Environmental Education Research

Sustainable development education in Scottish schools: the Sleeping Beauty syndrome

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Sustainable development education in Scottish schools: the Sleeping Beauty syndrome

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This paper reviews and discusses the development of Sustainable Development Education (SDE) policy within the context of the Scottish formal school system. The focus is on the progress, and lack thereof, of implementation of SDE in schools in the light of some of the key curriculum documents and associated political decisions and advisory reports. The period of the review dates from 1993, which saw the publication of a report that was regarded as the seminal document for the development of environmental education in Scotland, to 2007 and the Scottish Executive's proposals for SDE in the light of curriculum reform for schools for the 21st century. The paper employs, loosely, the metaphor of the Sleeping Beauty to tell the story of SDE in Scotland in three parts: the story's three phases of emergence, obscurity and re-emergence might serve as a useful metaphor, here.

Introduction

This paper discusses the development of sustainable development education[1] policy in the context of the Scottish formal school system. While Lavery and Smyth (2003) reviewed and analysed environmental education in Scotland from international and political perspectives, the focus here is on the implementation of sustainable development education in the Scottish school system in the light of key curriculum documents and associated political decisions and advisory reports. The period of the review dates from *Learning for life* (SOEnD, 1993), regarded by many as a seminal document for the development of environmental education in Scotland, to the years beyond *A curriculum for excellence* (SECRG, 2004), the Scottish Executive's document setting out a proposal for curriculum reform for schools for the twenty-first century.

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The Sleeping Beauty: a metaphor

When describing and analysing the story of environmental education and sustainable development education in Australia, Gough (as discussed in Greenall, 1987; Chapman, 2004) uses the analogy of a game of snakes and ladders to describe the uneven progress of political and educational policies and practice. This paper loosely employs the metaphor of the Sleeping Beauty to tell a three-part story of sustainable development education in Scotland:

● In Part 1, the Rio Earth Summit in 1992 is identified as a catalyst for the development of the Scottish environmental education document, *Learning for life* (1993). (The birth of the princess, Beauty, was considered to herald a time of hope for the land.)
● Part 2 describes and discusses how a number of obstacles obstructed the progress of sustainable development education in schools. (Circumstances conspired against the princess and she and all of the court fell into a long sleep. A large forest grew around the castle and it became lost from sight and mind.)
● In Part 3, the proposal document for a new Scottish curriculum, *A curriculum for excellence* (2004), and the emergence of an action plan for sustainable development in Scotland, may be viewed as the beginning of a more promising future for sustainable development education. (A champion emerged, a way was found through the forest and the princess awoke…)

While there is no intention to become bogged down in analogy, the story's three phases of emergence, obscurity and re-emergence are used to organize and develop this commentary on sustainable development education in Scottish schools. The approach in this paper also draws on systematic review procedures in the tradition of curriculum history research by, for example, Hamilton (1990), Krindel and Newman (2003), and the curriculum literature review published in the Scottish Executive Social Research (2006) document, *Sustainable development: a review of international literature.* Techniques and strategies include: setting clear review objectives; conducting a wide literature search using library resources, academic search engines and searches of appropriate sustainable development education-related and Government web sites; and mapping of common educational themes, as well as noting any inconsistencies.

The literature review has focused on the key areas of sustainable development education in the formal education sector in Scotland, political responses to proposals designed to raise the status of sustainable development education and, more generally, the topic of curriculum reform and development. Initially, the scope of the search was national, although this has widened to include an international dimension as common themes emerged.

Given the context for the study, the review's baseline has been the recommendations and strategies proposed in *Learning for life* (SOEnD, 1993). In what follows, I start by analysing how key generic educational themes emerging from that document fit with educational philosophies underpinning or allied to sustainable development education. I argue that these themes illustrate sound pedagogy and 'excellence' in

education and are mirrored in current literature related to sustainable development education, both in the Scottish context, and from international perspectives. While the paper aims to examine general themes and principles underpinning curriculum development in sustainable development education in Scotland, it does not, however, track the progress of sustainable development education in terms of specific examples from Scottish schools practice or from teachers' experiences. These remain key areas for further investigation in subsequent studies.

Part 1: *Learning for life* and the emerging pedagogies of sustainable development education in Scotland

This section sets out a context for understanding the development of sustainable development education in Scotland. It suggests that a close analysis of the key sustainable development education document, *Learning for life* (SoEnD, 1993), reveals key pedagogical themes indicative of what have been regarded as sound principles for curriculum development in this field.

