp, 1999), inferring learning and change will occur. Consequently, we frequently see the concept 'learning' harnessed with that of 'organisation' or 'society' but what this actually means is a matter of debate, conjecture and the way this composite is made meaningful through the constellation of power-knowledge and governing procedures that fashion our actions and predispositions (Foucault, 1991).

Bowers (2001, p. 142) suggests the use of certain root metaphors like 'computer' or 'machine' help 'frame the process of analogic thinking, and how the prevailing analogy is, over time, encoded in iconic metaphors'. So the world is a mechanism, the brain is a computer, thinking is data processing and so on. Another highly significant metaphor is derived from economics. Policy discourses frequently refer to particular 'capitals'—cultural, symbolic, human, financial, social and natural. In his reference to the root metaphor 'NATURE IS CAPITAL', Foster (2003) writes of associated attributes—stock, depletable, capable of being built up by investment, used instrumentally within a production process, etc. With its economic, productive and technological connotations, 'capital' becomes logically associated with management, with management techniques and processes, with instrumental procedures, values and rationales, in short with a particular form of 'governmentality'. Åkerman (2003) reinforces this noting that two basic problems associated with the spread of the natural capital concept refer to the diffusion of calculative practices and calculative agency and the marginalisation of other ways of expressing the relationship between humans and nature. Metaphor, whether it be root or iconic, simple or complex, helps structure experience and by extension learning, but the point is, as Lakoff and Johnson (1999, p. 73) argue:

> one cannot ignore conceptual metaphors. They must be studied carefully. One must learn where metaphor is useful to thought, where it is crucial to thought, and where it is misleading. Conceptual metaphor can be all three.

Metaphors also break down some point in their application and then just disappear from public discourse.

Metaphors and policy

Policy documents are designed to promote, advertise, influence and inform. Regional development agencies, The Countryside Agency, the Cabinet Office, the Department of Environment, Food and Rural Affairs (Defra) and the Department for Education and Skills (DfES) design policy documents to convey meaning visually and metaphorically. Some images signify concepts of Natural as well as Human Capital. Contextual tones and textures are fashioned to shape understanding with

imagery used to connect one conceptual reference point to another. The collage on the front of The Countryside Agency's (2003) *The state of the countryside 2020* shows a busy, young, aesthetically pleasing, 'traditional' and sustainable countryside. It is a pleasant and healthy place to live, work and be. The images offer a notion of natural capital that endorse social, cultural, psychological and even spiritual attributes (Chiesura & de Groot, 2003), which is further developed by Defra (2000). The countryside is not reduced simply to business and economics but there are obviously calculable benefits, stocks and resources. The DfES's *14-19: opportunity and excellence* (2003) offers the reader a discourse on skills development for Britain's twenty-first century workforce, with learning producing 'productive employees' for business rather than developing a person's cognitive or affective capacity, moral values, intelligence or other capabilities. Photographs of students signify occupational roles—chefs, computer operators, scientists—embodying values such as hard work, energy, application and teamwork.

Constructivist educators suggest people interpret documents, words and images in different ways depending on context, conceptual frameworks and interpretative communities. A photograph of a rural locale is not just an image of fields, hedges and trees. It may be equally a business opportunity, an exploitable resource, a training ground or a place for spiritual renewal. A photograph of a surfer on a sandy beach may connote an economic resource, a vacation or lifestyle activity, personal health, a form of fungeable natural capital or a new bit of knowledge defined by the scope of its application and possible economic return (Antonelli, 2003).

Environment and cultural assets

> The high-quality physical environment in the South West is recognised as a great strength and economic asset. More than a third of the area is designated for protection as a National Park or an Area of Outstanding Natural Beauty. In 1999, the Environmental Prospectus for the South West of England estimated that the environment generated £744 million in output and 55,000 jobs. Agriculture, fishing and forestry are highly dependent on the environment and these sectors generate £1.6 billion in gross domestic product directly and generate many more jobs indirectly.
>
> The environment is a crucial asset for other economic sectors such as tourism. It is estimated that most holiday trips to the region (78%) are motivated by the conserved landscape. Tourism is recognised as a priority sector as it employs 85,420 full-time equivalents (Office for National Statistics figure). In 2001, the South West attracted 14% of England's domestic tourist trips and 8% of overseas visits. The presence of these visitors has a positive effect on other sectors, such as culture, which contributes £1 billion to the regional economy (South West Regional Development Agency, 2003, p. 18).

