

Education for Sustainable Development

A briefing paper for the
Training and Development Agency for Schools

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Revised edition
October 2006

This paper contains hyperlinks. To use these you should obtain it as a MS Word file and read it whilst online.

Preface to first edition

This briefing paper is directed at two audiences: the Teacher Training Agency (TTA) itself and those writing groups from subject associations that the Agency has contracted to prepare induction packs and programmes for new tutors engaged in initial teacher training (ITT). These packs and programmes will cover current thinking, research and professional networks in 15 subjects. ‘Sustainable development issues relevant to the subject’ is one of the suggested elements of content that will feature in each.

According to my terms of reference from the TTA, this briefing paper should seek to:

- *identify from the national priorities in sustainable development what is relevant to initial teacher training (ITT) trainers and trainees i.e. what it is that government organisations expect citizens in England to understand and be able to do to ensure our lifestyles are sustainable;*
- *provide an overview of the development of education for sustainable development (ESD) in the UK including the priorities of non-government organisations with specific interests in sustainable development;*
- *survey current theory and practice within both schools, CPD and initial teacher education;*
- *draw on international comparisons as appropriate;*
- *linking with national policy, suggest a base of professional values and practice, knowledge and understanding, and teaching skills in ESD related to the standards framework for qualified teacher status (QTS).*

The paper was written between January 2003 and June 2005. During 2003 early drafts were subject to two phases of consultation and peer review. At that time the Environmental Audit Committee (EAC) of the House of Commons was hearing evidence and preparing its report on ESD *Learning the Sustainability Lesson*. This was published in July 2004 and in September of that year the Department for Education and Skills published its *Sustainable Development Action Plan for Education and Skills*. The Environmental Audit Committee met in early 2005 to review progress following the earlier report. It published *Environment Education: Follow-up to Learning the Sustainability Lesson* in April 2005. In 2004 the Government was consulting on a revised strategy for sustainable development and this was published as *Securing the Future* in March 2005.

An ESD writing group advised the writing teams from subject associations on the ESD related content of their materials. It also prepared a ‘think piece’ on ESD ([download](#)), and will produce a six page leaflet and based on this paper and the ESD related content of the subject websites. Members of this group were Margot Brown (York St John College), Keith Ross (University of Gloucestershire); Maggie Smith (Open University) and myself.

The contents of the paper are in two major sections preceded by an introduction. Part one reviews the concept of sustainable development, the knowledge and pedagogy that might contribute to ESD, and the variety of theory and pedagogy encompassed by such education.

Part two reviews ‘the state of the art’ as far as ESD in England is concerned. It examines government, business, NGO and university initiatives, with particular reference to teacher education and the national curriculum. There is then a consideration of international perspectives before moving to a conclusion.

Little attempt is made to evaluate the ‘state of the art’ revealed in part two by reference to the theory outlined in part one. That exercise is left to the reader for it will be TTA officers and the writing teams themselves who will meet the challenge of finding an appropriate blend of theory and practice to present to new tutors and ultimately trainee teachers.

A key element of the paper is appendix 1 (page 52). This suggests some of the core contributions that school subjects can make to ESD infused across the curriculum. This is provided primarily as a stimulus to discussion for subject writing groups and should not be read as a definitive statement or overview of the content of ESD in schools. An appendix in earlier drafts met my final term of reference (above) by offering an exemplification of QTS standards in the context of ESD. The TTA judged this to be too prescriptive to be included in this final published draft.

A briefing paper should provide readers with a broad overview of the field. This paper therefore incorporates many hyperlinks and should ideally be read in electronic form whilst the reader is online. These links were all active at the time of writing but some may become inactive with the passage of time.

The meanings of nature, the environment, development and sustainability are central to the human sense of identity or being in the world. All are the bearers of multiple meanings and much academic and everyday knowledge. While the search for a single body of professional knowledge that will equip teachers to deliver ESD is unrealistic, the paper argues that all trainees should be exposed to sustainability as a frame of mind underpinned by values that support the development of both human and non-human nature. Trainees themselves should decide what discourses and politics of the environment, development and education best give expression to these values after critically considering a wide range of alternatives. ESD has close affinities with citizenship education but also requires contributions from the sciences, arts and humanities.

I am grateful to the wide range of individuals and organisations that helped me in the preparation of this paper. These included: the Citizenship Institute; Council for Environmental Education; Development Education Association; Economics and Business Education Association; Field Studies Council; Geographical Association; Global Teacher Project; Institution of Environmental Sciences; National Association for Environmental Education; Groundwork; National Foundation for Educational Research; Office for Standards in Education; Oxfam; Professional Committee for Religious Education; Qualification and Curriculum Authority, the WWF; Peter Bloomfield; Graham Corney; Roger Firth; Craig Johnson; Alun Morgan; John Morgan; Jenneth Parker; Mark Rickinson; John Robinson; Tony Shallcross; William Scott; Maggie Smith; Stephen Sterling; Ros Wade; and Ken Webster .

John Huckle
Bedford, June 2005

Preface to revised edition

This briefing paper has been updated to include an expanded account of the UN Decade of ESD and the Earth Charter initiative. Reference is also made to the second DfES sustainable development action plan, *Learning for the Future*, and the launch of the sustainable schools web service. A number of the case studies of NGOs working in the field have been updated and some additional references and sources of resources added. All the web links have also been checked and the paper has been divided into chapters to make it more manageable. Chapter 2 (theoretical perspectives) is unchanged.

Since the paper was first published the TTA had become the TDA and has published its own [sustainable development action plan](#). The draft version of the [revised professional standards](#) is now available and the subject of current debate. With the likely reduction in the number of standards will come greater scope for ESD within ITT. The TDA's CPD group is currently considering strategic action to promote ESD in CPD. The Agency will continue to refer teachers and teacher educators to the TTRB for resources on ESD and all subject writing groups are expected to produce ESD related pages by August 2007.

It is pleasing to know that this paper is a popular download from the TTRB website. I welcome readers' comments and suggestions for improvement.

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Bedford, October 2006

OVERVIEW

This briefing paper provides information and advice on education for sustainable development (ESD) for the Training and Development Agency for Schools (TDA) and those writing teams it has contracted to write induction packs and programmes for new tutors in initial teacher training.

The paper contains three chapters. Chapter 1 provides background on international and national developments in sustainable development and ESD. Chapter 2 considers theoretical perspectives while chapter 3 reviews current ESD practice in England and beyond with particular reference to the DfES sustainable development action plan, the national curriculum, and teacher training. In this overview the term 'learner' refers to both trainee teachers and pupils in schools.

After tracing the emergence of policy on sustainable development and ESD (chapter 1), chapter 2 argues that ESD should not be viewed primarily as an aspect of sustainability as policy but rather as a means of fostering sustainability as a frame of mind. As an aspect of policy designed to close 'value-action' gaps, between people's knowledge and concern for sustainability issues and their lack of relevant action and support for relevant policy, ESD is limited by modernist assumptions. Instrumental rationality means that such ESD is too ready to overlook the semantic, ethical and epistemological issues that lie at the heart of the sustainability debate; and too reluctant to examine the real causes of unsustainable development that lie within modern institutions and ideas.

ESD that fosters sustainability as a frame of mind encourages ways of relating to nature that allow the continuing co-evolution of human and non-human nature. It develops openness to the diverse meanings and values that people place on nature, and commitment to widely shared principles and values such as those incorporated into the Earth Charter. The arts and humanities have key roles to play in such education alongside the natural and social sciences.

Further consideration of sustainability as a frame of mind should involve learners in an analysis of environmental ethics; the dimensions of sustainable development; and the role of democracy and democratic values in allowing all the world's people to realise their common interest in sustainable development. Values and principles have to be translated into political policies and programmes and learners should engage in analysis of the diverse meanings of sustainable development in the political arena. Such analysis contributes to their political literacy, and together with the social and moral responsibility fostered by sustainability as a frame of mind, advances their education as global citizens.

Engagement in analysis of the meanings and arguments surrounding sustainable development assumes an adequate knowledge and understanding of environment and development issues. The philosophy of knowledge is central to the design of the ESD curriculum for it requires the integration of academic knowledge and its further integration with popular 'everyday' knowledge. Changes in the nature of knowledge and curricula related to wider social change are relevant here, as are advances in social and cultural theory that introduce such notions as citizen science and the reflexive individual. Appendix one identifies the key contributions of school subjects to ESD as a cross-curricular theme.

Further consideration of the discourses shaping ESD in schools suggests that it takes three forms: ESD as environmental science and management; ESD as values and behaviour change; and ESD as socially critical education. These three forms are partly complementary and partly contesting with the first two being different aspects of sustainability as policy, linked to the school effectiveness movement, and limited by modernist assumptions. The third involves discourse analysis that allows constructive criticism of modern institutions and ideas; accommodates recent advances in knowledge; and promotes sustainability as a frame of mind. It is linked to the school development movement .