Educational policy and debate in Scotland has a long history of interest in the links between education and environment. This is demonstrated in, for example, the HMI (1974) report, *Environmental education* (produced by the national Government inspectorate of education), and, *Curriculum guidelines for environmental education* (SEEC, 1987) (produced by the national environmental education advisory council).

Learning for life (SoEnD, 1993) was produced by the Working Group in Environmental Education for the Secretary of State for Scotland. A prompt and comprehensive response to the United Nations Conference on Environment and Development (UNCED) Earth Summit in Rio de Janeiro in 1992 and in particular, Chapter 36, Agenda 21, the report demonstrated Scotland's then apparent commitment to progressing the development of environmental education. *Learning for life* detailed a set of recommendations such that their implementation would commit Scotland to developing policies that would encourage more sustainable lifestyles—locally, nationally and globally. Central to this were recommendations for education policy with a strong focus on teaching and learning that might 'alert everyone to the importance of the environment in daily life and also to its vulnerability' (p. 69). Learners developing environmental awareness, literacy, responsibility, and competence, it was argued, could achieve this.

Learning for life also set out a four-phase model of environmental and sustainability education in schools: *reactive, receptive, constructive* and *pro-active* (Hesselink, 1992, in *Learning for life,* p. 8). In the first phase, schools are characterized as relying on externally generated, pre-written materials and enthusiastic individuals, while by the fourth phase, the whole culture of the school is defined in terms of sustainable living, supported by neighbourhood enterprises, such that pupils and staff are both empowered to take initiatives and able to make active, participative responses in local, national and global issues.

Learning for life estimated that, in 1993, most Scottish schools were at the first or second phase with 'one or two adventurous projects' typifying the third or fourth.

Hope was expressed that in the following decade, more would be achieved and that schools would be helped and encouraged to move to phases and models of environmental education which would lead both pupils and teachers to deeper understanding, higher levels of critical thinking, and, ultimately, to making choices that lead to more sustainable ways of living.

Key educational themes in Learning for life

Borradaile (2004, p. 26) observes that *Learning for life* 'still provides a wealth of ideas and aspirations to be drawn upon, many of the recommendations are as relevant today as a decade ago'. Although the focus of *Learning for life* was environmental and sustainability education, it can also be viewed as being based upon and promoting a model of sound generic educational practice, applicable to many contexts and education systems. Its view of 'good sustainable development education', as I show below, was grounded in and is reflective of contemporary understandings of effective pedagogy in education and the field. An analysis of *Learning for life* in relation to the formal education, suggests six key educational themes. These themes are that environmental and sustainability education should be: systemic, holistic, active and participative, based on and in the environment, values focused, and should enable learners to be competent to take action for the environment. Together, these might be viewed as *Learning for life* articulating a model for progressive, transformative education focused on environment and sustainability.

Systemic

Learning for life recognizes that if its suggestions for the development of environmental and sustainability education were to be implemented successfully, then the whole system, that is, Government and its agencies, commercial and voluntary sectors, education bodies and schools, must work in partnership. This corresponds well with Sterling's (2001) vision of sustainable education, which explores the implications of an ecological paradigm for education. Sterling applies three contextual levels to whole-systems thinking about education: the *educational paradigm,* which reorientates thinking about the purposes of education and asks how this relates to society and the biosphere; *organization and management of learning environments,* which investigates how the whole management system views policies and practice towards education and the environment; and *learning and pedagogy,* which questions whether and how practices are redesigned to put into practice a participative, integrative model of learning and teaching.[2]

Holistic

Learning for life envisions a model of the curriculum in which learning in environmental and sustainability education are an integral part of the learning and teaching programmes of all schools: the approach permeates the whole curriculum. Indeed,

Brady and Brady (2004) aver that not giving pupils a framework for linking knowledge, ideas, skills and values about the environment is the major failure of modern education. In contrast, it is argued, an integrated curriculum crosses the boundaries imposed by traditional subject groupings and allows students to move across disciplines as they learn about their world. However, an integrated curriculum does not deny the distinction between those subjects or learning areas, as *Learning for life* acknowledges: they remain important for the purposes of balance and organization of specific subject knowledge.

