Adult learning for sustainable development:
a review of recent trends and developments in work-related learning

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Abstract

Environmental damage, due to the effects of modern production and development practices and everyday human activities, is emerging as the overarching, critical issue facing all nations and societies around the world. Reliable and respected indicators of human impact on the natural environment suggest that the Earth's resources are being consumed at a faster rate than they can be replenished. An increasing array of prominent national and international bodies are initiating strategies, research agenda, and actions for environmentally sustainable development in an effort to establish and maintain a balance between environmental protection, economic development, and social equity. Research suggests that success in attaining that balance will require not just modified production practices and organisational change, but also fundamental and durable economic, political, and socio-cultural change.

This paper examines the influence that adult educators and trainers can, and do, have in facilitating such change, particularly in the critical area of work-related training, and considers the roles and responsibilities of adult learning and development as both an instrument and agent for education for sustainability (EfS). Based on extensive documentary research and critical analysis of policy statements and research reports, this paper synthesises material from a wide range of sources to assess and critique the current state of EfS with respect to work-related learning. The key principles guiding adult learning and development in EfS are discussed, and major trends, developments, issues and barriers concerning EfS in work-related learning are reviewed. In conclusion, the paper explores future implications for adult educators and trainers, and potentially fruitful approaches for promoting EfS in work-related learning.

Introduction

Endangerment to the environment due to unsustainable production practices, development modes and rising consumption levels is emerging as a critical issue of global significance in the 21st century. A succession of authoritative sources, such as the *Ecological Footprint* (Wackernagel and Rees 1996), the World Wide Fund for Nature's *Living Planet Report* (WWF 2004), and Worldwatch Institute's annual *State of the World* reports and *Global Trends* (Worldwatch Institute, 2005), warn that the current rate of resource depletion cannot be sustained without placing the environment's health, and the future well-being of the human race, in serious jeopardy. Numerous initiatives to promote environmentally sustainable development are being proposed and implemented by an expanding array of prominent national and international bodies endeavouring to establish and maintain a balance between environment protection, economic development, and social equity (for example, Environment Australia 2000; ICC 2001; UNEP 2002; UNESCO 2005). Increasingly, it is recognised that sustainable development cannot be achieved solely by modifications to existing modes of production. Profound economic, political and

socio-cultural change, facilitated by education and training, are also required if a genuine balance and lasting solution is to be found.

Based on extensive documentary research and analysis, this paper examines the influence that adult educators can and do have in facilitating such change, particularly in the critical area of workplace training (Russell 2003; UNESCO-UNEVOC 2004b), and contemplates the roles and responsibilities that adult learning and development will have as both an instrument and an agent for education for sustainability (EfS). In light of a review of extant research and policy documents, both Australian and international, the key principles guiding adult learning and development in EfS are discussed and major trends, developments, issues and barriers concerning EfS are analysed. The paper concludes with an exploration of the future implications for adult educators and trainers, and potentially fruitful approaches for promoting EfS in work-related learning. In effect, the paper constitutes conceptual research which aims to provide a basis for further investigations into a topic of growing significance.

Concepts, principles and forms of adult learning and development for EfS

The terms 'sustainable development' and 'sustainability' are often used interchangeably. The Brundtland Report of the World Commission on Environment and Development, *Our Common Future*, is widely viewed as a watershed in the conceptual development of 'sustainable development', which is defined as 'development that meets the needs of the present without compromising the ability of future generations to meet their needs' (Brundtland 1987, p.43). There has since been a move away in some quarters from using the term 'development', in part to overcome a perceived growth in discourse favouring economic development over environmental sustainability (Springett 2005), leaving 'sustainability' to describe the relationship between environment protection, economic development, and social equity.