When considering pedagogy, it is suggested that ESD has considerable potential to improve the quality of teaching and learning. By building on existing good practice with new forms of pedagogy, ESD can focus on the interests and concerns of the young and make a particular contribution to the education of border youth.

Chapter 3 reviews ESD developments in England, in the government, business, NGO, and university sectors. Like the recent report of the House of Commons Environmental Audit Committee, it recognizes a significant level of activity and much scope for further advance given current opportunities. The *Sustainable Development Action Plan for Education and Skills*, from the Department for Education and Skills, seeks to enable this. The chapter refers to relevant proposals from the plan, particularly new policies and support for sustainable schools.

The QCA and other Government agencies have done much to offer guidance on ESD, much of it based on the work of the Sustainable Development Education Panel. There does however remain a mismatch between the statements of aims and values that underpin the national curriculum and the content of the subject orders or programmes of study. ESD has been 'encouraged' rather than 'required' and so remains of somewhat marginal interest to most teachers and schools. It has not been directly inspected in either schools or ITT institutions and this has contributed to its marginal status.

The Learning and Skills Development Agency, some businesses, many NGOs, and some subject associations have done much to promote ESD with guidance and curriculum materials.

Universities in the UK and overseas have developed research and teaching in ESD. There are models of good practice here and in other English speaking countries that should inform the further development of ESD within ITT.

In conclusion the paper reminds readers that the teacher's frame of mind is critical to ESD. ITT and CPD courses can help to foster an appropriate outlook and a readiness to apply theory to practice.

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Chapter 1 Background

The following quotes provide an initial orientation to the field of education for sustainable development (ESD).

Our biggest challenge in this new century is to take an idea that sounds abstract – sustainable development – and turn it into reality for all the world's people.

Kofi Annan, United Nations press Release: SC/SM/7739 "Secretary General Calls for Break in Political Stalemate over Environmental Issues", 15/03/01

Education for sustainable development is about the learning needed to maintain and improve our quality of life and the quality of life of generations to come. It is about equipping individuals, communities, groups, businesses and government to live and act sustainably; as well as giving them an understanding of the environmental, social and economic issues involved. It is about preparing for the world in which we will live in the next century, and making sure we are not found wanting.

Sustainable Development Education Panel, *First Annual Report 1998*, DETR, 1999, p. 30

Education for sustainable development has come to be seen as a process of learning how to make decisions that consider the long-term future of the economy, ecology and equity of all communities. This represents a new vision of education, a vision that helps people of all ages better understand the world in which they live, addressing the complexity and interconnectedness of problems such as poverty, wasteful consumption, environmental degradation, urban decay, population growth, health, conflict and the violation of human rights that threaten our future. This vision of education emphasises a holistic, interdisciplinary approach to developing the knowledge and skills needed for a sustainable future as well as changes in values, behaviour, and lifestyles.

Draft framework for the Decade of ESD, UNESCO, 2003, p. 4

ESD is a lifelong process from early childhood to higher and adult education and goes beyond formal education. As values, lifestyles and attitudes are established from an early age, the role of education is of particular importance for children. Since learning takes place as we take on different roles in our lives, ESD has to be considered as a "life-wide" process. It should permeate learning programmes at all levels, including vocational education, training for educators, and continuing education for professionals and decision makers. UNECE Strategy for ESD, 2005, p.5

The Geographical Association describes ESD as technically challenging teaching which requires teachers to engage pupils in a culture of argument, complexity, uncertainty and risk analysis. If teachers are to deliver ESD effectively, they need the right skills and tools. However, there are concerns that initial teacher training and Continuing Professional Development do little to equip teachers with skills and knowledge necessary to teach ESD in the cross-curricular manner than the QCA advocates.

Learning the Sustainability Lesson, Environmental Audit Committee, 2003, para. 86

It is now clear that the Prime Minister's sense of urgency about the threat of climate change, and his commitment to do something about it, is not matched by the actions of the Department for Education and Skills. DfES has failed to ensure sufficient funds for ESD, has lost the impetus that led to the creation of the

Sustainable Development Action Plan and continues to treat ESD as a “bureaucratic add-on”, and a low priority one at that. We are deeply concerned about this failure and look to the Prime Minister, if necessary, to ensure that DfES moves ahead and gives ESD the financial and policy priority that it needs. Environmental Education: Follow up to Learning the Sustainability Lesson, Environmental Audit Committee, 2005, para. 128

Learning to live more sustainably is perhaps the major challenge facing advanced industrialised societies. It should be seen as a significant opportunity for it offers less damaging forms of production and consumption; healthier and more fulfilling lifestyles; new forms of governance and political participation; greater environmental and social justice; and a more secure world; all supported by forms of knowledge and culture that allow us to live in a state of dynamic equilibrium with one another and the rest of the natural world.

If this opportunity is to be realised, education may need to reorient itself radically. It may need to shift its emphasis from the past, industrialism, modernity and the nation state, to the future, post-industrialism, postmodernity, and global society. It may need to embrace new forms of knowledge, new ways of organising knowledge, and new ways of teaching and learning. Examining such claims involves engaging trainee teachers themselves in that ‘culture of argument, complexity, uncertainty and risk analysis’ that the Geographical Association suggests should characterise their future ESD teaching in schools.

This paper’s consideration of the knowledge required by trainees in this ‘technically challenging’ area begins with some background information on sustainable development and ESD

THE INTERNATIONAL CONTEXT

The term sustainable development first gained widespread attention in the run up to the UN conference on the environment and development (UNCED), held in Rio de Janeiro in 1992. It seeks to reconcile economic development with environmental protection and was thus a means of avoiding the tensions between rich and poor nations that blighted an earlier UN conference in 1972.

Sustainable development has been defined in many ways but the most familiar **definition** remains that given in the Brundtland Commission report, *[Our Common Future](#)* (WCED, 1987): *sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs*. Sustainable development takes different forms in different societies and environments and is the process whereby societies realise that state of dynamic equilibrium termed **sustainability** (Reid, 1995).

The aim of sustainable development was endorsed by 149 countries, including the UK, at UNCED in 1992. This conference agreed [Agenda 21](#) (UN, 1993) a global action plan for sustainable development that required governments to draw up their own agendas in consultation with business and civil society. The [European Union](#), the [UK Government](#), the [Scottish Executive](#), the [Welsh Assembly](#) and local authorities such as [Nottinghamshire](#) subsequently produced agendas or strategies for sustainable development. At [the Earth Summit 2002](#) in

Johannesburg the emphasis was on the implementation of such agendas as part of the UN's [millennium development goals](#).

Agenda 21 suggests the content, process and tools of sustainable development:

Content	Process	Tools
<ul style="list-style-type: none"> • Reduce use of resources and production of waste, increase resource efficiency, reuse, recycle • Conserve fragile ecosystems • Social equity (between and within countries and across generations) • Quality of life (broader than standard of living) • Respect for traditional knowledge, ways of life, diversity 	<ul style="list-style-type: none"> • Active planning and management • Consultation, participation, empowerment • Decisions at most local possible level, local government pivotal • Partnerships and collaborations between all sectors 	<ul style="list-style-type: none"> • Education, information, awareness raising • Capacity building, institutional know how, confidence, experience • Regulations and enforcement • Market management, taxes, levies, subsidies • Public investment

Agenda 21 recognises education as a key tool of sustainable development. Chapter 36 on Education, Awareness and Training states:

Education is critical for achieving environmental and ethical awareness, values and attitudes and behaviour consistent with sustainable development and for effective public participation in decision-making. Both formal and non-formal education are indispensable to sustainable development.

The chapter calls on governments, international agencies, business and civil society groups to make environmental and development education available to people of all ages and integrate environmental and development concepts into all educational programmes. As the manager for Chapter 36, [UNESCO](#) monitors and coordinates efforts towards these goals and the report of the "Rio +5" review in 1997 called on governments to strengthen their efforts. It urged them to recognise that:

- *The core themes of education for sustainability include lifelong learning, interdisciplinary education partnerships, multicultural education and empowerment.*
- *Special attention should be paid to the training of teachers, youth leaders and other educators.*
- *Even in countries with strong education systems, there is a need to reorient education awareness and training so as to promote widespread public understanding, critical analysis and support for sustainable development*

Extracts from the report of the 19th Special Session of the General Assembly of the United Nations (June 1997) (A/S-19/29, paragraphs 105-106)

Between 1997 and 2002, UNESCO sought to clarify the nature, scope and purpose of ESD. By the time of the Earth Summit, it argued that ESD is not simply an extension of environmental education or an integration of development and environmental education. In UNESCO's view ESD is a catalyst for social change, a means of fostering the values, behaviour and lifestyles required for a

sustainable future. It involves learning how to make decisions that balance and integrate the long-term future of the economy, the natural environment and the well-being of communities, near and far, now and in the future. In re-visioning education, UNESCO has pointed to strong links between ESD and citizenship education.