Active and participative

Learning for life suggests a model of sustainable development education wherein the emphasis of the teaching and learning strategies encompasses a wide range of active, participative experiences, including pupils engaging in investigative, discursive, and open-ended tasks. Contexts focus on local perspectives and build towards global environmental issues, with emphasis on both knowledge and values. This view of learning is not by any means exclusive to *Learning for life* or sustainable development education. Selley (1999) suggests that learners must be allowed to construct their knowledge and understanding through active and local participation where they have the opportunity to discover facts, ideas and meanings. Similarly, Säljö's (1979) phenomenographic studies of students' conceptions of learning contrast categories such as passive, rote knowledge acquisition and memorizing, with the ability and opportunity to use facts to make sense of their worlds and to comprehend, reinterpret and actively construct knowledge and ideas.

Based on and in the environment

Education outside of the classroom, i.e., *in* the environment, is identified as a basic principle in *Learning for life*. Regular direct experience in the school grounds, the local areas and outdoor programmes further afield are all identified as rich resources for developing observation skills and for learning about, caring for, and interacting with the environment, thus providing enjoyable and effective learning. Liaison with environmental education agencies provides support and inspiration. The *5–14 environmental studies* (SOED, 1993) document also advises that first-hand experience though fieldwork for pupils is central to the methodology of environmental studies.

Values-focused

Powney *et al.* (1995, p. vii) state that, 'values include but go beyond the religious and moral areas of belief: "values" refers also to other aspects of how our lives are sustained, organized and experienced'. At the heart of sustainable living must be a set of values, held by individuals and by society, by which they try to live and make choices. In *Learning for life,* the school ethos and values system—the hidden curriculum—is viewed as having an important influence on the effectiveness of environmental

education in both local and global issues. The ethic for sustainable living, central to *Caring for the earth* (IUCN, 1991) is also viewed as fundamental in *Learning for life*: care and respect for the community of life. Ethical dilemmas, for example, the right to meet human needs and wants versus the importance of preserving natural resources, can and should be addressed through education at all levels and over a range of subjects.

Competent to take action

Finally, and perhaps most importantly, *Learning for life* asserts that environmental education should enable learners to be competent to take action and that the success of any educational strategy should be judged against its effect on the capacity and willingness of people to take action for the environment. A recurring theme throughout *Learning for life* is that each school produce an environmental action plan that helps pupils to be active participants in the care and stewardship of the local and global aspects of the world in which they live. Laing and McNaughton (2001) propose a similar model of *environmental action competence* (after Jensen, 1995) wherein educators are offered strategies to enable pupils to have knowledge and insight about sustainability issues, vision and commitment to the issues and, ultimately, can take action in regards to the issues.

Summary

The emergence of *Learning for life*, then, provided a clear, forward thinking and pedagogically appropriate curriculum proposal for the field in the 1990s, which might have placed Scotland's formal education sector at the forefront of the environmental and sustainability education response to Agenda 21, alongside countries such as the Netherlands (*Teaching for sustainable development*, 1986–1992, cited in SDELG, 2005) and New Zealand (*Guidelines for environmental education in New Zealand schools*, published in 1999 from a pilot study begun in 1994), and ahead of the other countries of the UK (see Reid *et al.*, 2002, for a review).

   The next section sets out a brief outline of the progress, and lack thereof, in terms of developments in curriculum policy in sustainable development education for the years between 1993 and the publication of *A curriculum for excellence* (SECRG, 2004). This Scottish example serves to remind us of the problems inherent in implementing fundamental, systemic curricular change in the absence of clear political will or educational consensus. The metaphorical touchstone here is of the ideas emerging from *Learning for life* becoming 'lost in the forest'.

Part 2: sustainable development education policy and practice—10 years in the forest

A main aim of *Learning for life* was to 'ensure that a national strategy for environmental education is both practical and attractive' (SoEnD, 1993, p. 37). However, in the

years after 1993, there seemed to be little general enthusiasm for the adoption of sustainable development education as a process or as a focus area in curriculum planning. The prevailing view was that sustainable development was a 'fringe' issue with little real status or relevance to education (Borradaile, 2004). This perspective coincides with the introduction of the National Curriculum in England in 1988 with its increasing emphasis on exam results league tables and a political rhetoric focused on *raising standards* and *back to basics:* arguably a conservative and neoliberal response to the more 'progressive' education policies of the 1970s.

