

Chapter Two: Higher Education for Sustainable Development in perspective – problems and prospects

Introduction

Box 2.1 Chapter purposes

- To indicate where this thesis is situated within broader knowledge about HESD
- To clarify terms used, in particular, 'sustainable development', 'education', 'education for sustainable development' and 'extra-curricular interventions'.
- To provide justification for the research undertaken.
- To consider theoretical frameworks through which to view extra-curricular ESD-related interventions
- To speculate on potentially useful characteristics of the extra-curricular sphere in furthering the development of ESD in HE as a basis for exploration in the empirical part of the thesis.

This chapter situates the research subject - extra-curricular ESD-related interventions in HE - within the wider literature in order to confirm its relevance, scope and value. Its purposes are identified in Box 2.1.

Underlying these specific purposes is a general aim to establish the importance of exploring the extra-curricular dimension, not just to fill an obvious gap in knowledge, but to indicate why filling this gap is beneficial to wider thought and practice.

To give an indication of the existing knowledge terrain, much has been written about education and about sustainable development separately, less links the two, and relatively little of that which does, does so within the context of HE. In a HE context, Davis, Edmister Sullivan and West (2003) suggest there has been more investigation into incorporating sustainability into research and operations than into teaching. Recently, ESD-related pedagogy and courses have been given greater coverage (e.g. Bradley and Crowther (2004); Plant (2004); Leth and Sriskandarajah (2004); Lotz-sisitika (2004); Down (2006) and Stuerzenhofecker (2008)). Wright and Pullen's bibliometric study (2007) found an expansion in ESD-related articles alongside an increase in the number of journals publishing them between 1990 and 2005. Within this relatively youthful, but fast growing, ESD

literature, there was no published material specifically focussed on extra-curricular HESD² at the time the research underpinning this thesis was initiated (2005). Subsequent material arising from this research (Lipscombe, 2008a, 2008b; Lipscombe et al., 2008) has begun to fill this gap.

Whilst there is no published material specifically focused on extra-curricular ESD in HE, there are some reports from case studies in which extra-curricular practices are documented as part of wider responses to sustainable development (Clugston & Calder, 1999; Ferrer-Balas, Bruno, de Mingo, & Sans, 2004; Koester, Eflin, & Vann, 2006) and some recent attempts to conceptualise this practice as part of case studies of institution-wide approaches to ESD (Hopkinson, Hughes, & Layer, 2008). The subject of investigation also draws from several general or related bodies of knowledge notably: education and sustainable development. Faced with a potentially wide general literature to review, it is important to clarify the scope of material scrutinised here, i.e. what is included or excluded and why. It is assumed the reader has some prior familiarity with the fields of sustainable development and education; in these areas only a brief introduction is given to set the scene and clarify how key concepts are taken. The thesis also accepts ESD as a contemporary policy challenge for practitioners in HE, therefore, the arguments for and against sustainable development and ESD do not feature in great detail here; although some critique is highlighted where it has implications for practice. With a dearth of theoretical links in much existing HESD research, characteristic of this field's relatively early stage of development (Fien, 2002), some attention is given to outlining existing theoretical ideas including: constructivist learning theory and the concepts of *free-choice learning*, *tacit learning* and *social learning*; and 'whole systems' theory developed by Stephen Sterling (2001; 2003) linked to the idea of transformatory ESD.

With much ground to cover, the chapter lays the broad foundations swiftly, sketching out how education and sustainable development are understood

² There does not appear to be much concerning extra-curricular ESD in other branches of education either.

prior to considering the implications of their combination in ESD. This first part is where the theoretical ideas that seem most pertinent to the topic are introduced. The focus then sharpens on to ESD in HE where some of the critique levelled against HE is detailed. Finally, the extra-curricular dimension is explored and consideration given to the application of extra-curricular interventions in HESD.

About Sustainable Development

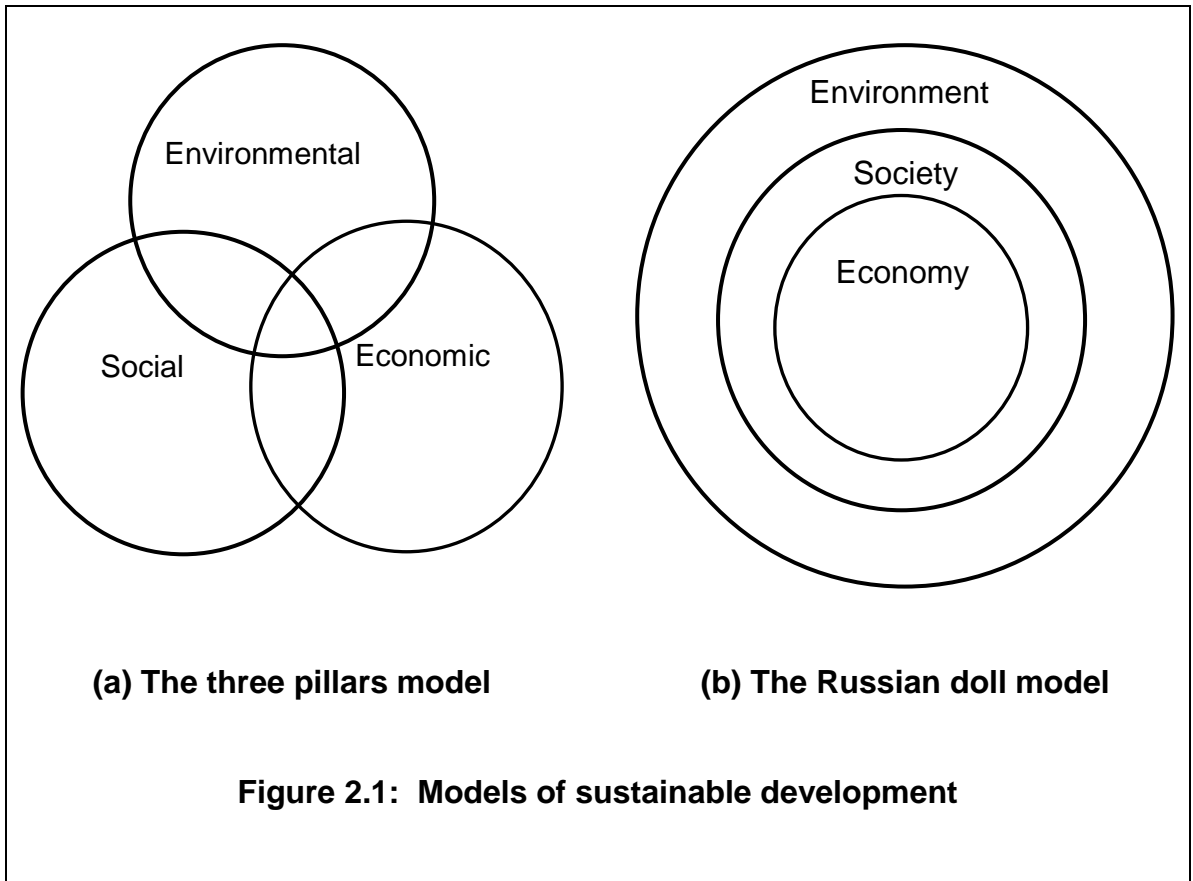
Sustainable development is about the relationship between human development and the environment. Concerns about this relationship are not new; Dresner (2002) tracks the present debate back to the writings of Malthus and Marx, although, as illustrated by Diamond (2005), this debate is itself likely to be a replay of similar ones at various points in history where survival or collapse has hinged on the ability of societies to adapt to changes in the environment. The articulation of these concerns through the concept of sustainable development is, however, relatively recent. The concept first came to global prominence through the report of the World Commission on Environment and Development in 1987 - widely known as the Brundtland³ Report (WCED., 1987). This report was produced at a time when both persistent poverty and global ecological damage were leading many to question the efficacy of existing development efforts. The resultant, and widely reproduced, Brundtland 'definition' sees sustainable development as that which: 'meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED., 1987, p. 9)

The Brundtland conception of sustainable development has proven to be an important political and rhetorical device in the environment and development debate. It took an emerging idea from the ecological critique of industrial development to a much wider audience (Elliott, 1999). By recognising a need for development *and* environmental limits, the idea appealed to previously opposing groups; its 'creative ambiguity' continues to make space for dialogue and create opportunities to engage different groups in different contexts (Blewitt, 2008, pp. 52-53). The resultant 'dialogue of values'

³ After the Chair of the Commission former Norwegian Prime Minister Gro Harlem Brundtland.