In February 2003, the UN announced that 2005 – 2015 would be the [Decade of Education for Sustainable Development](#) with UNESCO as the lead agency. The Decade website suggests that ESD is 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.* ([Vision and Definition of ESD](#))

ESD is a means of making such abstract concepts as sustainable development real and should be a form of quality education that:

- *supports a rights-based approach to all educational endeavours. Education is a human right, and therefore quality education supports all of the human rights;*
- *is based on the four pillars of Education for All – learning to know, learning to do, learning to live together and with others, and learning to be (Delors, et al., 1996);*
- *views the learner as an individual, a family member, community member, and a global citizen and educates to create individual competency in all four roles;*
- *upholds and conveys the ideals of a sustainable world – a world that is just, equitable, and peaceable, in which individuals care for the environment to contribute to intergenerational equity;*
- *takes into consideration the social, economic, and environmental contexts of a particular place and shapes the curriculum or programme to reflect these unique conditions. Quality education is locally relevant and culturally appropriate;*
- *is informed by the past (e.g. indigenous and traditional knowledge), is relevant to the present, and prepares individuals for the future;*
- *builds knowledge, life skills, perspectives, attitudes and values; provides the tools to transform current societies to more sustainable societies;*
- *is measurable.* ([Quality Education](#))

UNESCO suggests that ESD as quality education is characterised by six features. It is interdisciplinary and holistic; values-driven; encourages critical thinking and problem solving; uses a wide range of methods, media and activities; fosters participatory decision-making; and addresses local as well as global issues using the language(s) which learners most commonly use. There are eight key action themes for the Decade (overcoming poverty; gender equality; health promotion, environment; rural development; cultural diversity; peace and human security; sustainable urbanisation) and the Decade website outlines these; gives visibility to related local, national and international ESD initiatives; and offers dissemination tools.

In 1987 the WCED called for the creation of a new charter that would set out fundamental principles for sustainable development. The drafting of the [Earth Charter](#), following a decade long, worldwide cross-cultural conversation about common goals and shared values, was part of the unfinished business of the 1992 Rio summit. The final version was approved in 2000 and is essentially a people's treaty, shaped by both experts and representatives of civil society. It seeks 'to inspire a new sense of global interdependence and shared responsibility for the well-being of the human family and the larger living world'. Thousands of non-governmental organisations (NGOs), and many cities, towns, and educational institutions have endorsed the Charter, and in 2003 it was recognised by UNESCO as an important ethical framework for sustainable development that member states should use as an educational tool in implementing the Decade of ESD ([Ethical principles](#)).

While the Earth Charter places an emphasis on the world's environmental challenges, its ethical vision recognises that environmental protection, human rights, equitable human development and peace are interdependent and indivisible. Its sixteen principles are grouped into four sections (respect and care for the community of life; ecological integrity; social and economic justice; and democracy, non-violence and peace) and provide a new framework for thinking about what constitutes a sustainable community and sustainable development. The Earth Charter Initiative seeks to promote the Charter as a sound ethical foundation for the emerging global society and its goals encourage and support the educational use of the Charter. Principle 14 seeks to integrate into formal education and life-long learning the knowledge, values, and skills needed for a sustainable way of life. It sets out four aims:

- *Provide all, especially children and youth, with educational opportunities that empower them to contribute actively to sustainable development.*
- *Promote the contribution of the arts and humanities as well as the sciences in sustainability education.*
- *Enhance the role of the mass media in raising awareness of ecological and social challenges.*
- *Recognise the importance of moral and spiritual education for sustainable living.*

There is a collection of essays that illustrate this and other Earth Charter principles (Corcoran, Vilela & Roerink, 2005) and *Bringing Sustainability into the Classroom: an Earth Charter Guidebook for Teachers* ([download](#)).

UNESCO maintains that there is no universal model of ESD and that each country has to define its own priorities and actions, guided by the international and regional strategies that it promotes. Goals, emphases and processes should ultimately be locally defined to meet the local environmental, social and economic conditions in culturally appropriate ways. There is an [International Implementation Scheme](#) for the Decade and updates on related developments in the various regions of the world ([DESD around the world](#)).

The [United Nations Economic Commission for Europe](#) (UNECE) seeks to foster sustainable economic growth among its 56 member countries that include the UK

and USA. It provides a forum for communication among states; brokers international legal instruments addressing trade, transport and the environment, and supplies statistics and economic and environmental analysis. In 2005 UNECE published a strategy ([download](#)) to facilitate the introduction and promotion of ESD in the region and this was developed through a participatory process involving governments, international organisations, NGOs, the academic community, and others. Adopted in 2005, it allows for a diversity of approaches but seeks to strengthen co-operation at all levels within the region.

The strategy states that the overall goal for ESD is *to develop the capacities of individuals and societies to work for sustainable futures. It is aimed at making people more knowledgeable, better informed, ethical, responsible, critical and willing to act for a healthy and productive life in harmony with nature.* ESD should be based on an integrated approach to economic, social and environmental development, and this *demands an integrative, participatory and holistic approach to education.* The strategy has four key targets: *to ensure the relevance of the curriculum to the key themes of sustainable development, to ensure appropriate teaching materials, to develop the competence of educators, and to raise public awareness on sustainability and to develop understanding of it.*

Developing the competence of educators is particularly relevant to the work of the TDA. Paragraph 48 suggests that the initial and continuing professional development of all teachers should include training on sustainable development issues; that specialist subject training should address the key themes of sustainable development at different scales; and that training on innovative teaching methodologies and technologies should be part of training in ESD. Indicators have been developed to monitor the implementation of the UNECE strategy ([Expert Group on Indicators](#)) and some of these relate to teacher education.

THE NATIONAL CONTEXT

The UK Government produced a strategy for sustainable development in 1994 and detailed proposals for delivery (*A Better Quality of Life*) in 1999. These identified a range of headline indicators that were used to assess progress in a series of annual reports. In the summer of 2004 the Governments of the UK undertook an extensive consultation exercise and then published a revised strategy ([Securing the Future](#)) in March 2005. Both the [Sustainable Development Commission](#), the Government's independent advisor, and the Environmental Audit Committee, a select committee of the House of Commons, have assessed the Government's record on sustainable development. The title of the Commission's report sums up its conclusions: *Shows promise. But must try harder* (SDC, 2004).

The [Environmental Audit Committee](#) (EAC) was established to monitor how far the Government was succeeding in its undertaking to put the environment, and more broadly sustainable development, at the heart of policy and operations. Its [13th report on sustainable development](#) (EAC, 2004) concluded that the Government placed insufficient weight on the environmental dimension of sustainable development and inclined more towards an economic interpretation. There was a danger of the language of sustainable development being debased if the Government continued to use it indiscriminately ('sustainable transport',

‘sustainable communities’, and ‘sustainable growth’) and such use reinforced the perception that the Government placed more emphasis on narrower UK socio-economic aims than long-term international environmental concerns. The new Strategy should place greater emphasis on environmental limits and might embrace new areas such as ESD (para. 47). The proliferation of sustainable development strategies, plans and frameworks at all levels of Government was a major problem, contributing to the impression that such documents are an impotent irrelevance, particularly where they are secondary to ‘mainstream’ economic strategies.

Securing the Future establishes a common purpose and framework for sustainable development across UK Government and the devolved administrations of Scotland, Wales and Northern Ireland that have their own strategies.

The goal of sustainable development is to enable all people throughout the world to satisfy their basic needs and enjoy a better quality of life, without compromising the quality of life of future generations.

For the UK Government and the Devolved Administrations, that goal will be pursued in an integrated way through a sustainable, innovative and productive economy that delivers high levels of employment; and a just society that promotes social inclusion, sustainable communities and personal wellbeing. This will be done in ways that protect and enhance the physical and natural environment, and use resources and energy as efficiently as possible. . . .

Similar objectives will inform all our international endeavours, with the UK actively promoting multilateral and sustainable solutions to today’s most pressing environmental, economic and social problems. There is a clear obligation on more prosperous nations both to put their own house in order, and to support other countries in the transition towards a more equitable and sustainable world.

Securing the Future, 2005, p.16

The framework is based on five guiding principles, establishes four shared priorities for UK action, and employs a new set of twenty high level (UK wide) indicators to which further indicators can be added by the UK Government or devolved administrations.