The metaphorical concepts of human capital (DfES), natural capital (Defra), cultural capital (Department for Culture, Media and Sport), economic and finance capital (The Treasury and Department of Trade and Industry), physical and social capital (The Office of the Deputy Prime Minister and Cabinet Office) help constitute an official 'regime of truth'. Educational practitioners may resist and protest but their

compliance and indeed their knowledge is managed through a whole series of strategies, information flows, project initiatives, objectives, performance indicators, deliverables, on which they are inspected, evaluated and monitored. The intensive, lengthy, sophisticated and productive academic debates that have accompanied the development and informed the critiques of these conceptual capitals become less relevant than implementing targets.

With education and skills servicing the needs of the economy, individuals taking responsibility for their own learning and contributing to the national and their household income (Tight, 1998; Coffield, 1999, 2000; Field, 2001), the creation of human capital is the official business of teaching and learning.

> In the information and knowledge-based economy, investment in human capital—in the intellect and creativity of people—is replacing past patterns of investment in plant, machinery and physical labour. (Department for Education and Employment, 1999, p. 12)

And,

> Regeneration and inclusion are at the heart of the Government's agenda, and at the heart of regeneration is investment in human capital. Without a focus on the engagement and development of residents of deprived neighbourhoods, or indeed of people disadvantaged and excluded by other circumstances, there is little hope of achieving ambitions for a robust, knowledge-driven economy, for vibrant, self-sustaining communities and for a universal culture of lifelong learning. (DfES, 2001, p. 7)

In practice, human capital is less about intellect and creativity and more about skills and competencies and to an even lesser extent knowledge, understanding, capabilities and capacities (Sen, 1999). For critics like Stephenson (2001) skills and competence signify the past rather than the future, to some extent evidenced by policy rhetoric stating the need to 'increase' skills to provide 'work-ready' graduates.

Governmentality and education for sustainable development—learning to last

Foster (2003) argues that to 'grow' an understanding of sustainable development and its related concepts, values and possible actions requires a learning culture that admits the merit of heuristic stratagems. These do not exist in abundance in public education, where, as Hood (1991) has shown, new public management (NPM) structures the design, construction, maintenance and evaluation processes in accordance with the ideological assertions of efficiency, effectiveness, political neutrality, universality and 'value for money'. Unfortunately, the Education for Sustainable Development (ESD) initiative *Learning to Last* (*LtL*) was strongly influenced by NPM principles and procedures. The Learning and Skills Council (LSC), the principal planning and funding body for the post-16 learning and skills sector, funded both phases of the *LtL*, each of six months' duration, between 2001 and 2003. *LtL* focused on the generation and dissemination of good ESD practice but together with the Learning and Skills Development Agency (LSDA), which managed the project, the

LSC established controlling parameters within which both good practice and ESD had to develop.

This expressed the governmentality of the sector (Edwards, 2002), where education and training in the post-16 sector is increasingly dominated by 'bite-size' skills development, the pre-specification of learning outcomes (in which *actual* and *intended* are invariably conflated), measurable targets and performance indicators. Indeed, an online 'toolkit' became the major outcome of the *Learning to Last* projects, implying an unsustainable society, and education system, could be fixed—like a dripping tap. The 'toolkit' metaphor offered policy-makers, funding and project managers something that could be matched to a set of tangible targets and measurable objectives, constraining the possibility for transformative, creative, conceptual and deep learning to emerge. It also suggested a weak commitment to sustainability and a preference for short-term solutions. As Selwyn *et al.* (2001, p. 256) note, 'educationalists have traditionally tended to approach technology in an uncritical manner as a "technical fix", often resulting in ineffective or unsustainable results'.

The routine procedures and protocols of project management, quantitative measures and regular monitoring took precedence over significant attempts to explore new approaches to teaching and learning, institutional management, or policy development. Another consequence of the imperative to deliver was the fairly uncritical adoption of government definitions, headline indicators for sustainability, statements from the Government's advisory Sustainable Development Education Panel and categories derived from a cultural repertoire provided by other education and training projects. The outcome-based indicators by which individual projects would be evaluated had to be SMART (Specific, Measurable, Achievable, Realistic, Time-limited) and would include:

Economic

- the percentage of students who, by the end of the learning programmes, have been taught key sustainability concepts;
- the percentage of students—particularly those who have taken a programme that includes a sustainable development unit or units—who achieve their qualification and find employment or embark on further study within six months of completing their programmes.