(Ratner, 2004, p. 1) has certainly helped integrate two fields that had hitherto been largely pursued separately. Pre-Brundtland a *seesaw* worldview dominated wherein the environment and an economically-slanted idea of 'development' were not only presented separately, but treated as if opposing forces. Post-Brundtland, a worldview more akin to a *jig-saw puzzle* is now possible⁴ with the focus shifted to consideration of how different social, economic and environmental elements interrelate with each other and connect to shape humanity's prospects (Lipscombe, 2008c). By highlighting that the social, economic and environmental dimensions of the world are inextricably linked (Figure 2(a)), sustainable development cautions that progress in one sphere should not be at the expense of the others. The *three pillars* or *three legged stool* model of sustainable development (Figure 2.1(a)) is often used to represent the importance of the interconnection between social, economic and environmental spheres, although this representation has itself been critiqued for failing to convey the dependency between them. The *Russian Dolls* model (Levett, 1998) (Figure 2.1(b)) uses a systems view to make clear that the economic system grows from the social system, itself part of the wider environmental system.

⁴ Although I believe the see-saw world view is still persistent in many circles.



Since the Brundtland report, there has been an explosion of definitions of sustainable development as the concept has spread and been reshaped across sectors, disciplines and places. Dobson (as cited in Corcoran and Wals 2004, p. 87) had already identified over 300 definitions by the mid 1990s. Much of the pressure to redefine sustainable development has come from those seeking to make it operational within their own areas. For example, Marshall and Toffel (2005), working from a natural science perspective, suggest those definitions using less precise criteria like ‘quality of life’ are not helpful. To add to the apparent confusion, the term ‘sustainability’, originally a concept largely confined to discussions of forestry (Filho, 2000), is now often used as shorthand for sustainable development, or for its goal (Blewitt, 2008; Scott & Gough, 2003), and both the terms ‘sustainable’ and ‘sustainability’ are liberally applied, as suffix, prefix, or alone, in a host of contexts. This has led Cullingford (2004, p. 18) to observe that sustainability is ‘a victim of verbal dexterity’, carelessly applied within too many contexts and ‘clumsily misused’. The wide number of competing

definitions and burgeoning use of *sustaina-phraseology* has led some to imply that sustainable development is almost meaningless. Gow (1992, p. 51) suggested that 'sustainability is like happiness - everyone believes in it and everyone has a different definition.'

Sustainable development remains subject to critique today, over twenty years after the Brundtland report. Dresner (2002) makes clear that radical environmentalists oppose sustainable development for being both wed to economic growth and principally anthropocentric in character. In contrast, free market economists such as Beckerman(2003) argue that the sustainable development project is an impediment to economic growth and so limits much needed human development. Sustainable development is also critiqued as another manifestation of neo-colonialism (Banerjee, 2003) through an extension of the critique previously applied to the idea of development alone. It is of course unsurprising, given the multiplicity of definitions of sustainable development, that there is a corresponding multiplicity of critiques often aimed at each other, or at the ambiguity arising from rival claims to the same concept. As Blewitt(2006) argues:

There has been no shortage of academic and political critiques of the complementary concepts 'sustainable development' and 'sustainability'. Some academics play the game of counting the number of definitions, arguing about their inconsistency and then finally offering one of their own. Strict purveyors of disciplinary truth and rigour may view the concepts as utopian or incapable of being put into practice, while others see inherent or irreconcilable contradictions particularly in the tension between 'development' and 'sustainable'. But the idea that future social and economic development needs to take place within the limits of the Earth's ecosystem capacity and that it includes a proper consideration of social justice, poverty and political democracy and so forth is eminently sensible to many. (p.1)

Whilst some may see the definitional ambiguity and contested aspects of sustainable development as problematic, others like Jacobs (1999) simply see sustainable development as a political concept in a similar way to concepts such as *democracy* or *freedom*. These concepts are based on widely accepted but often vague 'core ideas' that become contested when interpreted in practice. People may thus interpret sustainable development

differently when it comes to decide what and how to do things - but most would recognise a core meaning concerning progress with human development without damaging the environment. Cullingford (2004, p. 17) expresses the core meaning simply in terms of considering 'long term consequences of actions' and thinking of impacts on others. If viewed as a political concept, the quest for a singular fixed meaning of sustainable development is fruitless. Stables and Scott (2002) suggest "'sustainable development' can never be pinned down without losing all its rhetorical power" (p.55). As a political concept, the definitional debate surrounding it is likely to continue for as long as sustainable development is perceived a useful idea, i.e. as long as there are different people trying to translate it into practice in different contexts. Indeed pluralism is clearly implied in the process of translating sustainable development into practice in *Agenda 21*, the first global action plan for sustainable development agreed at the UN Conference on Environment and Development held in Rio in 1992, also referred to as the Rio Earth Summit⁵(United Nations, 1992).

Sustainable development can also be seen as a dynamic concept often viewed as a process. Scott and Gough (2003) suggest there is a 'clear distinction' (p.xiii) in the literature between sustainable development as process and sustainability as goal. Here it is accepted that many authors use the terms in this way, but the usage of sustainability as goal is not quite so disciplined as Scott and Gough (2003) suggest. The idea of 'sustainability' is also used as shorthand for sustainable development, or for a more specific dimension of it: environmental sustainability, social sustainability etc. This thesis thus refrains from using the term sustainability as far as possible, although it embraces the idea of sustainable development as a process. Viewed this way, the concept implies adaptability over time as we learn 'to live more in tune with the environment' (Scott & Gough, 2003, p. xiv).

⁵ As a former local Agenda 21 Coordinator, the call in Chapter 28 of Agenda 21 for local authorities to engage in a process of consultation and consensus building with the communities they serve in order to develop a 'local' Agenda 21 has always made it clear to me that different translations of sustainable development would be expected in different circumstances.

Thus as the world changes so must our 'skills, knowledge and capabilities develop' (Blewitt, 2008, p. 23).