Lavery and Smith (2003) consider the fact that a policy for sustainable development education was not put into effect in Scotland to be a deliberate political act linked to the refocusing of UK educational priorities in favour of basic skills. Tightened, subject-based timetabling with a focus on raising attainment in literacy and numeracy resulted in fewer cross-curricular opportunities and less emphasis on the usefulness of meaningful learning contexts afforded by, for example, sustainable development education, in allowing learners to practice and extend a range of skills in other contexts. This undoubtedly ran counter to the philosophy underpinning the Scottish 5–14 Curriculum (see SOED, 1993). Although grouped by subject, the 5–14 Curriculum guidelines (1992–2000) were designed to be open-ended and flexible with a great deal of choice to be afforded to schools in terms of curriculum content, and methodology. However, in practice, time, assessment constraints, and an increasingly crowded curriculum led to a more top-down, imposed structure than had been anticipated by the architects of the system (Bryce & Humes, 2002).

In the late 1990s, three important documents pertaining to sustainable development education were published. The first, *Learning to sustain* (SEEC, 1998), raised the concern that the term 'environmental education' might be perceived as being concerned only with 'green' issues and suggested a change of focus toward 'sustainability education'. The documents, *Scotland the sustainable* and *Scotland the sustainable? The learning process* (ESGD, 1999), set out a 10-point action plan which advised that the Government should 'put sustainable development at the heart of education, and education at the heart of sustainable development' (p. 8). Central to the action plan was the concept that sustainable development should integrate education and that education needs to be holistic and lifelong with cross-disciplinary approaches— *joined up learning,* leading to the development of skills in critical analysis—*joined-up thinking*. However, Borradaile (2004) explains, a number of political circumstances, including perceived conflicting interests between Government departments and tensions leading up to the establishment of the new devolved parliament for Scotland, led to the report being sidelined and the recommendations never being acted upon.

In short, from 1993 to 1999, a number of circumstances conspired to prevent many of the ideas and strategies from *Learning for life* being adopted in anything more than a piecemeal fashion in the formal education sector. There were many examples of groups and individuals working towards the fulfilment of the sustainable development education objectives. However, there was no overarching policy in place and no general consensus on the status or value of sustainable development education in Scottish schools.

In these circumstances, curriculum reform is unlikely. Chapman (2004) highlights a similar situation when discussing the development of environmental education in Australia in the 1990s. He states that, 'despite the development of a comprehensive environmental plan … little attention was given to the political ramifications of the suggestions and the unpreparedness of teachers in schools' (p. 23). It was a similar lack of direction that accompanied sustainable development education into the new Scottish Parliament.

Post-1999—a new parliament: a new direction?

Based in Edinburgh, July 1999 saw the establishment of a devolved parliament for Scotland. Its legislative competence extends to education, health, agriculture and justice, while other areas, such as foreign policy, are reserved for the Parliament of the UK (based at Westminster). For fiscal and administrative purposes, prior to the establishment of the new parliament a number of advisory groups in many key public policy areas were wound up. Of note for this paper are the early withdrawal of funding from and the subsequent dissolution of the Scottish Environmental Education Council (SEEC), whose membership brought together a wealth of knowledge and expertise in a wide range of local and international environmental education contexts. The break up of the group deprived environmental and sustainability education of a powerful, united voice in the subsequent discussions on educational reform in Scotland. A parallel might be drawn here to the publication in Australia of *Learning to care for the environment: Victoria's environmental education strategy* in 1992 followed by the disbanding of the Victorian Environmental Education Council (VEEC) in 1993, as described in Gough (1997).[3]

The desire expressed by the new Scottish Government was to put a review of education in place that would lead to the development of a curriculum fit to meet the needs of the twenty-first century. In 2000, a parliamentary order listing five *National priorities for education* (Scottish Executive, 2000) was published. The fourth of these priorities, Values and Citizenship, made some loose links with sustainable development education. Here, a key indicator of success identified by the HM Inspectorate was the involvement of schools in the Eco-Schools programme and the achievement of an Eco-Schools award (Eco-Schools, 1995).