'Education for Sustainability' (or 'Learning for Sustainability') is considered to be specifically aimed at achieving environmentally sustainable, economic development (Tilbury, Adams and Keogh 2005), as opposed to 'environmental education', which is aimed primarily at building awareness about the environment. Substantial literature exists on theories, concepts and practices for the latter in schools, universities, and community settings. However, by comparison, EfS has received limited attention from researchers and scholars, particularly in the vocational education and training (VET) sector (Anderson 2003a,b; Kent 2004; Russell 2003). Nevertheless, various educational methods have emerged, with a key distinction being made that EfS is more than just awareness-raising and individual behavioural change. Clover (2003, p.10) asserts that:

> While awareness-raising frameworks … focus on keeping people informed on matters of pollution, science, and technology, [EfS] uses engaged, participatory methods based on the understanding that learning is a far more complex, extensive, and important process than information transmission.

EfS, therefore, seeks to transform individual and organisational attitudes, perspectives, and approaches to living in, with, and as part of the environment.

Springett (2005, p.146) has incorporated a 'critical theorization of education for sustainability' into her tertiary business studies curriculum. She contends that 'this influences not only the content, but also the philosophical and values base of the course, the pedagogical approach and the goal of student self-reflection.' (p.156) Working from this perspective, the key objectives are to: examine the contexts and discourses surrounding sustainability as an issue for business; consider how issues of sustainability might be incorporated into the theory, principles and practice of management; understand 'the paradigm shift[s] required in order for business to become sustainable'; and 'prepare students for a change-agent role' (p.153).

Palmer (1998) provides an holistic program model based on overlapping education *about*, *for*, and *in* the environment with central consideration of the formative influences the learners bring with them, as well as an explication of existing ideologies, despite objections and resistance that may arise. She stresses the need for careful design of programs and proposes a nine-step process beginning with participants' prior knowledge and incorporating research findings that build on the teaching and learning process. Although not explicitly conceived for adult education and training, this approach has broad relevance and applicability.

Co-operative, work-based, experiential learning is advocated by Coll, Taylor and Nathan (2003) for EfS in higher education, while programs based around transformative learning are described by Lange (2004) and Moore (2005). Bowers (2001, p.187) takes this a step further with a model for 'eco-justice pedagogy' based on teachers firstly critically reflecting on their own traditions associated with teaching and learning, and thereafter striving:

> … to be responsive to the cultural patterns enacted in the relationships that make up the complex ecologies of the classroom and the larger communities…[and]…to illuminate environmentally destructive patterns and to reinforce cultural patterns that have a less adverse impact on the environment...a culturally and ecologically responsive form of teaching.

Whilst such approaches can be adapted for use in work-related learning, 'the reality is that VET practitioners have few sources from which they can derive models and strategies for application with adult learners.' (Anderson 2003b, p.12)

Establishing EfS

Developments and trends in a number of areas may act to drive the implementation of EfS. The first of these may come from the declaration by the United Nations of the Decade of Education for Sustainable Development (2005-2014) program, to be led by the United Nations Educational, Scientific and Cultural Organisation (UNESCO). The central global vision of the program is:

> … to integrate the principles, values, and practices of sustainable development into all aspects of education and learning. This educational effort will encourage changes in behaviour that will create a more sustainable future in terms of environmental integrity, economic viability,

and a just society for present and future generations. (UNESCO 2005, para.1)

Initial plans and policy strategies developed for this program (UNESCO 2004; UNESCO-UNEVOC 2004a) specify actions and define milestones to be achieved. However, despite the ethical nature of UNESCO's vision for EfS, in the absence of tangible financial rewards and incentives and/or legislative penalties, it is unlikely to engender much response from profit-motivated corporations and industry.

In recognition of this, there are growing trends in Australia and overseas for companies to explore the business case for sustainability (Anderson 1999; Hawken, Lovins and Hunter Lovins 1999), and adopt more transparent and balanced governance and reporting methods such as the triple bottom line (economic, social and environmental) business reporting (see Condon 2002; Elkington 1997; Plane 2003; Tilbury, Adams and Keogh 2005). Around the world, there is a growing awareness and some willingness to adopt sustainability as a business strategy, particularly in America, Canada, Europe and the UK (Tilbury, Adams and Keogh 2005). The International Chamber of Commerce, for example, has developed a worldwide Business Charter for Sustainable Development containing 16 principles for sustainable performance, including as principle four: 'To educate, train and motivate employees to conduct their activities in an environmentally responsible manner' (ICC 2001).