The position taken in this thesis is that sustainable development is an important contemporary concept that concerns the need for human progress and the necessity for this to be within ecological limits⁶. It is accepted that there will be differences of interpretation when trying to put sustainable development into practice and that perspectives will also vary in different places and at different times. The resultant diversity of views, and competition between them, does not make sustainable development meaningless, rather it reflects an ongoing 'dialogue of values' (Ratner, 2004 p.1). It is important not to let this difference result in 'paralysis by analysis' (Fien & Tilbury, 2002, p. 3)⁷. The dynamic quality of sustainable development also militates against fixing a one-off and one-size-fits-all definition. Our understanding of social, economic and environmental issues and their interconnection will change and so must our conceptions and associated actions. Sustainable development thus implies a dynamic learning process (Loeber, van Mierlo, Grin, & Leeuwis, 2007). As Scott and Gough (2004) put it:

Sustainable development, if it ever happens, will be a process in which everyone learns all the time. Its cause is unlikely to be served by any group which simply asserts its right and authority to teach others without learning itself. (p. 244)

About Education and learning

Having introduced sustainable development, and argued that it implies an open ended and dynamic learning process, the focus now shifts to how education and the related concept of learning are handled in this thesis.

Education

Here the term education is used both widely, to signify *a process that fosters learning*; and more narrowly, to represent *educational institutions*. *Higher*

⁶ Personally I believe this is a real and pressing concern.

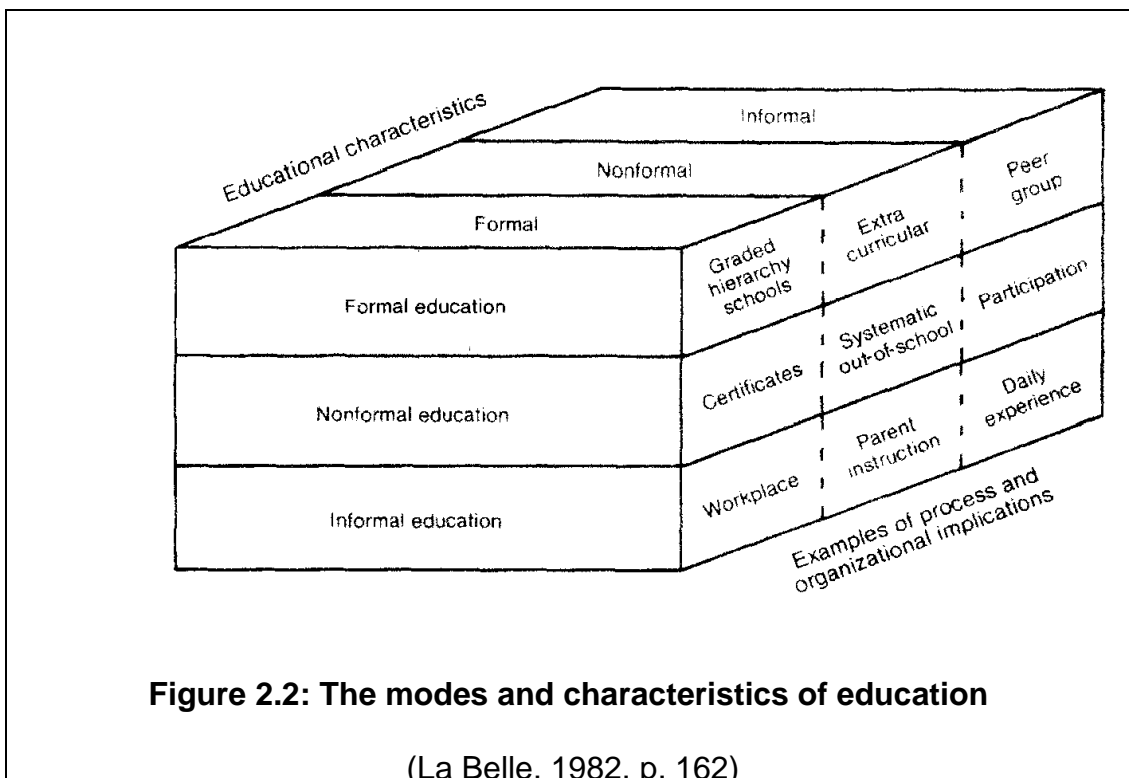
⁷ I agree with Hopwood, Mellor and O' Brien (2005, p. 49) that sustainable development should not be discarded as 'it provides a useful framework in which to debate the choices for humanity'.

education is the main institutional focus in this work, although it is recognised that other organisations, groups and indeed individuals may also seek to educate others, or themselves, within a HE context. The interplay between universities and others active in ESD may thus be important too.

The education discourse has traditionally focused on schooling in institutions of education, although the idea of lifelong learning has widened the focus beyond these institutions. The idea of 'formal' education is usually associated with education taking place in schools and universities, whilst 'non formal' and 'informal' education is associated with education that takes place outside these settings (Coombs, Ahmed, & Israel, 1974; Falk, 2005). The notion of 'non-formal' education came into use in the late 1960s to legitimise attention to organised out-of-school educational responses promoted in the developing world. Here large sections of the population were poorly served by schools and non-formal educational responses thus appeared to merit attention (Falk, 2005; La Belle, 1982). The idea of non-formal education has subsequently been recognised in both the developing and developed world as a legitimate part of a wider lifelong learning *infrastructure* (Falk & Dierking, 2002); rather than concentrating on schooling alone, the discourse now extends to other organised educational opportunities, for example, those provided by clubs, faith groups, television, museums and zoos. 'Informal' education – that which occurs through day-to-day interactions where there are no deliberate programmatic educational emphases (La Belle, 1982) – completes the trio of education types referred to in the literature.

The distinction between formal, non-formal and informal education is not as clear as it may first seem and there is some overlap in the way these terms are used (Bryfman, 2007). La Belle's (1982) typology of education (See Figure 2.1), building on the work of Coombs et al.(1974) provides one way of conceptualising these three types of education. Rather than view them as discrete entities confined to different settings as Coombs et al. (1974) imply, La Belle (1982) argues that they are better viewed as *predominant modes*. When viewed this way, it is possible that each type may occur simultaneously in the same setting, rather than being confined to different ones. In

universities, where a formal mode of education is the dominant process, education with a *formal* characteristic will usually involve entry requirements, standardised curricula, grading, certificates, and so on. In contrast, that with a *non-formal* characteristic might be expressed through non-credit bearing extra-curricular activities, whilst that with an *informal* characteristic might be expressed through the day-to-day interactions between peers within the institution. La Belle's model is offered as a heuristic device only, so that its detail remains open for debate. The key aspect of relevance here is that the various types of education 'may exist simultaneously, sometimes in concert with one another, sometimes in conflict' (La Belle, 1982, p. 162). For HEIs, the implication is that whilst the formal curriculum is likely to dominate attention, there remain secondary and tertiary opportunities to educate through non-formal and informal means. Whilst the boundaries between these educational types remain blurred and are not settled (Bryfman, 2007), there are clearly *extra-curricular* opportunities to educate within HEIs.



In this thesis, as made clear in the chapter one, the term *extra-curricular* is taken to mean outside the formal curriculum. The particular focus is extra-curricular ESD-related *interventions*, by which it is meant intentional efforts

by universities to foster learning that supports sustainable development. Here *extra-curricular interventions* might result in education of both a non-formal and informal character. The idea of an *extra-curricular sphere* is also used in this thesis to denote a space for activity within the university community that is not directly concerned with the planning and delivery of the curriculum. A wide variety of activities may develop from this *sphere*, although here the focus is on those interventions initiated by universities to promote ESD.

The education system combined may have many aims and objectives. Sterling (2001, p. 25) identifies four main, but often conflicting, functions for the education system: a *socialisation function* – helping replicate society and preserve its culture; a *vocational function* – training people for work; a *liberal function* – helping individuals develop their potential; and, a *transformative function* - helping encourage change to a fairer society and better world.