The Eco-Schools scheme aims to help schools to move from simple class and school activities using ideas from structured packs and lesson plans through stages towards a whole school ethos of sustainable living, a model which may be likened to that described by Hesselink in *Learning for life*. A more critical view might be that the nature of the scheme must remain essentially top-down, with general, external standards and measures being applied to school communities. Pupils might be expected to display 'good environmental behaviour' without being encouraged to interrogate the underlying issues and values. Basic Eco-Schools awards can be achieved by the self-assessed adoption of short-term environmental projects. Therefore, while useful, it may be seen to be rather narrow in terms sustainability education, especially for the secondary school sector (Pirrie *et al.*, 2006). Comparisons may be drawn with the

more robust European 'Environment and Schools Initiatives' (ENSI), described by Rauch (2002). Here, the focus is on a holistic, sustained environmental approach, with an emphasis on pupils being 'empowered to make active and constructive contributions to sustainable development' (p.49).

The publication *Education for citizenship in Scotland: a paper for discussion and development* (LTS, 2002), effectively subsumed sustainable development Education within the citizenship agenda. It is notable that no environmental organizations were represented on the advisory Citizenship Review Group. This reflects Lavery and Smith's (2003) observation that, from the mid 1990s, 'the most powerful interpretation of sustainable development at this time was stated in socio-economic rather than eco-physical terms' (p. 374). The document does state that citizenship, is 'rooted in, and expressive of, a respectful and caring disposition in relation to people, human society in general, the natural world and the environment' (p. 6), and advises that Scotland's pupils were to be helped to become 'global citizens'. In a review of sustainable development education post 1999, Birley (2001) argued that Government progress on educational issues remained fragmentary and concluded that Government commitment remained hesitant (similar patterns in England post-Rio (1992) are identified in Reid *et al.*, 2002; EAC, 2003, 2005). 2003 also saw the Scottish Executive Education Department (SEED, 2003) publish *Educating for excellence: choice and opportunity*, about which Borradaile (2004, p. 39) notes, 'Specific reference to Sustainable Development Education and the wider outdoor learning environment is absent, despite submissions from WWF and Education 21 Scotland'.

The first years of the new parliament, then, did not appear to herald a great deal of renewed interest in the development of sustainable development education. The view of the inspectorate and local education authorities seemed to be that Eco-Schools 'had it covered'. The next section outlines how since 2004, the status of sustainable development education has been raised within the Scottish education system: 'the Sleeping Beauty awakes'. It discusses the possible implications for sustainable development education in *A curriculum for excellence,* in terms of the key pedagogical themes outlined in Part 1. It also examines the progress of sustainable development education in the light of a speech to the 'Learning to make Scotland sustainable' seminar (June 2005) by Peter Peacock, Minister of Education and Young People, which states that an aim of the new curriculum is to 'embed sustainable development within the school curriculum as part of our major education reform programme"'(para. 3).

Part 3: *A curriculum for excellence*—the sleeper awakens

In 2004, the Curriculum Review Group for the Scottish Office published *A curriculum for excellence* (SECRG, 2004). This short document outlines a major curriculum reform, expressing a vision for a single Scottish curriculum spanning the age range 3- to 18-years, that will enable all children to develop four capacities, to become: *successful learners, confident individuals, responsible citizens* and *effective contributors to society*. A more holistic, experiential and egalitarian cross-curricular approach is emphasized in the introduction and in statements such as, 'children's learning should combine to

form a coherent experience' (p. 15). Importance is placed on making links across the curriculum, of seeing connections, and of dealing with genuine concerns about the world. Pupils, it states, should have knowledge and understanding about: the world and Scotland's place in it; different beliefs and cultures; and environmental, scientific and technological issues. This should enable them to develop informed and ethical views and thus to develop values, in terms of respect for others and commitment to participation in society and thus, implicitly, to environmental sustainability.

Sustainable development education post-2004

Coinciding with the curriculum review in *A curriculum for excellence* and, perhaps, as a reaction to increasing UK-wide and international developments, sustainable development education has appeared to move further up the agenda, both politically and educationally. The research report, *Sustainable development education in England, Wales, Northern Ireland and Scotland* (SDELD, 2004), confirmed that, compared to other areas of the UK, Scotland has not been particularly successful in developing environmental and sustainability education since the 1990s. The publication of unfavourable national comparisons can be a catalyst for Government action and this seems to have been the case in the area of sustainable development education. Thus, the documentation relating to the progress of *A curriculum for excellence* curriculum development states that:

> … it is envisaged that the profile of Sustainable Development Education will be enhanced in accordance with the Minister of Education's aspirations, and that it will feature within *A Curriculum for Excellence* and be given more prominence within subjects and throughout most cross-curricular-themes. (LTS-ACfE, 2006)

This indeed seems to be the case and sustainable development education is included in some of the proposed curriculum outlines (LTS-ACfE, 2007).