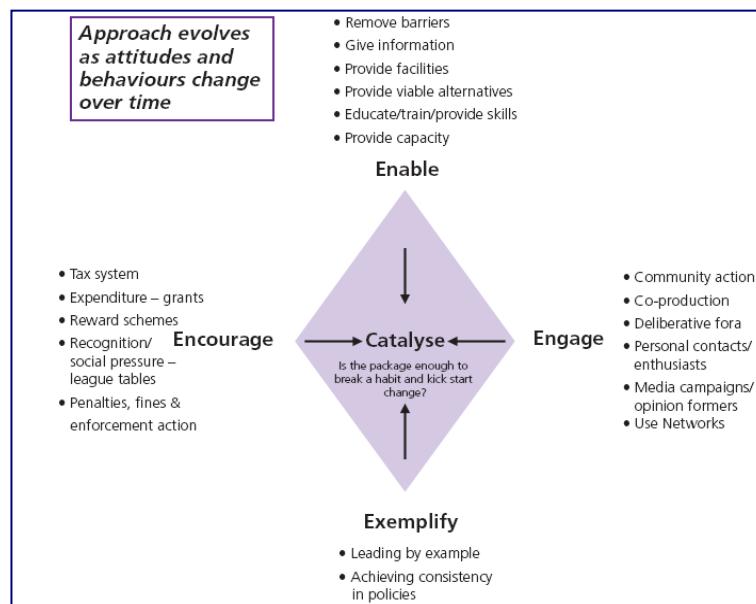
Five guiding principles	Four shared priorities
<ul style="list-style-type: none"> • Living with environmental limits • Ensuring a strong, healthy and just society • Achieving a sustainable economy • Promoting good governance • Using sound science responsibly 	<ul style="list-style-type: none"> • Sustainable production and consumption • Climate change and energy • Natural resource protection and environmental enhancement • Sustainable communities

The strategy distinguishes between means and ends:

We want to achieve our goals of living within environmental limits and a just society, and we will do it by means of a sustainable economy, good governance, and sound science Securing the Future, 2005, p. 17

It then proceeds to set out priorities for action at the European and international levels.

Securing the Future states that *government must promote a clear understanding of, and commitment to, sustainable development so that all people can contribute to the overall goal through their individual decisions* (page 16). Chapter 2 (*Helping people make better choices*) states that behaviour changes will be needed to deliver sustainable development but recognises that attitude and behaviour change is a complex subject (*Information alone does not lead to behaviour change or close the so-called attitude-behaviour gap* (page 25)). It goes on to propose a new active approach to changing habits based on research; an approach that is light on regulation and focuses on the need to enable, encourage and engage people and communities in the move toward sustainability, while recognising that Government should lead by example. A diagram sets out what the elements under each of these headings could comprise.



Education is seen as an enabler of attitude and behaviour change and to have a similar role in relation to sustainable development to that it has in promoting healthy lifestyles or civic renewal. A behaviour change forum is being established across Government departments and such initiatives as Community Action 2020 (Together We Can in England) will give people new opportunities to engage in active citizenship and practice more sustainable behaviours.

The title for section 5 of Chapter 2 sums up the role of education as ‘forming habits early’. Here we learn that the DfES’ Five Year Strategy for Children and Learners seeks to make every school an environmentally sustainable school that teaches about sustainable development through the curriculum and by example. The section also mentions the DfES Sustainable Development Action Plan; the development of a Sustainable Development Framework for Schools; rewards for pupils and schools who take part in community projects; Building Schools for the Future; ESD strategies from the Learning and Skills Council (LSC) and Higher Education Funding Council (HEFC); and a Global Gateway to increase awareness and use of resources on the global dimension (see Section 2).

The Government uses a range of [indicators](#) to assess and report on progress toward sustainable development. *Securing the Future* announced that the Departments for the Environment, Food and Rural Affairs (Defra) and for Education and Skills (DfES) were actively seeking to develop an additional indicator to show the impact of formal learning on knowledge and awareness of sustainable development. In 2006 the SDC commissioned a report on possible approaches to this ESD indicator and forwarded proposals to the DfES after consulting with the ESD community. The report, results of the consultation workshop, and proposals are all available on [the SDC website](#).

The Government's [web portal for sustainable development](#) provides an overview of policies and programmes across departments. Initiatives on sustainable development are increasingly linked with those on urban regeneration, economic development, and sustainable communities, and some argue that they are unlikely to be successful unless transport, planning, local government and environmental regulation are brought into one department (Brown, 2005). Government reorganisation in May 2006 created the Department of Communities and Local Government with responsibility for planning, housing and local government. Its plans to deliver [sustainable communities](#) via large scale housing developments in East and South East England continue to provoke much debate.

Regional and local governments have statutory responsibilities for sustainable development that shape policy in such areas as land use planning, economic development, and the promotion of sustainable communities. The current state of play regarding devolution and regional government is explained on [The Guardian's website](#), and the Sustainable Development Commission has visited the English regions and [reported its findings](#). Forum for the Future has a [Regional Futures network](#) that is testing the idea that 'good regional policy and sustainable development are one and the same thing'. All the regional assemblies have web pages on sustainable development (see for example [East Midlands](#)).

Agencies that advice local government on sustainable development include the [Improvement and Development Agency](#) and the [Local Government Association](#). The [International Council for Local Environmental Initiatives](#) provides information on local government initiatives around the world.

In 2002 the EAC decided to conduct an inquiry into how far ESD was integrated into both formal and informal education, and in particular the role of the DfES in relation to this task. The Committee of 16 MPs considered much oral and written evidence, made several visits, and published its report as *Learning the Sustainability Lesson* (LtSL, 10th report 2003 - [download](#)).

The Committee was struck by the enthusiasm for ESD within the education sector and across wider society, but noted that ESD activity had flourished in the absence of an effective Government framework or vision. ESD had yet to find an effective champion within Government or to be fully integrated into life long learning processes. A wave of new Government education and skills reforms, together with international initiatives, provided opportunities to remedy this situation. The EAC's findings and recommendations are considered further in Section Two where there are also references to a second follow up report ([5th report, 2005](#)) and the [Government's response](#) (2005).

In taking this direction the EAC clearly regarded ESD as part of sustainability as policy, a means of translating awareness and concern into action or support for policy. The theoretical section of this paper begins by questioning such an orientation, arguing that ESD should be based on sustainability as a frame of mind rather than on sustainability as policy.

While the growth of strategies and policies may suggest there is a developing consensus on sustainable development, this is not the case. Further examination reveals that there is no agreement on what is to be sustained, at what levels, over what spatial and temporal scales. Sustainability as policy is fraught with semantic, ethical and epistemological problems. Advocates disagree on the meaning of the term; the ethics that should guide relations between human and non-human nature; and the kind of knowledge that best provides understanding of complex bio-physical and social systems, their interactions, and foundations for policy.

SUSTAINABILITY AS A FRAME OF MIND

Bonnett (1999, 2002, 2004) argues that the root causes of unsustainable development are prevailing values, and social (economic, political, cultural) arrangements. Modern beliefs and institutions mean that sustainability as policy is generally so pervaded by instrumental rationality that it overlooks the above problems; precludes recognition of the diversity and complexity of meanings and values placed on nature; and fails to question an attitude of mind that sanctions the continued exploitation and oppression of human and non-human nature. Rather than viewing sustainability as policy designed to achieve a certain state of affairs, he suggests that we should conceive of sustainability as **a frame of mind** or way of relating to nature guided by such values and principles as those outlined in the Earth Charter. Such a frame of mind is committed to the co-evolution of human and non-human nature and seeks relationships within and between bio-physical and social systems which allow their mutual development to take place in sustainable ways.

Central to such a frame of mind is a sense of nature as bio-physical structures and processes independent of human activity but nevertheless affected by it. Such 'realist nature' (Soper, 1995) places ecological limits on social development and if this is to sustain both nature and society, people will require a deep sympathy or empathy towards the flourishing or development of things beyond themselves. Sustainability as a frame of mind, involves respect for human and non-human nature seeking their own fulfilment through a process of co-evolution that people can encourage with appropriate technology (tools, institutions and ideas).

As an educational process, ESD should primarily seek to develop such a frame of mind rather than develop 'positive' attitudes and behaviour, realise sustainability indicators, and deliver 'relevant' knowledge as set down in policy documents. It requires teachers and learners to be open and engaged with the complexity and meaning of things in the manner of great art or literature; attuned to harmony and discord in the world via a heightened sense of attachment; and capable of viewing nature in ways that are essentially poetic and non-manipulative.

Bonnett insists that the kind of knowledge that learners require will not be exclusively or even predominantly scientific. The science of nature and society needs to be set in a broader context provided by the arts and humanities for only then will they be alive to the many facets and significances of nature that shape understanding of the world, the self, and what counts as development. The arts and humanities can encourage learners to balance the economic or instrumental values that modern society places on (and extracts from) nature with ecological,

aesthetic, scientific, existence and spiritual values. They can also express the virtue of sufficiency over excess and of sustaining things not in order to have something in hand for the future, but in order to let things be true to themselves, unalienated from their own essence and development.