Learning

If education is seen as an intentional process to foster learning, then the concept of learning itself needs some clarification. Falk and Dierking (reported in Falk, 2005, p. 268) describe learning as ‘a dialogue between the individual and his or her social/cultural and physical environment’ with learning as ‘a contextually driven effort to make meaning in order to survive and prosper in the world’. A key point here is that learning is a natural process for humans and it is something that can happen all the time - it *does not* require teaching in a formal educational setting. Popular understanding, however, often places learning in the realm of *formal education* where *teaching* leads to *learning* as if one equates to the other (Falk & Dierking, 2002; Illeris, 2002). If this were the case, then it would clearly make sense for those with an interest in advancing ESD to focus exclusively on the curriculum content of formal education institutions. Here the argument is that this is not so, therefore it is fruitful to look beyond the curriculum alone.

A broadly constructivist conception of learning is used in this thesis that draws on the work of Knud Illeris (2002)⁸. Accordingly, learning is not seen 'as a simple linear accumulation of knowledge' (Falk, 2005, p. 268) but as a 'uniquely personal, contextual experience, constructed from both internal (head and body) and external (physical world and sociocultural contacts) experience. It is rarely linear and almost always highly idiosyncratic.' (Falk & Dierking, 2002, p. 36). Illeris (2002) argues that learning always has three dimensions - cognitive, emotional and social – and that it always involves two integrated processes:

- (i) an external interaction between the learner and their environment (as in Falk and Dierking's 'dialogue' (2002) mentioned in the previous paragraph); and
- (ii) an internal acquisition process that embraces both a cognitive and emotional aspect.

The external aspect, through which learners interact with others and their surroundings, makes learning an essentially social process shaped by underlying societal conditions. The internal aspect, involves the development of mental structures built from the constant *assimilation* of impressions formed during interaction with the wider environment. It also involves the reconstruction of these structures through an *accommodation* process when these impressions do not fit with the structures previously developed. Illeris's conception, which draws on Furth's work to link Piaget's and Freud's theories, makes clear the cognitive process always has an affective dimension. Thus, learning always involves psychological energy and involves feelings, emotion, attitudes and motivation. As Falk and Dierking (2002, p. 39) put it, every memory carries an 'emotional "stamp"'.

The implications of the constructivist outlook adopted here is that every learner will carry with them their own particular mental frames of reference and emotional predispositions. Accordingly, no two people are likely to learn

⁸ I am attracted to Illeris's work because it is based on an appreciative engagement with earlier learning theories. Rather than treat these theories as rival explanations, Illeris weaves together contributions as if they are different view points on the same process. The resultant synthesis, points to the complexity of human learning yet usefully distils out the key dimensions and processes.

the same things from the same experience, or if they come to learn the same things they are unlikely to have done so in quite the same way. Formal education programmes clearly provide an important structure and impetus to the learning process that help give direction to and so encourage particular learning outcomes, but they are not the only source of learning, nor are the outcomes as particular as some might hope. In addition to having implications for how formal curricula are delivered, the constructivist view points to the importance of learning from beyond the curriculum as well.

Concepts of learning pertinent to extra-curricular ESD

Whilst all learning will involve an interaction and acquisition process with a cognitive, emotional and social dimension, there are several more particular concepts related to learning that seem pertinent to extra-curricular ESD:

- ***Tacit dimension of learning*** - The idea of a tacit dimension to learning (or *tacit knowledge* after Polanyi (1967)) helps to explain how we *unconsciously* process the multitude of interactions in day-to-day living into a 'knowledge' that can impact on our understanding, insight, values and opinions (Illeris, 2002, p. 178). Much of this tacit knowledge does not have a verbal form: 'we know more than we can tell' (Polanyi, 1967, p. 4). The implication for education is that whilst the focus is usually on encouraging the learning of 'explicit' ideas, there will be a simultaneous and unconscious 'learning' of much more. Thus it is possible to learn about sustainable development from a lecturer, whilst simultaneously and unconsciously developing ideas from its setting and manner of delivery.
- ***Free-choice learning*** - Falk (2005) introduces the idea of *free-choice learning* in contrast to *compulsory learning*, concepts which have certain parallels to the ideas of informal/non-formal and formal education. Learning is considered to be 'Free-choice' where 'the learner exercises a large degree of choice and control over the what, when and why of learning' (Falk, 2005, p. 265). HEIs are usually viewed as centres of compulsory learning yet could also serve to promote free-choice learning as well.

- **Social learning** - The idea of social learning can be used in different ways, from the psychologically oriented theories of Bandura (1977) connected with learning by imitation in social groups, to the idea of learning that arises from participation in group problem-solving or deliberative processes (Illeris, 2002). In the sustainable development-related field, the latter idea of social learning is prominent (see for example Loeber et al., 2007). The dynamic and political idea of sustainable development is seen to require 'new forms of social learning which allow sustainability approaches to be hammered out in diverse socio-political and environmental circumstances' (Robinson, 2004, p. 378). If 'sustainability can usefully be thought of as the emergent property of a conversation about desired futures' (Robinson, 2004, p. 381) then there needs to be a 'space for social learning' (Corcoran & Wals 2004, p. 224) where this conversation can be facilitated.

Education for Sustainable Development

With the broad background and approach taken to sustainable development, education and learning now sketched, the focus shifts to consideration of their combination as education *for* sustainable development (ESD).

The international dimension

Agenda 21, endorsed at the Rio Earth Summit in 1992, was the first major global plan of action, post-Brundtland, where nations committed themselves to the use of education to promote sustainable development. Chapter 36 was dedicated to this theme. It made clear (United Nations, 1992):

Education, including formal education, public awareness and training should be recognized as a process by which human beings and societies can reach their fullest potential. Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues... Both formal and non-formal education are indispensable to changing people's attitudes so that they have the capacity to assess and address their sustainable development concerns. It is also critical for achieving environmental and ethical awareness, values and attitudes, skills and

behaviour consistent with sustainable development and for effective public participation in decision-making (para. 36.3)

Whilst Agenda 21 was the first major global plan to combine education and sustainable development, there is a longer history of international policy development related to environmental education (EE) an important precursor to the formation of the idea of ESD (Mifsud, 2009). In this thesis, ESD is taken as a development and extension of much EE work, which in the context of the UN Decade of ESD presents the opportunity for a significant flourishing of EE⁹.

Post Agenda 21, the limited progress made with sustainable development led to further consideration being given to the role of education in its achievement. The Johannesburg Plan of Implementation agreed at the World Summit on Sustainable Development ten years after Rio, proposed that the UN General Assembly declare a UN Decade of ESD starting in 2005 (World Summit on Sustainable Development, 2003). In the interim, the idea that ESD be seen as part of a 'lifelong process' (UNCSD, 1996, p. 3) had been made clear. The UN Decade itself was to require 'all sectors of the education community' working together, both formal, non-formal and informal (UNESCO, 2005, Annexe II p.5). It is clear that in international policy documents, ESD is not something intended to be confined to formal education alone.

The UNESCO vision of ESD (UNESCO, 2009) sees ESD as being about learning to:

- respect, value and preserve the achievements of the past;
- appreciate the wonders and the peoples of the Earth;
- live in a world where all people have sufficient food for a healthy and productive life;
- assess, care for and restore the state of our Planet;
- create and enjoy a better, safer, more just world;
- be caring citizens who exercise their rights and responsibilities locally, nationally and globally.