The raised status of sustainable development is evident in the publication of *Choosing our future: Scotland's sustainable development strategy* (Scottish Executive, 2005), a wide-ranging document covering aspects such as: waste, transport, health and well-being, social justice, and Scotland's natural heritage and resources. The document sought to establish Scotland's international credentials in terms of commitment to sustainable development policy and practice. A follow-on publication, *Learning for our future: Scotland's first action plan for the UN Decade of Education for Sustainable Development* (SDELG, 2006) emphasizes the Government's commitment to sustainable development education, asserting that it can help teachers 'to deliver the objectives of the new curriculum' (p. 3) within a whole-school approach.

A Curriculum for excellence *and six themes revisited*

Earlier in this paper, six educational themes emerging from *Learning for life* were set out. It was proposed that these themes suggested that *Learning for life*, and by extension sustainable development education, were underpinned by sound pedagogical

ideals, corresponding to what Sterling (2001) describes as an 'ecological paradigm' for education (p. 49). Many of the same themes appear to underpin the vision statements in *A curriculum for excellence*. However, as with all visions, the realization may be somewhat different. Here, the six themes are revisited and discussed in terms of the potential for sustainable development education in the new curriculum, alongside some of the barriers that might militate against this.

Systemic

The Scottish Executive has made a considerable investment in the development of policies on sustainable development across all areas of Government and has expressed a desire that Scotland be seen as a country in the forefront of sustainable practice. In terms of education, from 2004, the Scottish curriculum body, Learning and Teaching Scotland (LTS), has produced documents, statements and web-based information on sustainable development education, signifying an increase in the status of sustainable development education in the curriculum. However, *Learning for our future* (2006) identifies a need for training and awareness-raising in order that policy-makers, especially at local level (for example, local authorities and schools), have the skills, knowledge and understanding to deliver and support sustainable development education. This view is iterated in an extensive piece of international research commissioned by the Scottish Executive (SESR, 2006) which found that in terms of delivery of sustainable development (including education) there were, 'manifest gaps in the knowledge base', 'inconsistencies in delivery pathways' and 'policies in place but no action is taken' (p. 2) in some or all of the national and international practices addressed in the review.

Holistic

The integrated, holistic nature of learning is a recurrent theme in recent documents. *A curriculum for excellence* states that successful learners should be able to make links and to apply different kinds of learning in new situations that may span several disciplines. One of the key targets for improvement in the curriculum review, identified in *Learning for our future* (p. 7) is:

> … the coherence between cross-cutting elements such as education for citizenship, environmental education, outdoor education, international education and education for the global perspective and to integrate them as fully as possible with learning in curricular areas and subjects.

However, since the 1990s, some local authorities—the arbiters of the curriculum in Scotland—have adopted a rather rigid, product/outcomes oriented view of the curriculum, the antithesis of a holistic, cross-curricular approach, and derided in *Learning to sustain* (SEEC, 1998) as the 'product of tidy administrative minds' (p. 5). Borradaile (2004) claims that there is often a general lack of understanding of process-based learning, and an over-emphasis on subject based-teaching. *A curriculum for excellence*

advises the use of a more topic-based, cross-curricular approach, especially in primary and the lower secondary years. Many teachers, it suggests, may need considerable help to gain (or rediscover) the knowledge, skills and confidence to teach in this way.