ESD focussed on sustainability as a frame of mind, would then consider non-instrumental conceptions of nature and human development and so run counter to much, but not all, in modernity. It would reveal the motives shaping dominant instrumental ways of thinking and so render itself unacceptable to many. But Bonnett insists that such ESD is more likely to be productive in the long term than ESD as an aspect of policy:

If we are to enable pupils to address the issues raised by sustainable development rather than preoccupy them with what are essentially symptoms masquerading as causes, we must engage them in those kinds of enquiry which reveal the underlying dominant motives that are in play in society; motives which are inherent in our most fundamental ways of thinking about ourselves and the world. That such a metaphysical investigation will be discomforting for many seems unavoidable, but it promises to be more productive in the long term than proceeding on the basis of easy assumptions about the goals of sustainable development as though it were a policy whose chief problems are of implementation rather than meaning. Bonnett, 2002, p. 19

THE ETHICS OF SUSTAINABLE DEVELOPMENT

Engaging in metaphysical investigation to question motives and clarify issues of meaning and value involves consideration of the ethics of sustainable development. Trainees might begin by recognising that the human condition is contradictory in that we are both part of nature, yet apart from nature. People are part of ecological relations (members of a biological species, dependent on ecological resources and services to supply their needs) yet partly independent of such relations as part of social relations (they have powers of language and technology that enable them to transform their own nature and that which surrounds them). It follows from our contradictory position that we experience both the pull of nature, or the desire to live according to nature, and the pull of culture, or the desire to rise above the harsh realities of nature. In finding sustainable ways to live we have to balance these two attractions, exercising care or stewardship towards the rest of nature as we free ourselves from scarcity, disease and risk and create conditions for the continued co-evolution of nature and society.

While ecocentric environmental ethics (that attribute intrinsic value to nature and suggest we should live according to nature) reflect the pull of nature, anthropocentric or technocentric environmental ethics (that attribute instrumental value to nature and suggest we should use and manage it wisely) reflect the pull of culture. Ecocentrism can be criticised in that it romanticises a nature outside society and fails to recognise that only humans can value things. Strong anthropocentrism/technocentrism can also be criticised in that it sanctions the exploitation and oppression of nature by treating it instrumentally or merely as a means to human ends.

Weak anthropocentrism is perhaps the environmental ethic that can best promote the mutual flourishing of human and non-human nature, and should therefore lie at the heart of sustainability as a frame of mind. It maintains that while humans are the only source of value, they are not the only bearers of value. An essential part of human consciousness is to recognise the value of the ‘other’ and so be capable of deep respect for things non-human, that are not perceived as serving primarily human purposes. Weak anthropocentrism is associated with an **ecological humanism** (Hayward, 1994) that takes the interests of non-humans seriously. It reminds us that we realise our fullest development only by recognising the ultimate meaning and value of things beyond ourselves.

Spirituality is intimately bound up with that which is perceived to be of ultimate concern, ultimate value, and ultimate truth (Wright, 2000), and there are strong grounds for considering ESD a form of **spiritual development**.

The ethics underpinning the Earth Charter (respect for nature; universal human rights; economic justice; and a culture of peace) are consistent with a weak anthropocentrism that promotes the welfare of human and non-human nature and suggests that sustainable development has **five dimensions**:

1. Ecological – it should sustain ecological capital and the ecological resources and services on which all life depends. This includes the conservation of biodiversity;
2. Economic – it should sustain manufactured or economic capital that generates goods and services to meet people’s needs;
3. Social – it should sustain social and organisational capital or people’s ability to help one another;
4. Cultural – it should sustain cultural capital and cultural diversity, including people’s local knowledge of ways of living sustainably;
5. Personal – it should sustain people’s physical and mental health.

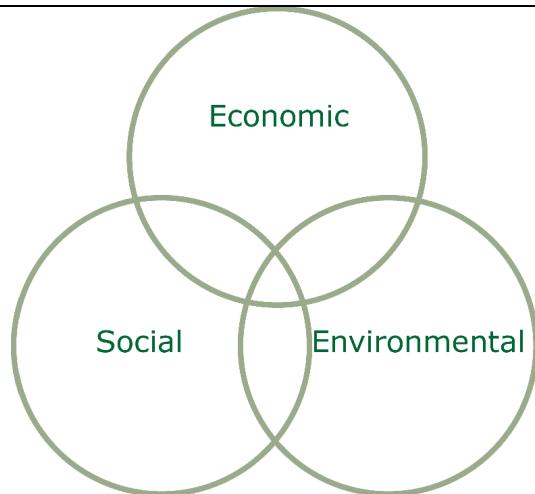
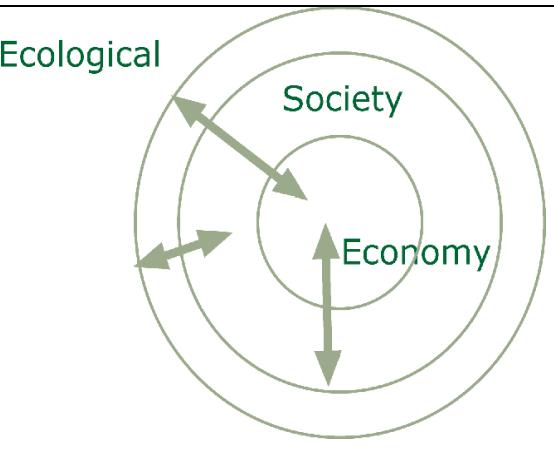
Balancing these five dimensions involves balancing the interests all the world’s people, future generations and the rest of nature. Many argue that this is more likely to be possible if **democratic values** such as freedom, equality, justice, respect for human rights, and rationality, are upheld. In a truly democratic society people are more likely to be able to realise their common interest (and that of future generations and the rest of nature) in sustainable development, but as we will see in the next section, there is much debate on what model of democracy can best deliver sustainability.

The authority of the teacher who seeks to instil basic human and environmental values (such as respect and care for the community of life) in her pupils rests on the wide acceptance of those values and the fact that they can be rationally defended. Such ethics are subsumed within the world ethic for living sustainably that can be found in the World Conservation Strategy *Caring for the Earth* (Chapter 2, Box 2, p.14), and underpin the *Rio Declaration on the Environment and Development*, a series of principles defining the rights and responsibilities of states in this area. More recently they have been incorporated into the *Earth Charter*. The United Nations Development Programme’s *document on integrating human rights with sustainable development* is also significant in the ethical context, suggesting close links between ESD and human rights education.

THE POLITICS OF SUSTAINABLE DEVELOPMENT

It is when the ethics, principles and dimensions of sustainable development are translated into political policies and programmes that the underlying semantic, ethical and epistemological problems become most apparent. Politicians, business leaders, community activists, non-governmental organisations and others seek to advance different values, ideas and policies in the name of sustainable development. For many advocates of economic growth, sustainability as a frame of mind supporting weak anthropocentrism and democratic values remains contentious and/or unacceptable. Four websites indicate something of the breath of viewpoints: those of the [World Business Council for Sustainable Development](#), [Redefining Progress](#), [Envolve](#), and [Greenpeace International](#).

While risking simplification of the multiple meanings produced when sustainability finds expression within differing political ideologies and utopias, it is possible to suggest two contrasting meanings revealed in much political debate. The dominant or mainstream meaning of the term is reformist in orientation and seeks to balance economic growth with considerations of social welfare and environmental protection. The contesting meaning is radical and seeks to reshape the economy and society in ways that respect ecological limits and global justice. The two meanings can be expressed as diagrams.

 A Venn diagram consisting of three overlapping circles. The top circle is labeled 'Economic', the bottom-left circle is labeled 'Social', and the bottom-right circle is labeled 'Environmental'. The overlapping areas between the circles represent the intersections of these three dimensions.	 A diagram showing three concentric circles. The innermost circle is labeled 'Economy', the middle circle is labeled 'Society', and the outermost circle is labeled 'Ecological'. Arrows point from the 'Ecological' circle to the 'Society' circle, and from the 'Society' circle to the 'Economy' circle, indicating a nested and interconnected relationship.
The mainstream or reformist view of sustainable development is about balancing economic growth with social and environmental goals. It obscures the need to develop the economy or society within ecological limits and fosters reductionist rather than holistic or systemic thinking.	The radical view of sustainable development is about generating economic welfare and social justice within ecological limits. Considerations of sufficiency and equity are paramount. It requires and fosters holistic or systemic thinking. Source: Webster, 2001

Clearly these diagrams simplify the complex philosophical, ethical and political debates surrounding sustainable development. Dryzek (1997) for example recognises the proliferation of perspectives on environmental problems that has emerged since the 1960s and evaluates these using the notion of discourse.