Environmental

- the percentage of student and staff daily journeys to college routinely made by car;
- the volume of waste per student per annum;
- local habitats and/or species actively stewarded;
- the volume and range of recycling within the institution; for example, of aluminium cans, paper products.

Social

- the percentage of staff and students participating in local community activity related to their area of work or study in sustainable development;

- the percentage of students from disadvantaged groups engaged in programmes related to sustainable development.

Curriculum

- the percentage of all students on placement undertaking community-based placements or programmes with a focus on sustainable development;
- whether there is an audit of the curriculum, identifying courses with a dimension relating to sustainable development;
- the percentage of programmes including an explicit element of sustainable development education; for example, life skills, citizenship.

There was very little about explicitly developing understanding or engaging creatively with issues, concepts or life experiences. There was also limited space for projects to learn from their experience and change as a result. The pressured and time-limited nature of both phases, each of around six months' duration, made the LSC's and LSDA's preference for a quantitative evaluation largely impossible, particularly as the final reports for both phases were demanded as soon as the projects formally ended. However, despite lengthy bureaucratic procedures delaying the start of Phase Two, its concentration on collaboration, partnership working between local LSC offices and a wide range of education providers, and the option of working within a number of key themes represented a constructive development from Phase One, which centred largely on the initiatives of individual further education colleges (see Table 1) (Blewitt, 2001).

Natural capital and the *LtL* experience

The Phase Two projects (Jan–June 2003) included the establishment and implementation of green transport plans, developing sustainable procurement practices, raising awareness of sustainability issues among 'hard to reach' learners, rural business diversification, heritage and paper recycling, curriculum greening within further education, the creation of a regional ESD network and groups of sustainability champions or advocates. Their 'drivers' remained the punctual meeting of the 'tangible' targets but were mediated by project workers who argued that sustainability learning and the pilot status of the projects required a greater degree of latitude than other LSC-funded initiatives. If a project coordinator requested a modest extension to a formerly agreed action plan, the LSC's likely objection would be 'one of principle', i.e. this would interfere with administrative processes and action plans. Every change to a project had to be assessed according to the potential effect on the pre-specified objectives, indicators and outcomes. This remained a constant despite entreaties from coordinators 'not to be too specific about what or how people learn'.

Phase Two was variously dominated by the need to construct a 'toolkit' assumed by the LSC and LSDA to be the best way of disseminating good ESD practice. The toolkit was not negotiable despite internal DfES research presented to the LSDA noting that online toolkits or printed/web-based distributed materials had not been

Table 1. Five key sustainable development education themes identified by the LSC for Phase Two

Curriculum	An opportunity to consider sustainable development education through a focus on subject areas or cross-curriculum topics such as citizenship or key skills, the 'greening' of the curriculum or building of partnerships to develop sustainable development in the 14–19 curriculum.
Informal and non-formal learning	Much learning takes place in areas outside formal learning environments, e.g. school and college courses and as an addendum to formal courses, e.g. teamwork skills, assertiveness, networking, community leadership, presentation skills.
Strategic planning	This would require the development of local strategies; strategic objectives in sustainable development in organisations, local groups, partnerships.
Management	Previous developments have shown that the use of 'champions' to drive innovation and change has been successful, as with champions in the Institute for Learning and Teaching strategy for colleges. There is a need for managers in all organisations to be involved in leading sustainable development practices.
Social inclusion	A proportion of the population are excluded from many community services. This may be for example as a result of poverty, disability, location, unemployment, ethnic prejudice and discrimination. Project should enable the Local Learning and Skills Council to focus on a more inclusive approach to sustainable development. There are links between this theme and informal learning, active citizenship.

particularly effective at sharing good practice, generating understanding of complex concepts, effecting institutional change or altering human behaviour in the health sector. Toolkit discussions focused on bite-size learning materials, downloads, demonstrable institutional benefits, transferability and relevance to the development of human capital.