⁹ I accept there may never be universal agreement about the similarities or differences between EE and ESD but would challenge those with even the most sceptical outlook towards ESD to deny there is a connection.

In the draft Implementation plan for the UN Decade, UNESCO (2005) makes clear how it views the characteristics of ESD. It sees that ESD:

- is based on the principles and values that underlie sustainable development;
- deals with the well being of all three realms of sustainability – environment, society and economy;
- promotes life-long learning;
- is locally relevant and culturally appropriate;
- is based on local needs, perceptions and conditions, but acknowledges that fulfilling local needs often has international effects and consequences;
- engages formal, non-formal and informal education;
- accommodates the evolving nature of the concept of sustainability;
- addresses content, taking into account context, global issues and local priorities;
- builds civil capacity for community-based decision-making, social tolerance, environmental stewardship, adaptable workforce and quality of life;
- is interdisciplinary. No one discipline can claim ESD for its own, but all disciplines can contribute to ESD;
- uses a variety of pedagogical techniques that promote participatory learning and higher-order thinking skills. (Annex II, p.6)

Critique of ESD

The contested nature of sustainable development has implications for its treatment in education and has made ESD the focus of debate and critique. It is perhaps not surprising that the suggestion that education should be *for* sustainable development is contentious when sustainable development is itself contested. In this light, the promotion of a singular unproblematic view of sustainable development is disingenuous and some writers, particularly Jickling (Jickling, 2001, 2005; Jickling & Spork, 1998; Jickling & Wals, 2008) caution against the use of ESD as a tool of indoctrination and propaganda. Jickling's attempts to make sustainable development a problematic focus for education policy¹⁰, however, appears to be premised on a rather simplistic view that gives sustainable development one meaning. As Fien and Tilbury (2002, p. 4) argue, such a view rests on sustainable development as a fixed 'product' rather than a process and thus misses 'the importance of sustainable development as a way of transcending conflicting worldviews'

¹⁰ I feel Jickling's critique appears to be against education being for anything other than itself.

(similar to Ratner’s idea of a ‘dialogue of values’ referred to earlier in the chapter). Jickling’s critique nevertheless highlights a need for caution if sustainable development is being treated as a fixed and deliverable product for education.

The two sides of ESD

The language used when describing ESD in Agenda 21, and international documents since (UN, 1992; UNESCO, 2005), includes two contrasting ideas: that of education as an instrument in changing awareness and behaviour and that of education helping to fulfil human potential. These two ideas form a common point of tension in subsequent discussions of ESD. Governments and NGOs tend to favour the former and educationalists the latter (Vare & Scott, 2007). Vare and Scott (2007) argue that it is useful to think about ESD as two interrelated and complementary approaches which they call ESD1 and ESD2, see Figure 2.3.

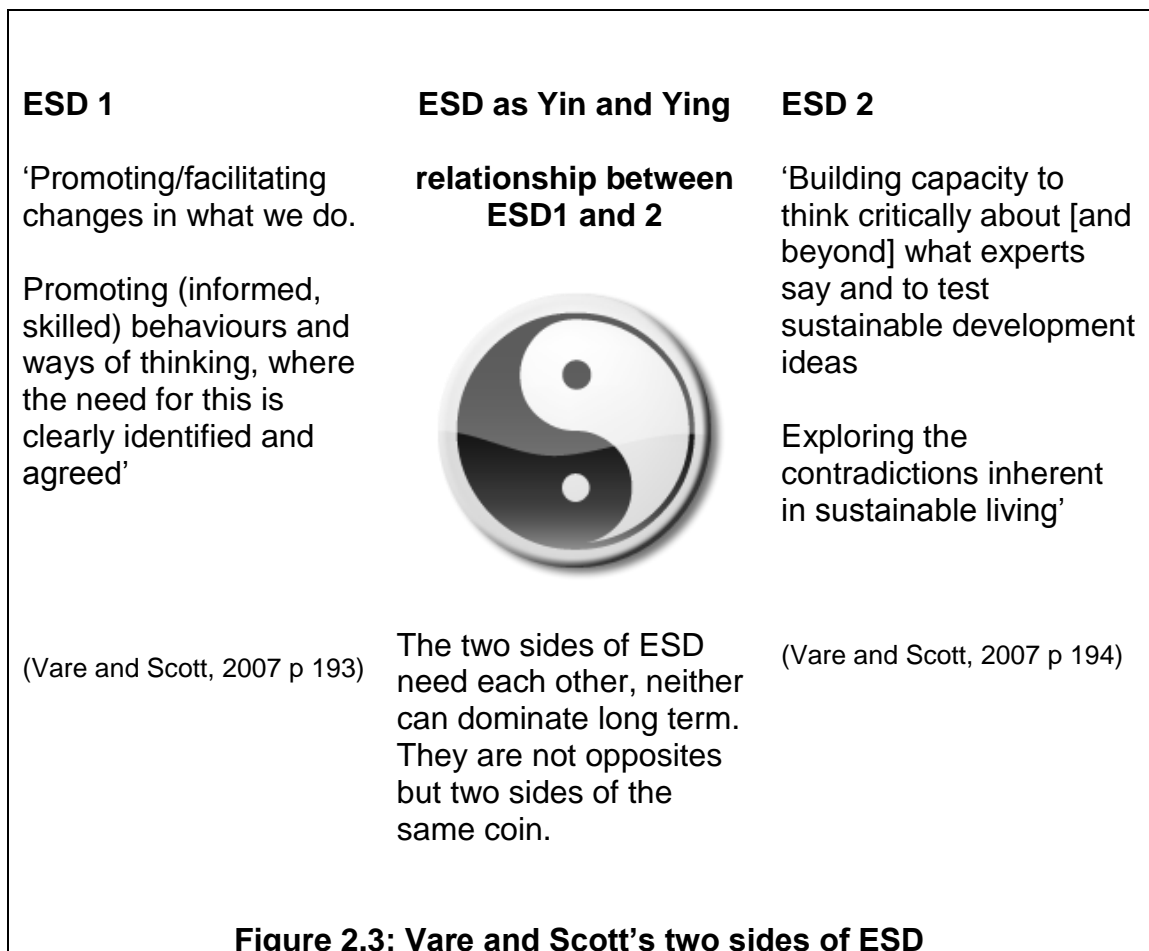


Figure 2.3: Vare and Scott’s two sides of ESD

ESD1, the instrumental type, has a focus on promoting particular behaviours and is how many governments and NGOs view ESD (Vare & Scott, 2007). However, giving too much emphasis to this type alone can cause problems: rational arguments for behaviour change rarely have success in isolation and, more damagingly, a reliance on expert determined behaviours may diminish our overall capacity to adapt to change as we lose our abilities to generate and critically appraise options. However, the more open-ended idea of ESD2 – often promoted by educationalists emphasizing the liberal function of education to help develop capacity for critical independent thought - ‘cannot exist in a vacuum devoid of content’ (Vare & Scott, 2007, p. 196), it needs ESD1 to provide subject matter. ESD2, pursued alone, may also ignore the fact that in many cases there are clear benefits to be had by both individuals and societies from doing particular things; as Vare and Scott (2007, p. 193) put it: ‘we just have to do the obvious things... there are few good arguments against insulating loft space’. Thus ESD1 and 2 are both needed; they are two sides of the same coin. Vare and Scott (2007) use the ancient Chinese concept of Yin and Yang as a heuristic device to illuminate the relationship. The value in this composite conception is that it offers a path beyond the instrumental versus liberal education impasse that seems to have occupied much space in the debate over ESD.