A discourse is a shared way of apprehending the world. Embedded in language, it enables those who subscribe to it to interpret bits of information and put them together into coherent stories or accounts. Each discourse rests on assumptions, judgements, and contentions that

provide the basic terms for analysis, debates, agreements, and disagreements, in the environmental area no less than elsewhere.
 Dryzek, 1997, p. 8

In evaluating environmental discourses, Dryzek links sustainable development to reformism and suggests that it will only realise its stated goals if given a more radical meaning through association with other discourses that he labels democratic pragmatism, ecological modernisation, and green rationalism. Space precludes examination of these discourses, or indeed the analyses of other theorists, but it may be sufficient to note that such analyses do allow further clarification of the differences between reformist and radical meanings (discourses) of sustainable development, or indeed offer alternative frameworks for approaching these meanings.

Sustainability in the growth mode (reformist)	Sustainability in the development mode (radical)
<ul style="list-style-type: none"> Does not require a radical restructuring of capitalist social relations. Human and non-human nature are viewed instrumentally and sustainability is one goal to be realised along with continued capital accumulation or economic growth. Seeks ecological and economic sustainability with less attention to social, cultural and personal sustainability. Develops ecological and manufactured capital at the expense of human, social and organisational capital. Is prepared to substitute critical ecological capital for other forms of capital and so promotes weak sustainability. Includes groups that promote global welfare through institutional reform and redistribution. Favours representative forms of democracy over direct democracy. 	<ul style="list-style-type: none"> Implies a radical democratisation of current social relations. New systems of global governance or cosmopolitan democracy protect the well being of human and non-human nature while constraining the global economy within ecological limits. Seeks ecological, economic, social, cultural and personal sustainability by developing ecological, human, social and organisational, and manufactured capital using appropriate technology. Has high regard for critical ecological capital and promotes strong sustainability. Ensures that social development promotes the continued progressive evolution of human and non-human nature. It facilitates the redistribution of wealth from the rich to the poor and favours direct democracy as a means of allowing local communities to realise their own forms of sustainable livelihood. Recognises the value of ecological modernisation Stresses the role of local community development guided by citizens' science. Regards ecological limits as enabling Emphasises sufficiency. Values are weakly anthropocentric and ecocentric Advocates forms of direct and cosmopolitan democracy with active citizenship. Allows and promotes the greening of socialism.

Based on Huckle & Martin, 2001, p. 235

In the table above reformist and radical discourses are expanded and termed sustainability in the growth mode and sustainability in the development mode. By highlighting differences the table acts as a heuristic devise that can stimulate engagement and prompt learning. It should be used with caution however, since it necessarily simplifies complexity and overlooks the continua of political beliefs that link and stretch beyond these positions.

The table suggests a key right/left conflict between those who seek sustainability through reform of industrialism and the global capitalist system and those who seek sustainability by moving beyond industrialism and radically democratising the global system. It does not represent the whole of a complex picture but events in the news suggest it is a conflict reflected in politics at all scales. Debates about sustainability are closely linked with those about globalisation, post-industrialism and post-modernity and while the vast majority of those advocating sustainable development in the UK are associated with the growth mode, sustainability in the development mode finds significant support amongst those who oppose [corporate globalisation](#) and support the movement for global justice. The [World Social Forum](#) suggests that it also enjoys significant support elsewhere in the world.

FURTHER INSIGHTS INTO SUSTAINABLE DEVELOPMENT

The [Forum for the Future](#) is a charity founded in 1996 by three of the UK's leading advocates of sustainable development. It believes that many of the solutions needed to defuse the environmental crisis, and build a more sustainable society, are already to hand, and education is part of its core programmes. The Forum regards sustainable development as *a dynamic process which enables all people to realise their potential and improve their quality of life in ways that simultaneously protect and enhance the Earth's life-support systems*. Such development has the potential to increase people's economic security and welfare whilst also maintaining or increasing levels of ecological, social, cultural and personal capital.

The multidimensional nature of sustainable development means that its **scope** or **content** is not confined to what are generally perceived as environmental issues (e.g. climate change, forests or fisheries), although different advocates do give different emphases to different issues. The UNESCO draft framework for the Decade of ESD (see page 11) suggests **ten key themes for ESD**: overcoming poverty; gender equality; health promotion; environmental protection and conservation; rural transformation; human rights; intercultural understanding and peace; sustainable production and consumption; cultural diversity; and information and communication technologies. These themes are inter-related and may be explored in a variety of contexts, at a range of scales, in ways that develop a transdisciplinary understanding of sustainability.

The [Real World Coalition](#), an alliance of NGOs campaigning on sustainability issues, believes that the **core concepts** behind sustainable development suggest that:

- *the environment, globally and locally, must be protected so that the critical life support services it provides are maintained for present and future generations;*
- *environmental policy and economic policy must be integrated if this is to happen;*

- *the main goal of economic development should be to create conditions for people to enjoy a better quality of life, not simply the pursuit of quantitative growth in the economy;*
- *the pursuit of sustainable development must include policies to eliminate poverty, in the industrialized and developing world alike; and*
- *all parts of society must be involved in decision-making about the measures that will bring about the transition to sustainable economic and social systems over the coming decades* (Christie & Warburton, 2001, pp. 29 – 30)

While the Coalition and others believe that these concepts are widely accepted, they are more accepted as rhetoric rather than policy and are still unacceptable to many business leaders, politicians, academics, and citizens, who variously regard them as politically unacceptable, unrealistic, and/or utopian. The rise of neo-liberalism has seen a backlash against the environment movement (Rowell, 1996, Lomborg, 2001) and although **the views of authoritarians, conservatives and liberals** are under represented in this paper, they should be adequately represented and considered along with others in programmes of ESD. Connelly & Smith (1999, pp. 45 – 49) provide an introduction to these positions, while Dryzek (1997) labels the associated discourses prometheanism, administrative rationalism, and economic rationalism.

For the UK Government, the challenge is to reconcile sustainable development with the tensions between neo-liberalism and social democracy in New Labour's ideology and policy. The Sustainable Development Commission outlines some of the problems of defining such development and translating its theory into practice in [a series of reports and discussion papers](#). This provides alternative definitions and outlines **different approaches** based on the five capitals model, the natural step, triple bottom line accounting, and environmental space. Triple bottom line accounting includes the economic, environmental and social costs and benefits of economic activity and is a key element of [corporate social responsibility](#), the primary means by which business expresses its commitment to sustainable development.

The Commission argues that governance and environmental rights should play key roles in the transition to sustainable development. **Governance** refers to the many ways individuals and institutions, public and private, manage their common affairs. It is wider than government and makes use of markets and market instruments as well as laws, regulations and planning. **Good governance** results from well functioning and accountable institutions (economic, political, judicial, educational, etc) that citizens regard as legitimate and worthy of support and is needed to assist the difficult choices that will have to be made. It can encourage public participation and debate; restore trust between citizens and Government; renew local democracy; and encourage the democratisation of global institutions.

Attention to **environmental rights** and **environmental justice** is the means whereby the Commission emphasises the social dimension of sustainable development. All the world's people should have the right to a clean and safe environment; the right to act to protect the environment; and the right to information, to access to justice, and to participate in environmental decision-making. The Commission echoes the Earth Charter in arguing that we should

attend to such rights for moral reasons and that it is in our own self interest to do so.

Mention of different approaches, governance and rights leads us back to recognising that sustainable development is a **political process**. Ethics and values have to be translated into appropriate forms of technology, social institutions, laws, and forms of governance and there is no consensus on how this should be done or how we should live with the limited resources and services that the earth can provide. Different interest groups draw on different kinds of knowledge and different discourses as they contest ethics and ideas and offer different policies and programmes (Doherty & de Geus, 1996, Dobson, 1995). ESD should enable learners to critically evaluate their ideas and actions.

ESD AS DISCOURSE ANALYSIS

Clearly concepts such as sustainability, democracy, citizenship, interdependence, quality of life, take on different meanings within different discourses. The role of education is to start from the primary discourses that the pupil acquires in the home and neighbourhood, and to progressively engage him/her in a process of **dialogue with secondary discourses** such as those offered by school subjects. Such engagement should develop sustainability as a frame of mind in the form suggested above and should equip pupils to evaluate the discourses they encounter in diverse institutions and locations beyond the school (the shopping centre, music video, NGO campaign, television news). Discourses are features of both everyday and academic knowledge. All involve uses of language and ways of thinking and believing, valuing and behaving that shape **identity**.

Writing in the context of citizenship education, Arthur, Davison and Stow (2000, p. 3) adopt a definition of discourse that complements that of Dryzek: *a socially accepted association among ways of using language, or thinking, or acting that can be used to identify oneself as a member of a socially meaningful group or social network*. ESD is about understanding the social practices that shape and are shaped by different discourses, and making critical choices amongst them. As such it is a form of empowerment and a key component of both social literacy and *a curriculum in and for a democratic society* (Carr, 1998). ESD should shape both the overt and hidden curriculum: classroom lessons, the ethos and management of the school and its grounds, and links with the wider community.