Some project activities

Another metaphor, natural capital, though never itself a subject for explicit discussion, informed the activities of many projects, e.g. sustainable procurement in Lancashire and H20 in Yorkshire. The dominant understanding was largely utilitarian, referring to economic assets, exploitable learning resources and future employment opportunities. But *Learning to Last* also attempted to articulate a broader conception of sustainability, recognising that the maintenance of human well-being requires connectivity. This was central to the Hertfordshire project, the Apsley Paper Trail, which explored the educational significance of paper recycling and sustainable production. A viable financial model was presented to businesses and customers based on Forum for the Future's *The Natural* Step—a systems methodology focusing

on the primary causes of problems rather than their environmental effects. Partners included the Science Museum, the Eden Project, the University of Hertfordshire and British Waterways, who, like the project coordinators themselves, wished to see the Grand Union Canal and River Gade reused and enlivened by new commercial, leisure and recreational activity.

Water, being significant to maintaining biological, cultural and social life, became integral to a wide range of professional, academic, vocational, leisure, formal and informal learning. In addition, hi-tech conferencing facilities were attractively married to low-tech paper-making with the project drawing extensively on its historical heritage—the site contained a waterwheel in 1219 and in 1803 the world's first continuous paper-making machine, a 'Fourdrinier', was installed. The present machine included components manufactured in 1895 and its business operation was still viable and productive in 2003. The site's Grade 2 listed buildings were being restored for use as a museum, a visitor centre, an education venue and a community resource to demonstrate the significance of both paper and sustainability to people's everyday lives. The project illustrated the value of admitting a socio-cultural perspective to our understanding of natural capital, going beyond a simple, or even a complex, calculus of benefits and returns. Key elements of the Mill operation may be seen as shaping a social and sociological understanding of the way we may live our lives now and in the future, but such understanding would require time to emerge and a less regimented approach to project design, execution and management than was generally evident in *Learning to Last*.

The Herefordshire project also addressed issues relating to natural capital and facilitated learning that moved beyond *LtL* parameters. This project was based on the work of the Pershore Group of land-based colleges' *Project Carrot*, which aims to convert Herefordshire to organic farming and is part of an attempt to fully integrate sustainable principles and practices throughout its educational, consultancy and partnership work. *Carrot* therefore informed the measurable good practice targets of establishing a network of sustainability advocates and provision of sustainability training to other providers. Interestingly, its own rationale for curriculum development stated it would be mistaken to specify in detail what this might eventually mean. The key paragraphs read:

- Such reorientation is difficult and will necessarily involve a process of systemic learning throughout the College, given the experience of other institutions.
- It is in the nature of systemic change that there is no blueprint that can guarantee Holme Lacy success. However, by selecting and analysing good practice in a number of institutions, this report is intended to help the process.
- An holistic interpretation of curriculum is inevitably an 'expanded' one including all aspects of an institution's operation that touch on the learning experience of staff and students, and is viewed essentially as process rather than predetermined product, and as a learning experience rather than a teaching experience. (Baines & Sterling, 2001)

An understanding of natural capital was highly pertinent to Pershore's work. It dovetailed with the attempts of a major local sponsor, Bulmers, to rebrand itself as a socially and environmentally responsible business and the regional imperative for rural economic development and farm business diversification. The concept offered a way of developing awareness among local businesses and farmers of the connections between sustainability, safe food, technological change, economic survival and an ethical responsibility to others, the environment and a decent quality of life.

Organic farming in this context meant new (actually in some instances quite old) methods for getting in touch with the land and distancing oneself from industrialised agri-business. In 2003 the college farm at Holme Lacy, comprising over 600 acres of arable, forestry and pastureland, was nearing its full conversion to organic methods with the aim of demonstrating organic farming could be both economically viable and ecologically important. If *Carrot* could connect with the real-life necessities of living and working in a rural area and to the sensory, aesthetic and spiritual experience of working the land then the critical, creative and transformative learning necessary for the realisation of sustainability could possibly occur. As one farmer remarked to the project coordinator, going organic was about *being* a farmer again, finding one's place and creating meaning for one's life through work. In other words, it was about spiritual renewal, personal growth, acquiring a holistic understanding that should not be relegated to the spaces between monitoring reports and management meetings.