Active and participative

A key emphasis of *A curriculum for excellence* is the provision of active, participative learning experiences. The four capacities described therein, *successful learners, confident individuals, responsible citizens* and *effective contributors*, are predicated on the education system including young people in decision-making. Schools are encouraged to develop an open, participatory ethos. *Learning for our future* recognized the scope of sustainable development education to provide a wide range of contexts for active engagement with ideas, for example, in exploring concepts, asking questions, investigating options and suggesting alternatives. However, this does not fit easily with the mental template for 'education' held by many non-specialists: the traditional dissemination model of teaching and assessment. Politicians and policy makers, with an eye on votes and, in particular, 'accountability', often do not wish to commit to anything which might be viewed as radical or different. Chapman (2004) identifies lack of political backing as a major cause of the failure of sustainable development education initiatives in Australia. In Scotland, too, there has been a mismatch between a curriculum viewed in terms of a set of discrete subjects, and sustainable development education, described as a 'permeator'. On the one hand, there are traditional 'hard' attainment targets, goals and improvements to be met. On the other, there is the 'soft' curriculum that does not fit easily into a plan–teach–assess–report model and yet may be seen as a more accurate model of the 'real world'—messy, connected, wide-focused and values driven.

Based on and in the environment

Learning for our future makes specific mention of outdoor education stating that it must be considered a valuable part of a rounded and rich educational experience and that schools should develop a whole-school approach. There is an emphasis on the use of the immediate local environment including the school grounds, as well as on visits further afield. *Taking learning outdoors* (White, 2006) describes the introduction, in 2005, of a two-year Outdoor Connections programme. It is designed to link current and emerging outdoor education strategies to *A curriculum for excellence* and to help educators to recognize the benefits (identified in 150 research studies worldwide) of learning in the outdoors. The renewed emphasis on outdoor education is confirmed by the appointment by LTS of an Outdoor Education Development Officer. However, two main barriers stand in the way of widespread uptake of opportunities for Outdoor Education: costs, and fear of litigation. Robert Brown, Deputy Minister for Education and Young People, has sought to allay financial concerns by advocating a mixed model whereby most outdoor education would take place within a school's local environs. He has also commended a Government publication *Health*

and safety on educational excursions (Scottish Executive, 2004), as a means by which teacher confidence might be increased.

Values-focused

In *A curriculum for excellence,* the Government and educational providers are charged with delivering an education system that helps young people to develop a range of positive values about themselves as learners and as future citizens. However, Gillies (2006) notes that the prime value on which the new curriculum is to be based—'excellence'—is never referred to in the document and suggests that this is symptomatic of 'a certain imprecision over values in the report' (p. 31). He suggests that the Curriculum Review Group's failure to open up the initial report to pubic consultation resulted in a loss of opportunities to analyse and define the underlying educational values that would fit the recipients of the new curriculum for the challenges of the twenty-first century. This lack of precision does not bode well for sustainable development education. There is a concern that the result might be a model of didactic values education rather that a more open-ended learner-centred approach. More positively, in *Learning for our future* (2006), the aim of sustainable development education is described as that which will inform people's values 'through an exploration of the fundamental principles of the way we live our lives now and the impact our lifestyles have on the environment and society' (p. 1).

Competent to take action

The four purposes outlined in *A curriculum for excellence* describe a vision of a young person as a confident, enthusiastic and committed individual who is able to evaluate issues and to take the initiative in finding and applying solutions to problems. This fits with Robottom and Hart's (1993) description of *critical* environmental education, wherein students are supported in being able to take action for the environment. Resources such as *Pathways: real schools, real experiences* (WWF, 2005), provide examples of pupils participating in planning for and taking action within the school, in environmental groups, school councils, and as part of wider school initiatives. Through initiatives such as *Assessment is for learning* (LTS, 2004), teachers are being given strategies to enable pupils to be more pro-active in their own learning and to engage in self-evaluation and reflection on what they can do and what the next steps in their learning will be. However, a key barrier to progress in the achievement of more critical, action-based teaching and learning is the lack of provision of systematic and sustained in-service education. Rauch (2002) acknowledges this: 'teachers need greater willingness and ability to handle learning processes which are not *a priori* structured' (p. 45). Realistically, current half-day or one-day 'familiarization' courses cannot achieve fundamental changes in attitude and understanding. Additionally, Gough (2001) suggests that, already, many pupils are far ahead of the curriculum in terms of environmental understanding and interests.

Conclusions: sustainable development education—a curriculum for excellence?

If the pedagogical values underpinning *A curriculum for excellence* impact on the design of the revised Scottish curriculum, then there may be a chance that the aims for sustainable development education set out in *Learning for life,* and reiterated in *Learning for our future*, could be addressed. More realistically, in a presentation available on the Scottish Environmental Protection Agency web site, Lavery (2006) states that, at the time of writing, sustainable development education is uncoordinated, not fully integrated, and still very much dependent on the enthusiasm of individual schools and teachers. There is, then, some way to go. Essentially, there is a need for teachers at all stages of their careers to be supported in their understanding and implementation of sustainable development education.