Classroom talk plays a key role in ESD for it is through dialogue that pupils (with guidance) can decide what is technically possible, culturally appropriate, and morally and politically right. Language enables them to critically evaluate discourse, judge knowledge claims, and arrive at consensus about those forms of technology and governance that may enable people to realise their common interests in sustainability. ESD requires that the ground rules for classroom talk are made visible; and *ultimately the discourse of citizenship education (ESD) itself needs to be made visible to pupils so that they can critique its underpinning social values and beliefs in order that they may become active transformed citizens. Such ideas are indeed challenging for curriculum developers and for teachers in school, for it would entail developing articulate, well-informed pupils who would be able to critique any curriculum on offer.* (Arthur, Davison & Stow, 2000, p.37)

ESD as discourse analysis linked to citizenship education involves the development of political literacy and the kind of knowledge, skills, attitudes and procedural values outlined by the Programme for Political Education (Crick & Porter, 1978). Procedural values provide teachers with safeguards against bias and indoctrination and citizenship education, that develops political literacy along with appropriate forms of social and moral responsibility and community involvement, can result in the [action competence](#) needed to live more sustainably.

THE KNOWLEDGE BASE FOR THE ESD CURRICULUM

In order to critically evaluate discourses of sustainability, and thereby further develop sustainability as a frame of mind, pupils require a considerable amount of knowledge and understanding from the natural and social sciences, the arts and humanities. This academic knowledge should be selected, classified and taught in ways that enable pupils to gain integrated or holistic perspectives on the environment and development, although the possibility of one single ‘true’ or ‘right’ perspective should be viewed with extreme caution. The philosophy of knowledge is a key consideration in the construction of ESD as a theme across the curriculum and this section reviews insights that academics provide.

Formal perspectives on the environment and development should link with the informal and local (tacit and lay) knowledge of everyday life. Tacit knowledge is that which cannot be easily described or encoded in the form of words, written documents or other impersonal means, for example the farmers’ knowledge of soil, children’s knowledge of their neighbourhood. Lay knowledge is popular, commonsense knowledge that may enable people to live sustainably with one another and the rest of local nature. Much local knowledge is fragmentary and rooted in intuition, emotion and experience, rather than ideas.

Rising concern over environment and development issues and increased attention to the discourses of sustainable development has prompted the production of much new specialist knowledge. Modern academic divisions of labour and the insularity of much higher education do however continue to prevent the integration of this knowledge and its linking with popular knowledge. The Higher Education Funding Council has reported a dearth of **interdisciplinarity** in contemporary British environmental higher education (Jones and Merritt, 1999) and Dickens (1996) has written of the role of academic divisions of labour in preventing people from gaining a comprehensive grasp of the social construction of nature and so alienating them from it.

For researchers like Dickens the challenge of sustainable development is to find a **philosophical framework** that can explain the interactions between the bio-physical and social worlds and the role of different kinds of knowledge in guiding the transition to sustainability. While he advocates critical realism, and the [Teaching and Learning at the Environment-Science-Society Interface \(TALESSI\)](#) project draws on critical theory, other philosophical frameworks, for example relational materialism (Castree & MacMillan, 2001) and [holistic/systemic thinking \(Centre for Ecoliteracy\)](#), Greig et al, 1998, Orr, 1992, Sterling, 2001, Sterling et al, 2005), are available. Despite this positivism remains the philosophy underpinning dominant (modern) approaches to sustainable development based on associated forms of science and management. Empiricism and positivism are also dominant in the school curriculum.

The period that saw the rise of sustainability as a discourse also saw the rapid development of **social theory** to account for the profound changes taking place in the world. Development was increasingly understood in terms of a transition from modernity to postmodernity; industrial to post-industrial society, Fordism to Post-Fordism; organised to disorganised capitalism; industrial to risk society; or in terms of globalisation, reflexive modernisation, or the rise of network society (McGuigan, 1999). The authors of these theories recognise the significance of environmental issues or risks while others provide overviews of the ways in which contemporary social theory accommodates the environment (Barry, 1999, Goldblatt, 1996, Sutton, 2004).

Neoliberal globalisation pulls power away from the state and locality as capital is deregulated and the decisions shaping people's lives are increasingly made elsewhere. At the same time it exposes individuals to new technologies and risks while undermining forms of collective welfare. In these conditions there is a loss of faith in the modern project of progress or development realised through the application of science and democracy to the rational control of nature and society. The debates surrounding GM crops or waste incineration illustrate how 'official' or 'normal' science is increasingly challenged by [**citizen science**](#) (Irwin, 1995) as new forms of knowledge emerge and the state offers new forms of consultation (focus groups, citizens' juries, children's parliaments) in response to legitimisation crisis. The [**Global Environmental Change Project**](#) has considered the role of science in environmental decision making and in the table below (page 26), normal (modern) science is compared with post-normal (postmodern) or citizen science.

The rise of citizen science in such settings as Local Agenda 21 prompts the emergence of new narratives of progress, new morality, and new forms of democracy and citizenship of which the [**Earth Charter**](#) is one indicator. In calling for **environmental or global citizenship** (Mason, 1999, Smith, 1998) some citizens identify with sustainability in the development mode and seek an extension of democracy so that it can accommodate new issues such as environmental justice, and new voices such as those of future generations and threatened species. At the same time they seek an intensification of democracy to allow citizens greater control over their lives. The fact that globalisation brings greater connectivity via such technologies as the internet, allows such groups to share knowledge and form global alliances for change. Models of **cosmopolitan democracy** (Held, 1995) perhaps best express their aspirations.

Tied in with these changes are the fundamental ways in which globalisation is fragmenting individual identities. For more and more people in the world, **identity** is no longer securely fixed by such anchors as class, family, religion, ethnicity, nation or locality but has to be constructed by individuals from the vast array of cognitive and aesthetic resources on offer. **Identity politics** is particularly significant in the lives of young people and may involve experimentation with such resources as single issue causes (e.g. animal rights), religious fundamentalism, fashion, music, drugs, or body image.

Normal (Modern) Science	Post-normal (Postmodern) Science
Empirical data leads to indisputable facts or true conclusions. Uncertainties are tamed by reducing complex systems to their simple elements.	Recognises uncertainty and a plurality of competing but legitimate perspectives. Quality replaces truth as the organising principle.
Scientific knowledge is assumed to be qualitatively different from the lay and tacit knowledge of the public. It seeks orthodoxy, replicability, and universality.	Scientific knowledge is complemented by non scientific expertise or elements of the public's lay and tacit knowledge (local knowledge, contextual knowledge and active knowledge). It seeks plurality and heterogeneity but avoids relativism.
Accredited scientific experts discover 'true facts' for the determination of 'good policies'. The public are seen to lack expertise and knowledge of science and are effectively disqualified from participation in scientific debates. Expert scientists speak for the environment in policy debates.	Scientists participate in dialogue with the private sector, government, and civil society to assess the quality of scientific knowledge in the context of real life situations. Scientists help citizens to produce citizens' science and speak for the environment in policy debates.
Abstract theoretical knowledge is validated by conventional peer community of scientists.	Socially useful knowledge is validated by an extended peer community in such a way that personal experience, citizens' concerns and scientific expertise come together to provide a more holistic perspective on science policy issues.
Values are irrelevant (hidden).	Values are central (explicit).
Knowledge alienates passive citizens. Scientific expertise and expert decision making	Knowledge empowers critical and active citizens as agents of sustainable development.
Normal science and technocracy remain legitimate so long as environmental and social problems can be solved or ameliorated to the satisfaction of a 'distracted' electorate.	New technologies and the associated risks intensify a legitimisation crisis and prompt new forms of public consultation, participation and governance that encourage post-normal science.
Based on Eden, 1998; Sardar, 2000	

The 'cultural turn' associated with the rise of postmodernism means that academics now pay greater attention to the ways in which social processes (along with bio-physical processes) construct nature and the environment in both material and discursive forms. Once constructed and represented, natures, environments, and environment and development issues act as resources for identity formation, and once formed identity shapes how we understand sustainability issues. Later in this paper we shall see that the complexity and diversity of our increasingly hybrid identities, and the consequent individuality of our understandings, questions the core assumptions on which much ESD linked to sustainability as policy is based.

ESD AS SUBJECT BASED OR INTEGRATED CURRICULUM

The rise of the new social movements in the 1960s and 1970s prompted the emergence of a range of '**adjectival educations**: environmental education, development education, health education, human rights education, media education, peace education, etc. What Dufour (1990) termed the new social education sought to give the social sciences and social issues greater prominence in the curriculum and change the ways in which school knowledge was classified and taught to pupils. While some argue that it prefigured a postmodern curriculum that is more relevant to the contemporary world, a more inter-disciplinary or

integrated curriculum was opposed by vested interests associated with modern school subjects (see for example Goodson, (1983) on environmental studies). ‘Adjectival’ educations gained renewed attention with the introduction of cross-curricular themes in the late 1980s and early 1990s, but subsequent curriculum reforms have rendered all but citizenship education and personal, social and health education (PSHE), marginal to the experience of most pupils.