At the final *LtL* network meeting of project coordinators, LSDA managers, LSC representatives and others, I asked if the spiritual dimension should feature in future LSC-supported ESD initiatives. Delegates responded with a stunned silence. Spirituality did not figure in the public management culture or the governing mentality they were reproducing, although alternative value frameworks and experiences obviously existed and there were signs of these stimulating a reflexive understanding of sustainability, learning and a critical environmental literacy (Stables & Bishop, 2001). Following Chiesura and de Groot (2003), the natural capital concept could have been used 'as a short hand, a sort of metaphor to allow the exploration of a system approach with three fundamentally different, but nevertheless interrelated clusters of variables: ecological, economic and socio-cultural' (p. 221) but it was not. Our 'patrimony' could have been articulated as a carrier of cultural meaning as well as of our life support system (Douget & O'Connor, 2003) but it was not and neither could it have been given the way *LtL* was managed. Ironically, in viewing a picture of woodland on the Holme Lacy college web site, we are invited to see beyond the wood and the trees, beyond an economic resource and business opportunity. *LtL* could not take up the invitation.[1]

Fashioning sustainability and metaphor in a learning society

There is a possibility that the metaphorical language and imagery becoming associated with the sustainability debate may fashion a new understanding of the 'learning society' that moves lifelong learning beyond the economistic human capital compass of Dearing (1997), Kennedy (1997) and Fryer (1998). This barely

emergent discourse draws life from ecological norms, values, concepts, principles and understandings (Capra, 2002). Businesses and people's skills are expected to 'grow' and to make connections as in 'the triple bottom line', and ESD is about making connections, holistically understanding our experience of, and impact on, the world. We need to deal with uncertainty, complexity and risk and *Learning to Last* partially understood this educative task. However, it was firmly rooted in a discursive formation that conceived solutions as managerial and technical, readily translating into senior manager training, key skills development, curriculum audits, case studies, deliverables, tangible targets, action plans, online toolkits, (human) capital, and so on. *LtL* was in many ways an illustration of what Hajer (1995) has termed ecological modernisation rather than a paradigmatic shift in educational thought and practice.

Signs of change, however, were evident. In its written evidence to the Environmental Audit Committee in February 2003, the LSDA noted that one problem often lies in the inability of people and of government to make sense of the world in terms that articulate with the ethics and conceptual framework of sustainable development. People get flooded (global warming), get stuck in traffic jams (quality of life) and are concerned about food safety (GM, junk food and the 'risk society'). People care about endangered species, environmental pollution, poverty, conflict and famine, otherwise natural history programmes and television appeals would not be so popular. Their apprehension is rooted in the natural environment—our stock of natural capital. Unfortunately, this concern is not exploited effectively or articulated in formal learning opportunities in school, college, university or the workplace, and informal learning often remains discrete and compartmentalised. *Learning to Last* struggled to offer alternatives but the realisation of genuine options requires political will, administrative flexibility and a freedom to think. Metaphorical language and visual imagery offers an openness to heuristic stratagems and is a possible vehicle for informal contextualisation, exploratory learning, making meaning and everyday social interaction. People converse, tell stories, watch films, read and write poems, create pictures, explore alternative therapies or religions, visit heritage centres and make connections by doing things differently in their gardens or on their farms. Every time we relate a story or use a metaphor we recycle the energy of that story within our cultural environment. As Bate (2000) shows in his discussion of Gary Snyder, 'metaphor is a way of understanding hidden connections, of reunifying the world which scientific understanding has fragmented' (p. 247).

In circumstances that allow for reflexivity, formal and informal learning may facilitate the evolution of an ecologically wise culture. Unfortunately, the *Learning to Last* projects aimed to fix the world with sustainability tools which allowed too little space and time for reflection and reflexivity. Good practice needed to be shared but it also needed to be created without problematic constraints from bureaucratic gatekeepers and administrative processes. NPM and the dominant governmentality suggests that creativity in future publicly funded ESD initiatives could also be tightly constrained by the quantifiable, the instrumental and the calculable—like a 'toolkit' of web-ready downloads—but metaphors break down when they cease to be of value or of use.

This is a lesson that needs to be recognised by those who see the natural capital metaphor as one, that if conceived sufficiently broadly and used heuristically, could help fashion an understanding of a sustainable future and practices designed to realise it.

Note

1. Details of the *Learning to Last* project and the toolkit may be found at: www.lsda.org.uk/programmes/sustainable/index.asp (accessed 9 April 2004).

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