Some critics such as Springett (2005) argue that the 'business case for sustainability' and 'the triple bottom line' are discursive techniques allowing industry and business to appear 'green' while continuing with practices, systems, values, and attitudes that are inimical to sustainability. Generally, however, these developments are seen to act as an impetus for companies to at least raise their awareness of issues pertaining to sustainable development. As Russell (2003, p.2/22) states: 'The triple bottom line acknowledges that society depends on the economy which in turn depends on the global ecosystem.'

In Australia, the National Environmental Education Council (NEEC) has been established in recognition that '[e]nvironmental education deserves to have a profile in the community which accords it the same priority as other fundamentally important social and economic issues' (Environment Australia 2000, p.6). One of its terms of reference includes 'advocating practical environmental education in all spheres of education and formal training in vocational, business and industry and community education sectors' (Environment Australia 2000, p.12). The associated Australian Research Institute in Education for Sustainability (ARIES), launched in August 2004, also appears to have produced some immediate progress with a number of projects already underway to promote EfS, including reports of tangible actions for EfS in industry and VET submitted to the Commonwealth Department of Environment and Heritage (ARIES 2004a, 2004b).

Various efforts towards establishing EfS in VET are also being made at State government level, including the establishment of the National Centre for Sustainability (NCS) in Melbourne involving several universities and TAFE colleges in Victoria and Western Australia. NCS has conducted research and produced a range of materials including a summary of VET Training Package competencies relating to

sustainability and the Conservation and Land Management Training Package (National Centre for Sustainability 2003).

Issues and barriers

Much of the literature calling for EfS and environmentally sustainable economic activity paints a bleak picture of global economic systems dominated by modernist, neoliberal, short-term views, subordinating long-term sustainability of ecological systems. In spite of its rhetoric of increased standards of living and global communities brought about through advances in technology, Clover (2003) and others point to market- and consumer-driven globalisation's overriding motive to accumulate wealth through perpetual economic growth. Degradation of the environment and overuse of the Earth's natural resources is almost unanimously attributed in the literature to the unsustainable production and waste disposal practices of business and industry, endemic consumerism, and the 'profit at any cost' ethos of globalised Western capitalism (for example, Bowers 2001, 2003; Clover 2003; Ellyard 2001; Hawken, Lovins and Hunter Lovins 1999; Worldwatch Institute 2005; WWF 2004). Natural resources are consequently being drawn on more and more to produce goods for international markets, while transnational corporations are disempowering nation states and trade unions, thereby weakening the ability to protect environments and deliver social justice through welfare programs and collective action (Bowers 2003; Clover 2003).

Neoliberal ideology with its unqualified faith in free markets, privatisation, competition, commodification, and increased production – leading to worldwide consumerism fuelled by 'guerrilla marketing' (Fitzsimons 2000, p.516) and complicit and pervasive media advertising (Hamilton and Denniss 2005) – is widely identified as the driving force behind capitalism and the inexorable march of globalisation (Anderson 2003a; Bowers 2003; Clover 2003; Ellyard 2001; Hawken, Lovins and Hunter Lovins 1999; Santos 1999). Anderson argues that current constructions of VET fit firmly within neoliberal economic theory as they are premised on the twin assumptions of 'productivism', namely that the principal purposes of VET are to: 'promote economic growth through the development of the human resources required by industry to enhance productivity and profit'; and, produce skills and competencies for work, enabling individuals to 'contribute to, and benefit from, economic growth' (2003a, pp.3-4). Learning in VET, therefore, currently prepares individuals for the economic domain only – and even then for a highly restricted version thereof – whilst the social and environmental dimensions are discounted or ignored. Such policy and practice leave little, if any, space for EfS and effectively present an ideological impasse that will require artful negotiation and contestation to establish meaningful programs and policies for EfS in VET (Anderson 2003b).