Sterling’s whole systems thinking and sustainable education

Sterling (2009, p. 20) suggests that sustainability requires ‘a change of fundamental epistemology in our culture’ an assertion that has profound implications for education. The challenge of sustainability, according to Sterling (2001; 2003) necessitates a shift from the modern mechanistic paradigm, which still dominates in contemporary western thought, to a new and emerging ecological paradigm based on ‘whole-systems’ thinking. The modern paradigm - which is built on the metaphor of a machine - separates humanity from nature. Under this view, nature can be understood and controlled through the application of science and technology. These tools reduce the whole into understandable parts, parts which are believed to work together in predictable ways. This worldview, according to Sterling (2001; 2003) is inadequate for the sustainability challenge; worse, this inadequacy

contributes to unsustainability. Sterling (2003) puts forward evidence for the emergence of a new ecological paradigm based on the metaphor of a living organism. This worldview draws on ideas from systems theory, chaos theory and ecological thought. He argues the case to accelerate the transition towards this new worldview in order to rise to the sustainability challenge.

A key aspect of Sterling's work (2003) is the linkage he makes between paradigm change and that of different learning levels, drawing on Bateson's (1972) work. Sterling (2001; 2009) points to three types of educational response with respect to sustainable development which can be viewed as a staged model for progress with ESD: education *about*, *for* and *as* sustainability. Education *about* sustainability equates with first order learning. It has an emphasis on content and is relatively easy to adopt in education institutions because it does not challenge the dominant paradigm. Education *for* sustainability equates with second order learning. By adding a values aspect it questions the dominant paradigm and seeks reform. Education *as* sustainability (or *sustainable education*) involves epistemic or third order learning and is a transformatory response (Sterling, 2001):

This position subsumes the first two responses.. ..The shift here is towards 'learning as change' which engages the whole person and the whole learning institution. There is a keen sense of emergence and ability to work with ambiguity and uncertainty... In this dynamic state, the process of sustainable development or sustainable living is essentially one of learning, while the context is essentially that of sustainability. (p.61)

This approach is the most difficult to achieve across an institution or society because it is most at odds with the dominant paradigm.

In view of a more general 'epistemological inadequacy' (Sterling, 2003) it is problematic to rely on formal education to deliver societal change by itself. The limited success of educational movements for change can be explained in part by looking at them through a systems lens. When such a view is taken (Figure 2.4), such movements appear as a subsystem nested within the wider education system itself nested within the wider social, economic and cultural system. The wider social, economic and cultural system shapes

the education system more than the other way round. Thus, the socialising and vocational roles currently demanded of education by wider society, rooted in the modern mechanistic paradigm, tend to dominate the formal educational system. In turn, these aspects will tend to counter and cancel out the transformational role promoted through educational movements for change. Seen this way, asking education to change society is a lot to ask. Rather than ask how education might change people's behaviour in a pro-environmental way, a common instrumental view of ESD, Sterling (2001, p. 32; 2003, p. 50) suggests a more valid question would be 'how can education and society change in a mutually affirming way towards more sustainable patterns for both'. Critically, the challenge of sustainability cannot be met simply by adding it as an issue for consideration in an unchanged educational system. Education must itself change: more of the same will not give rise to sustainable development. Attention needs directing at learning *within* the education system not just learning *through* it. When ESD is mentioned in policy discourse, there is a tendency to skip to the latter aspect, rather than address the former as a prerequisite to it.

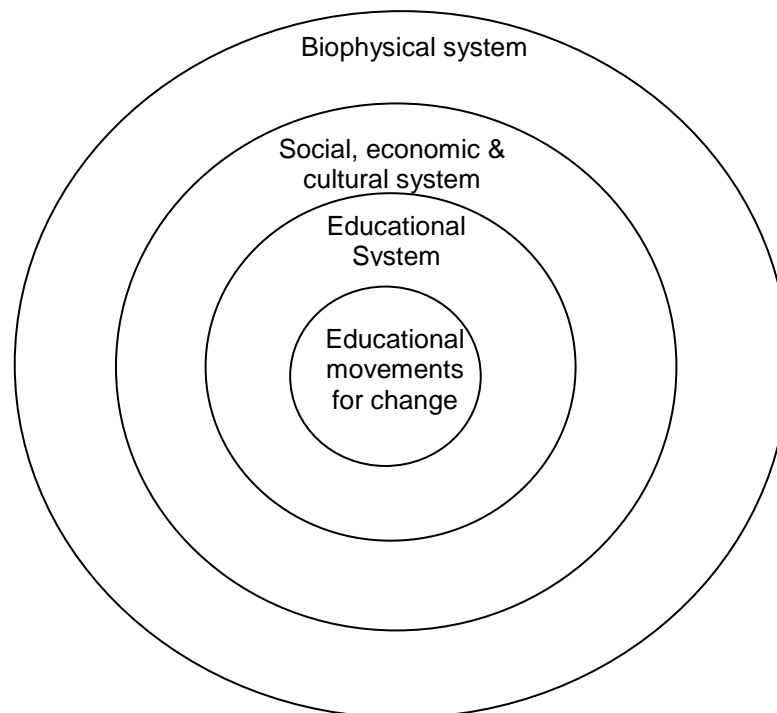


Figure 2.4: A systems view of education movements for change

Sterling (2001 p33)

Whilst Sterling (2003) makes clear that he believes the idea of ESD is shaped by the dominant modern mechanistic paradigm - in particular its instrumentalist character – he does not dismiss it. This is because ESD has links to ‘progressive social and environment movements’ (p. 49) therefore it retains power to change systems and institutions that are often impervious to the influence of such change. Change educations like ESD can challenge ‘dominant epistemology’ (p.110) and being ‘partly in/partly out’ (p.111) of the dominant worldview they may act as a bridge towards the new ecological paradigm.

Higher Education for Sustainable Development

Higher education has a potentially vital role in sustainable development, but has been relatively slow compared to other sectors of education in developing a response to ESD (Sterling, 2001). Its response to sustainable development via research and operations is generally considered to be ahead of its educational response (HEFCE, 2005). Scott and Gough (2004) commenting on UK practice, suggest more work has been undertaken on environmental management than on curriculum change.

There is no shortage of international declarations relating to environmental education and ESD that various HEIs have signed up to (Wright, 2002, 2004) These range from the UNESCO-UNEP International Environmental Education Programme in 1978, to the Tallories Declaration in 1990, and through various statements and declarations agreed at conferences in Halifax (1991), Kyoto (1993) Swansea (1993), Thessaloniki (1996) and Luneburg (2000). It is not yet clear how far the act of signing up to such declarations corresponds to actually making progress with sustainable development at the institutional level (Thomas, 2004; Wright, 2004).

In the UK, the WSSD and resultant declaration of a UN DESD appears to have given ESD a sharper focus in the sector. Policies and plans from both government (Department for Education and Skills (DfES), 2003) and the HE funding councils (HEFCE, 2005) and associated work by the Higher Education Academy (Dawe, Jucker, & Martin, 2006; Sterling & Witham,

2008) have given some renewed emphasis to the sector response to sustainable development.