Sustainable development education: an international study (SDELG, 2005) suggests that in most of the eleven countries studied, including Scotland, there remains what Palmer (1998) described as the 'fundamental curricular and pedagogical differences between environmental education and schooling' (p. 96). Problems arise when trying to reconcile a problem-solving, action-based approach such as that required by sustainable development education, with a school curriculum focused on the acquisition of knowledge and the mastery of skills and concepts: that is, a process-based rather than a product-based pedagogy. However, it must also be acknowledged that in sustainable development education, there are knowledge and ideas to be acquired and skills to be mastered. There is a lack of research evidence that establishes, conclusively, the most beneficial ways of developing and delivering a systematic, progression-based yet process-based sustainable development education curriculum. This is indicative, perhaps, of the complex nature of sustainable development education. The many overlapping skills and concepts, together with the emotional/affective dimensions and the elusive nature of 'values' do not match themselves to a rigidly objectives-based, cognition and skills model of progression.

An opportunity exists in Scotland, to add to the body of knowledge through qualitative research linked to sustainable development education curriculum development. There is a noticeable lack of teachers' voices in the current research and writing on sustainable development education in Scotland (and elsewhere). Currently this is being addressed in some small way through a study based on the work of 20 teachers, from both the primary and secondary sectors, who have completed a module on developing sustainable development education in their classrooms as part of a Scottish Chartered Teacher Masters degree at the University of Strathclyde (McNaughton, unpublished). Although the research is at an early stage, the teachers in their evaluations have reported achievement of a range of learning outcomes, positive comments from pupils and interest from colleagues. They have become enthusiastic champions of sustainable development education within their schools. More studies of this kind might help to bolster the place and understanding of sustainable development education in Scotland, and further afield.

In the review document, *A curriculum for excellence: progress and proposals* (SECRB, 2006), the key messages include that space can be found for more depth and width of pupil experiences and that the curriculum can be unified so that, 'activities such as … sustainable development can be built into the curriculum framework' (p. 8). However, in the Scottish Executive's own paper, *Ambitious, excellent schools: progress report* (Scottish Executive, 2006) there is no mention of this cross-cutting approach. Instead, the emphasis is firmly on assessment and a new examination and qualifications system, improving school discipline, benchmarking and accountability. There are mixed messages here and a danger, perhaps, of what Chapman (2004), in discussing curriculum development in New South Wales described as, 'the downgrading of a potentially significant environmental education initiative' (p. 28) in favour of the more conventional and politically attractive rhetoric of 'raising standards'. These problems help highlight a more universal need to find a common vocabulary and a set of descriptors that can allow schools and pupils to demonstrate 'excellence' in external appraisal while remaining true to the educational philosophy underpinning the proposed curriculum reforms.

It may be argued, then, that good sustainable development education lies at the heart of good education and vice versa: that sustainability issues provide the backdrop for all aspects of life—political and economic, social and environmental. Palmer (1998) describes two key features hindering the progress of sustainable development education: the speed and evolution of the documentation of its aims, principles and theories by those with expertise; and the lack of effect of such documentation on everyday practice. With *A curriculum for excellence*, Scotland has the opportunity to fully integrate sustainable development education into the revised curriculum. The Sleeping Beauty, now awake, may yet go on to rule the kingdom.

Notes

1. *Learning for life* (1993) described a variation in terms, for example, environmental education, development education and sustainability education. The term Environmental Education was felt to be wide enough to cover all aspects of sustainable living therefore, the authors retained that term. However, in 1995 in the response document, *A Scottish strategy for environmental education* (1995), the recommendation was that the phrase education for sustainable development (ESD) be used. In 2004, the Scottish Executive's Sustainable Development Education Liaison Group adopted sustainable development education as the preferred term, thus its use in this paper.
2. For further details, see Sterling (2005).
3. Similar end results, for similarly complex but albeit different reasons, led to the mothballing of England's equivalent advisory and umbrella organization, the Council for Environmental Education, in 2005, following Government inquiries into sustainable development education by the UK Government's Environmental Audit Committee (EAC) in 2002–2003, and 2004–2005 (EAC, 2003, 2005).

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