The Commonwealth Department of Education, Science, and Training's strategy document, *Skilling Australia: New directions for vocational education and training* (DEST 2005), contains no mention of EfS, or indeed any reference whatsoever to 'sustainability' or 'sustainable development' in an exhaustive list of (other) issues confronting economic growth. Instead, the document is punctuated with frequent assurances 'that in the future Australia's training system will be even more responsive to the ever-changing needs of industry' (Hardgrave quoted in DEST 2005, p.iv). The first of three 'clear' guiding principles for DEST's strategy for Australia's VET

system reinforces this, stating that 'industry and business needs must drive training policies, priorities and delivery' (p.vi). It asserts that industry and business must have direct influence over, and input to, the planning and operation of the training system, including the determination of skill needs and specification of the workplace competencies they require. The prioritisation of the needs and interests of business and industry in VET policy and curriculum processes becomes even more problematic when considered in the prevailing context of marketised VET provision. As Anderson (2003b, p.5) suggests, '[i]n an enterprise-driven training market in which providers are required to become evermore "client-focused" and "demand-responsive", the provision of environmental education in VET remains hostage to the logic of productivism.'

A conclusion to be drawn from this is that for any work to establish EfS in VET to be successful, it will either need to have sufficient impact on industry and business for it to become a priority 'need', and thereby alter the trajectory of VET policy, or for VET policy to be altered through political contestation as referred to earlier. However, based on current trends in the global political economy, that will be a monumental task as it will confront powerful opposition stemming from the political ideologies and vested interests underpinning Western capitalism that appear to be influencing VET policy makers. Moreover, as Anderson (2003b, p.5) argues, VET providers are in a 'double bind' in that they must satisfy existing industry demand to survive, but are unable to generate new demands and mount EfS programs in the absence of sufficient industry or government funding. In consequence, VET providers 'are locked into a set of unequal power relations that results in a more or less closed cycle of reproductive skills formation and outcomes' (Anderson 2003b, p.5), which typically excludes the knowledge, skills and aptitudes required to promote sustainable development.

Perhaps the recent reports produced by ARIES (2004a, 2004b) mentioned earlier, will receive greater attention from industry and VET policy makers than the limited enhancements to Training Packages and competencies made in recent times (Russell 2003). The ARIES reports highlight potential institutional, cultural, and practical barriers to the establishment of EfS in VET and industry – including the ideological one described above – and recommend actions to address them. The ARIES reports also highlight a range of requirements to enable VET and industry to actively engage with EfS (see ARIES 2004a, 2004b). Notably, recommendations are included for research into different pedagogical approaches to educating for sustainability in the VET sector, including how organisations learn:

> Education for Sustainability not only occurs through formal education, but also through non-formal and informal learning. Learning through networks, through peers, and learning from the experience of others were both identified as effective approaches for this sector, which should be explored further. (ARIES 2004a, p.12)

Whether these approaches will be transferable to, and taken up in, RTO and workplace settings is debatable, given the significant barriers identified above, although the principles would remain the same. It may be that research into approaches employed in organisations will produce limited results due to the generally low adoption of sustainable development practices by Australian

organisations and an emphasis on training for compliance to legislation (Tilbury, Adams and Keogh 2005). In any event, these pedagogical approaches are significantly different from the emphasis on individual-centred, behaviourist instruction in competency-based training (CBT), which is the current cornerstone of VET curriculum and delivery. Though the suggested approaches may be welcomed by some experienced VET teachers and trainers, they and many 'CBT-only' teachers/trainers would require extra professional development to effectively facilitate experiential and other learning activities (Anderson 2003b; ARIES 2004a, 2004b).

One possible outcome from the ARIES recommendations for alternative or supplementary approaches to CBT for EfS may be the exposition of a need for an overhaul of the purpose, policy assumptions, and programs in VET. Unfortunately, as Marginson (1993) demonstrates, CBT is a vital component in the marketisation of VET, which itself reflects the core values of neoliberalism. Anderson (2003a, p.3) reminds us that CBT 'was introduced to strengthen the connection between skills formation and economic production'. The research into pedagogy as recommended by ARIES above, may fall victim to the 'discourse and practices of productivism [which] tend to constitute and reinforce each other in such a way that [EfS] knowledge and skills are systematically fragmented, decontextualised and devalued.' (Anderson 2003a, p.8)