The critique of HE response to sustainable development

It has not gone unnoticed that the most highly educated people are often those causing a lot of environmental damage (Blewitt, 2004; Martin & Jucker, 2005; Orr, 1994). The HE response to sustainable development has been critiqued from several angles:

(1) **Speed/adequacy of response** – The educational contribution to sustainable development from the HE sector appears to be lagging behind the education sector as a whole (Sterling, 2001) and, within the HE sector, to be trailing behind its input through research and corporate environmental management (HEFCE, 2005). The need for a more rapid and comprehensive response in the face of pressing ecological and humanitarian concerns has been a feature of discussions at several recent conferences, e.g. *Learning in a changing world*, 4th World Environmental Education Congress, Durban, 2-6th July 2007; *Sustainability and the Curriculum: progress and potential*, Higher Education Academy, Bradford, 10-11 July 2007; *Education for Sustainable Development Graduates as Global Citizens*, Bournemouth University, Bournemouth, September 2007 and *All our Futures*, University of Plymouth, September 2008. If one subscribes to the view that action in the next 10 to 20 years could be crucial in averting anthropogenic ecological catastrophe, then HE's response is even more critical as it has potential to affect immediately the actions of those with agency, including academic and support staff – not just students.

(2) **Limited Commitment and Resources** – The slow and inadequate nature of the response is linked to the problem that ESD is under-supported and under-funded (Calder & Clugston, 2004). Even where institutions express some commitment, rhetoric is not always reflected in practice (Higgit, Haigh, & Chalkey, 2005; Thomas, 2004).

(3) **HE as a reflection of dominant unsustainable world view** – Many scholars discussing HE and sustainable development have echoed Sterling's suggestion that the dominant world view that is prevalent within HEIs is at odds with sustainable development. As Clugson and Calder (1999) remark:

The modern university is the embodiment of the mechanistic utilitarian worldview that shaped the scientific and industrial revolutions. Cartesian dualism (separating pure from applied, objective from subjective); Baconian method (emphasizing manipulation, control, and quantitative measurement); and utilitarian philosophy shape academic functioning. The academy is also deeply involved in providing expertise for an "unsustainable" world economy. (p. 3)

Bawden (2004, p. 23) identifies a paradox that the dominant 'technoscience' world view has helped to identify the main risks to society but is itself ill-equipped to deal with the response because knowledge has become separated from values.

(4) **The dislocation of knowledge** – The knowledge necessary to enable humankind to develop sustainably is often fragmented between disciplines (Camino, Barbiero, Perazzone, & Colucci-Gray, 2005; Cullingford, 2004; Haigh, 2005; Higgitt et al., 2005; Huckle, 2004; Jucker, 2002; Robinson, 2004). As Robinson (2004) puts it:

What is needed is a form of transdisciplinary thinking that focuses on the connections among fields as much as on the contents of those fields; that involves the development of new concepts, methods and tools that are integrative and synthetic, not disciplinary and analytic; and that actively creates synergy, not just summation..... The disciplinary division of knowledge in the university system means that many cross-scalar issues get lost in the 'white spaces' between disciplines. (p. 378)

In addition to this horizontal fragmentation, there is also the problem of a vertical dislocation. The elevation of abstract 'higher' education above local lay knowledge is also believed to help contribute to unsustainable development (Bawden, 2004; Huckle, 2004). Robinson (2004, p. 380) makes clear that 'other forms of knowledge (e.g. traditional environmental knowledge, various forms of lay understandings of risk) have important things to contribute to the sustainability discussion.'

(5) **The curriculum pedagogic divide** – There is too great a focus on curriculum content, not enough on pedagogic change (Sterling & Scott, 2007). Corcoran and Wals (2004, p. 224) suggest that sustainability has been treated as “expert (pre)determined, and essentially teachable products”.

(6) **Environmental bias** - Whilst there may be many ways of approaching sustainable development in HE, the available literature has a tendency to focus on the environmental aspect alone, rather than the integrated whole. A narrow “environmental” interpretation of sustainable development is seen to predominate and even where wider views are in currency, few HEIs embrace “strong” variants that challenge the dominant economic paradigm (Higgit et al., 2005).

Whilst HE is subject to much critique with respect to sustainable development, there remains an enduring belief that its educational role has a key part to play in securing it. Now the focus turns to the potential role of extra-curricular interventions in this endeavour.

The potential for extra-curricular interventions

Whilst extra-curricular ESD-related interventions have received relatively little attention in the literature, extra-curricular elements have none-the-less been associated with whole institution responses to ESD. For example, Clugston and Calder (1999, p. 5) indicate they would expect that a sustainable college would include: ‘Prominent public, student and staff celebrations of sustainability on campus (for example, lectures, conferences, Earth Day celebrations, etc.)’. Recently in the UK, case studies arising from HEFCE funded work at the universities of Plymouth and Bradford have both acknowledged an extra-curricular dimension as part of an institution-wide response to ESD. At Plymouth, a five year funded Centre for Excellence in Teaching and Learning (CETL) has been established with an aim to transform the institution into one that exemplifies sustainability. At Bradford, the Eco-versity programme, supported through HEFCE’s innovation fund aims to reinvent Bradford as a sustainable campus. The Plymouth approach documented by (Blake, Selby, Kagowa, & Chalkley, 2007; Gray-Donald &

Selby, 2006) is based on a 'Four Cs' model. Here the Curriculum, Campus, and Community are all conceived as important parts of the process of changing wider Culture – intimating the value of a more than curriculum approach. In the Bradford approach, documented by Hopkinson et al (2008), the distinction is made between formal, informal and campus curriculum as key elements in the transformation process.

If we consider the inadequacies of the HE response reported in the literature, and view it through the lens of whole-systems thinking based on the work of Sterling (2001, 2004), it is possible to envisage various qualities that make the extra-curricular sphere a potential locus for positive change:

- **Subject neutrality** – The extra-curricular sphere is not owned by any particular subject or discipline.
- **Interface** – The extra-curricular sphere might be viewed as being at the boundary between curriculum, campus and wider community.
- **Permeability** – The extra-curricular sphere is relatively open both to external and internal influence, it is not defended in the same way as the curriculum.
- **Fluidity** – Being less guarded and regulated than the curriculum, relatively rapid change can occur in the extra-curricular sphere.

Taking these potential qualities and the critique of HE noted previously, it is also possible to envisage various roles for the extra-curricular sphere with respect to the advancement of ESD:

- **Disciplinary bridge** – Being a neutral space beyond traditional subject boundaries, the extra-curricular sphere may provide an arena where new trans-disciplinary perspectives are more likely to develop.
- **Community bridge** – Being at an interface between the curriculum, campus and wider community, there is also potential to reconnect abstract and lay knowledge in the extra-curricular sphere. The community bridge role could provide a route for HE engagement in the wider community and vice

versa, as well as for linkages with agents for change towards sustainable development in wider society.

- **Social learning arena** – Unhampered by constraints imposed by a set curriculum, the extra-curricular sphere may also allow for greater creativity and the emergence of new approaches to teaching and learning – helping create the ‘space for social learning’ that Corcoran and Wals (2004, p224) argue is needed. Critically, in the extra-curricular sphere, this social learning space is available to staff, both in academic and support roles, and students¹¹.

- **Socialisation scaffold** – Whilst one function of education is clearly socialisation, in HE the notion of ‘teaching’ particular values or prescribing fixed behaviours within curricula may not always be welcome (Shephard 2007) and resisted as indoctrination (Knight, 2005). Within ESD, the tension yet mutually compatible relationship between prescribing particular behaviours and more critical learning highlighted by Vare and Scott (2007), might usefully be accommodated between the extra-curricular and curricular dimensions of HE. Thus it seems likely that more behaviourist interventions (ESD1) aimed at the socialisation of students and staff will be more readily accommodated in the extra-curricular sphere to form part of a *socialisation scaffold*, rather than being adopted in the curriculum where a more critical engagement (ESD2) is likely to be fostered. The current *socialisation scaffold* may be propagating unsustainability. Orr (1994) has commented on the negative impact of what he terms the ‘hidden curriculum’ on learners. How educational institutions are physically manifest and the way they conduct their affairs – usually in a damaging and unsustainable manner – might have a powerful impact on learners, irrespective of what is being taught. This may be explicit or of a more tacit nature. If we view education as a subsystem within a wider unsustainable social and economic system, a negative impact is perhaps unsurprising. Nevertheless there remains an opportunity to model more sustainable practices and so inculcate particular norms and values by creating an alternative socialisation scaffold.

¹¹ I am in agreement with Jucker (2002) that the preoccupation with educating students in ESD is akin to delegating responsibility to the next generation. It is important that staff learn their own responsibility, not least because they will often have more agency to act than most students.

Existing research on extra-curricular education

Despite their apparent potential, extra-curricular ESD-related interventions have been subject to little scrutiny. Day-to-day experience of university life and occasional references in published case studies (e.g. Clugston & Calder, 1999; Ferrer-Balas et al., 2004; Hopkinson et al., 2008; Koester et al., 2006) confirm that such interventions are a part of practice, but the extent, type, role and impact of such interventions remains to be explored fully. One area where the impact of interventions has been given some consideration is in the evaluation of behaviour change related to interventions such as awareness campaigns linked to campus environmental management objectives. For example, the Harvard Green Campus initiative is documented by Sharp (2002) and Danielson and Moody (2005) where positive results are reported. However these reports rarely consider the educational value of such interventions, rather they focus on the benefits in environmental terms, for example savings to energy budgets. Educational links have been made between campus environmental management work and the curriculum of some courses where the campus becomes source material for investigation (Karol, 2006; Savanic, Strong, & Manning, 2008; Sharpe, 2006). Elliot's work (2007, pp. 46-47) reporting a project to develop new learning and teaching opportunities for ESD for students of geography and environmental science, noted the importance of 'extra-curricular ESD learning' from family and friends and that students had a sense that sustainability in courses was often 'fragmented' and 'partial'. In a similar vein, Sjerps-Jones's work (2007) points to the importance of discussions that took place at home and with family and friends rather than at college for student engagement with sustainability.

Looking beyond HESD to the wider literature concerning extra-curricular education in universities, a body of work has been built up concerning the impact of participation in extra-curricular *activities*. This work is typically based on quantitative research - although there are some exceptions such as Kuh (1995) - comparing participation in a range of extra-curricular activities, with variables relating to the topic of interest. For example, Call

(1974), Otto (1977), Klimmek and Richter (2007), Vermeulen and Schmidt (2008) look into impacts on academic achievement; Woo and Bilynsky (1994) look at adjustment to university life; Cheng and Zhao (2006) look at development of multicultural competence; Smith and Griffin (1993) look at psychosocial development; and Tchibozo (2007) looks at the transition from university to the labour market. The detail of such work is not wholly relevant here as its focus is usually on a loosely defined collection of activities that students engage with in their own time whilst at university, rather than engagement with university-led extra-curricular interventions per se. That said, despite some contradictory conclusions within this line of investigation, probably resulting from the different measures and ways extra-curricular activities have been counted, it is relevant to note that many positive associations have been attributed to participation in extra-curricular activities (Cheng & Zhao, 2006; Klimmek & Richter, 2007; Kuh, 1995; Smith & Griffin, 1993; Tchibozo, 2007; Vermeulen & Schmidt, 2008; Woo & Bilynsky, 1994). It is also important to note that the impact on staff does not appear to have been given consideration.

Turning to reported experience concerning extra-curricular interventions, the literature appears to give very limited coverage to interventions with a specific educational purpose. That which does exist, tends to be of a descriptive character, for example Banks and Betti's (2003) presentation on extra-curricular approaches to promote student entrepreneurship. Closer scrutiny of how such complementary approaches work and links to theory appear to be largely absent.

Conclusions

Learning and education are not confined to formal education. People will learn much through their interactions with the wider world and each other often without consciously doing so. Much tacit learning can be at odds with sustainable living stemming from interaction with a world where sustainability is not the norm. Education as a conscious process to foster learning is not limited to curriculum associated educational experiences. Students may simultaneously educate themselves by following their own 'free choice'

learning interests, and/or be educated by others within and beyond the university community. For those with an interest in advancing ESD it is important to recognise the extra-curricular dimension to education and the tacit aspect of learning.

Whilst formal education programmes are part of the *raison d'être* of higher education institutions, they will not be the only source of learning. Much educational effort in higher education is understandably focused on the delivery of a formal curriculum to students. However, this is only one part of the educational potential within HEIs. The curriculum's centrality should not be confused with exclusivity as an educational medium. Those who report whole-institution approaches to ESD clearly do not confine their efforts to formal curriculum alone, yet there has been little exploration and conceptualisation of extra-curricular ESD in HE. Providing opportunities for members of universities to engage in *free choice learning* relating to sustainable development and shaping the institution's impact on *tacit learning* by modelling sustainable practices and physical campus forms appear to be the principal opportunities for extra-curricular interventions.

Taking a whole-systems view (Sterling, 2003), education *about* sustainability is likely to be the dominant type of ESD within existing curricula, it being the easiest type to accommodate because it does not challenge the dominant paradigm. Because sustainable development is a broad concept, sustainable development-related content ought to be found already in the curriculum of a variety of disciplines. Here it might usefully provide an access point for the development of ESD. However, because sustainable development is often perceived as an environmental concern alone, this may limit engagement with ESD beyond traditionally environment-related disciplines. Recognising and developing sustainable development-related content is important, but is unlikely to be sufficient where a transformatory response is needed. Here 'whole systems' theory points to a need to consider institutional and individual learning within the education system and connections with change agents in wider society. Here the extra-curricular

sphere appears to offer some advantages to facilitate such learning and connection.

Learning by academic and support staff is critical to the development of ESD. Students are clearly the prime focus for HEI educational work, but, as with the formal curriculum, this centrality should not be confused with exclusivity. HEIs should also be seen as lifelong learning venues for the academic and support staff working within them. The education of academic teachers is particularly important if teachers are themselves to learn to look at the world and their subjects afresh in the light of the challenge of sustainable development. The education of support staff is important if HEIs are to model sustainable development in both practices and physical form. Again, it is beyond the formal curriculum focus of universities where this type of learning may take place.

Sustainable development appears to pose a particular challenge to higher education and the critique of HE's response is part aimed at the very foundations on which modern universities are based. Curriculum content modification alone does not seem a sufficient response to the challenge faced. Extra-curricular interventions appear to have potential in many of the areas where HE has been critiqued. This potential and the appearance of extra-curricular approaches in universities attempting whole-institution responses to sustainable development, suggest they merit more attention than they have hitherto been given. The extent, type, role and impact of such interventions seem to remain largely unexplored, pointing to the need for some empirical research in these areas. It is to consideration of such research that this thesis now turns.