In parallel to VET, EfS has also only recently become a concern for management scholars and educators in the fields of business and management (ARIES 2004a; Roome 2005; Springett and Kearins 2001). This is understandable given the predominant assumption that management's primary responsibility is to ensure enterprise profitability and financial returns to shareholders, rather than address wider social, community, and environmental needs (Sanner 2004). As Springett observes, 'Education for sustainability may be seen, then, as representing a threat to the orthodox paradigm of business and business theory' (2005, p.148). Indeed, much of the debate surrounding environmentally sustainable development centres on refinements to current management practices and retention of a 'modified' status quo. There is little or no contemplation, let alone discussion and debate, regarding the efficacy of Western capitalism, or dialogue concerning potential or existing alternatives (see Springett 2005).

Future implications for adult educators and trainers

In 1997, the UNESCO *Hamburg Declaration on Adult Learning* articulated some key principles and challenges that provide a valuable framework for reconstructing adult education and training on an EfS foundation:

> … only human-centred development and a participatory society based on the full respect of human rights will lead to sustainable and equitable development … Education for environmental sustainability should be a lifelong learning process which recognizes that ecological problems exist within a socio-economic, political and cultural context. A sustainable future cannot be achieved without addressing the relationship between environmental problems and current development paradigms. (Articles 1 and 17)

Anderson (2003b, p.3) has argued that as VET is deeply implicated in processes of economic production and environmental decline, it has a dual responsibility to initiate a critique of productivism and its consequences, and to actively facilitate the transition to a new ethos of 'ecologism', in which '[e]conomic growth *per se* is rejected as a legitimate basis for human development in future generations in favour of the equitable satisfaction of basic human needs under conditions of ecological equilibrium.'

If, as Tilbury, Adams and Keogh (2005, p.52) also contend, '[t]he key goals of sustainability are to live within our environmental limits, to achieve social justice and to foster economic and social progress', then the overall aim of sustainability is to promote an ongoing equilibrium between the three dimensions of environment protection, economic development, and social equity – or 'forms of political economy that would enable us to live sustainably with one another and the rest of nature' (Huckle 1996, p.xiv, cited in Springett 2005, p.149). Approaches to EfS will need to consider and address all three dimensions in an integrated way. The overarching challenge for adult learning and development lies in prioritising and balancing the levels of attention given to each, within the constraints and contradictions imposed upon educators and trainers by government, employers, and societal norms and expectations.

In addition, the nature of EfS may also be influenced by other concepts and developments shaping the direction of adult education theory and practice. These include the burgeoning technology-driven forms of learning, knowledge management, organisational learning, and lifelong learning.

Given the current issues and barriers to establishing EfS as described earlier, combined with the reality that '[n]eo-liberal ideas provide the policy framework for every significant government in the world and for every large international or transnational institution' (Connell 2002, para.2), it is probably safe to assume that the 'economic development' dimension is the main current priority for adult educators and trainers, and will remain so for the foreseeable future. Adult learning and development is, therefore, likely to continue for some time with a focus on vocational skilling to create and/or maintain a competitive workforce within a global economy. This in turn suggests that 'the incorporation of ESD [ecologically sustainable development] principles and practices into vocational learning will have to be negotiated within existing structures for program design and delivery.' (Anderson 2003b, p.9)

Nevertheless, shifts in priorities will occur as global awareness of, and concern about, environmental degradation grows. Of the four futures scenarios presented in the comprehensive and highly regarded *Global Environment Outlook 3 (GEO 3)* (UNEP 2002), a focus on 'Sustainability First' is shown to produce the most desirable outcomes overall, where 'the values of stewardship and caring for the environment play a greater role in guiding science, technology and governance, as well as in shaping economic and social development' (UNEP 2002, p.9). The 'Markets First' and 'Security First' scenarios are far more pessimistic in their outlook. This would suggest that there may come a shift in adult learning and development away from the current emphases on 'skills-for-productivity', individualised user-pays learning, and credentialism, towards learning for citizenship and critical awareness, publicly-funded

access to education for all, and forms of co-operative and community-centred learning programs and activities. What the triggers for such a shift may be, however, and how that shift occurs, are as yet unclear.

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