The reality of the present national curriculum means that ESD has to be infused across subjects as a cross-curricular theme. Trainees are more likely to recognise the contributions of specialist subjects if they have some understanding of environmental education (Palmer, 1998) and development education (Osler, 1994) and other relevant ‘adjectivals’ such as human rights education, global education and futures education. Exposure to the tensions between modern and postmodern school curricula can enliven ITT and PSHE, citizenship education and ESD provide vehicles for trainees to explore these.

The previous section suggests that school subjects themselves should take a postmodern turn if they are to be more effective agents of ESD. This will involve a shift away from empiricism and positivism to more enabling philosophical frameworks whereby subjects can better develop sustainability as a frame of mind as they address the interactions between the bio-physical and social worlds. Recent ideas from social and cultural theory could be introduced into history, geography, languages and the arts in appropriate forms: science could embrace postmodern science (the new physical and life sciences, systems and complexity theory) and citizen science; and all subjects could explore the multiple meanings and values that society places on nature, the environment and development.

Subject knowledge could be more open to alternative technology (tools, institutions and ideas) that may enable us to live within ecological limits, and citizenship education could explore alternative forms of citizenship and democracy and the manner in which discourses of environment and development shape identity. Above all subject knowledge could be developed in the context of the everyday issues that affect pupils’ lives and could be applied and evaluated in community projects that seek more sustainable ways of living.

Such reform of subject knowledge is likely to require **changed thinking** on the part of teachers. Webster (2001) offers a table with key questions to prompt such thinking and ensure that lessons become more effective vehicles for ESD. An extended version of this table is shown below and it suggests that what is needed is not so much new curriculum or lesson content but a revised and extended approach that presents content in a changed context. .

KEY QUESTION	CHANGED THINKING
Is this the REAL ISSUE? Do my lessons tackle the multi-dimensional nature of issues? Do they tackle causes and solutions as well as symptoms?	Think bigger picture – all five dimensions of sustainable development (ecological, economic, social, cultural, and personal). Think causes and solutions as well as symptoms. Think holistically, systemically.
Is this about NOW OR ALWAYS? Are my lessons FUTURE orientated? Do pupils get to consider probable and preferable futures?	Think sustainability long term.
Do my lessons feature viable SOLUTIONS? Do some solutions demand less from the environment and allow access to more people?	Think sufficiency, resource efficiency, waste reduction. Think alternative technology. Think alternative economies of time and social welfare. Think social and environmental justice.
What is needed to achieve sustainable solutions? Do my lessons feature LEVERS FOR CHANGE?	Think technology, beliefs and behaviour, prices, markets, laws, regulation, planning, social welfare, media, lifestyles.
Where are the most effective levers for change located? Are my lessons realistic about POWER and SOCIAL CHANGE STRATEGIES?	Think individual, community, business, government and media at different scales (locally, nationally, regionally and globally).
Do solutions promote IDENTITY, DEMOCRACY and active and critical CITIZENSHIP?	Think rights of present and future generations and rest of sentient nature. Think environmental citizenship. Think how education can empower people to realise their common interest in sustainable development together with more fulfilling lives and identities. Based on Webster, 2001

The subject based curriculum can deliver ESD and Scott (2002, [download](#)) argues that there are persuasive practical and philosophical grounds for supporting learning through subject disciplines where teachers can explore issues with both subject coherence and professional confidence.

Appendix 1 is the author's listing of the key elements of knowledge that school subjects might contribute to ESD. It includes a list of skills, attitudes and values that should be developed across subjects and should be regarded as tentative, provisional, and an aid to further discussion and clarification. Subject writing teams will wish to review these elements; examine their relation to the national curriculum; consider issues of progression and integration; and decide how best they such elements of subject knowledge might best be covered in ITT. They may also wish to compare the knowledge and skills listed in Appendix 1 with those identified by a consultative workshop organised by the Forum for the Future (see page 52 and Appendix 8).

DIFFERENT FORMS OF ESD

The limitations of an essentially modern school curriculum are suggested by the work of researchers at the [Centre for the Study of Environmental Change](#) who have talked with focus groups, including children, about the meanings of environmental and development issues in their everyday lives. MacNaghten & Urry (1998) recognise that the most influential environmental doctrines (discourses), are flawed by modernist assumptions. With some revision their

outline of four environmental doctrines can help us to understand **the different forms taken by ESD**.

Four environmental doctrines	
Naive environmental realism	The environment is a ‘real entity’ which separately from social practices and human experiences, has the power to produce unambiguous, observable and rectifiable outcomes. Modern rational science provides understanding of that environment and predicts and assesses measures necessary to rectify environmental problems.
Environmental idealism	Analysing nature and the environment entails identifying, critiquing and realising various ‘values’ that people hold that relate to the character, sense and quality of nature. Such environmental ethics are treated as stable and consistent and are abstracted from the social practices and groups that may or may not articulate or adopt such ethics. Solving environmental problems entails adopting an appropriate environmental ethic.
Environmental instrumentalism	It is necessary to consider human motivation in order to understand the behaviour of individuals and groups towards nature and the environment. Calculations of individual and collective interests, such as those provided by cost-benefit analysis, suggest ways of solving environmental problems.
Critical environmental realism	Social practices produce, reproduce and transform different natures, environments, environmental issues and values. Such practices mediate the impact of biophysical processes and limits on society and shape people’s cognitive and aesthetic responses to what are constructed as environmental issues and representations of nature. They embody their own forms of knowledge and understanding and undermine a simple demarcation between objective science and lay knowledge. Solving environmental problems involves democratising social practices, knowledge construction and application.

Based on MacNaghten & Urry, 1998

Naïve environmental realism draws on normal science and acts as ideology by masking the social structures and processes that produce unsustainable forms of development. It suggests that the limits of ‘natural’ processes can be defined unproblematically by science and that public policy and global management strategies can be derived from scientific understanding. Normal science identifies and defines ‘global’ problems and issues, locates them ‘outside’ or ‘beyond’ society, and provides the basis for strategies whereby they can be managed or solved. People are encouraged to identify their concerns at a global level in ways that transcend their more local, embedded and culturally specific experiences and identity, and then respond through individual action that supports global management. This doctrine supports sustainability in the growth mode and ESD as an aspect of policy in a form that might be labelled **ESD as environmental science and management**.

Environmental idealism is associated with those forms of ESD that focus on challenging or changing learners’ attitudes and values or belief systems. Like environmental instrumentalism it assumes that the individual’s beliefs, values and identity are stable and consistent, and that s/he is an autonomous rational agent. Once educated about sustainability values and issues s/he will translate concern

into appropriate personal and political behaviour. These doctrines overlook the hybrid nature of postmodern identity and adopt a model of personal agency that is far too optimistic. While tools such as sustainability indicators, or ecological footprints (Wackernagel & Rees, 1996), may encourage appropriate values, knowledge and concern, there is no guarantee that these will translate into appropriate behaviour. People's relations of trust with government, business and educational institutions are often such that they doubt the message and are not convinced that their changed behaviour will make a difference. Doctrines of environmental idealism and instrumentalism shape sustainability in both the growth and development modes, but changed identities and relations of trust in postmodern times mean that ESD as an aspect of policy that promotes **values and behaviour change** is at best an incomplete and problematic rendering of ESD.

Critical environmental realism is potentially free from the modernist assumptions of the other three doctrines. By acknowledging the social construction of nature, environmental issues, and identities by social processes (along with bio-physical processes) it acknowledges the diversity of people's environmental knowledge and the need to anchor ESD in the knowledge that they produce and consume as they live their everyday lives. Local knowledge, identities and discourses, are the starting point for reflection and action on more 'academic' knowledge, leading to the creation of socially useful knowledge or citizen science that is validated through application. Community involvement, in such settings as Local Agenda 21, provides ways of evaluating blends of local and academic knowledge through a process of participative action research (Burkey, 1993, Buckingham-Hatfield & Percy, 1999, Warburton, 1998). Critical environmental realism is associated with discourse analysis, citizenship education, and **ESD as socially critical education** that fosters sustainability as a frame of mind. It draws on the advances in social and cultural theory sketched out above, and is closely linked with action research and the school development movement.

ESD focussed on environmental science and management and ESD focussed on values and behaviour change both regard ESD as an aspect of policy: a way of closing the 'value-action' gap that concerned the Environmental Audit Committee. They are currently dominant in official pronouncements and teachers' perspectives, and are increasingly linked with the school effectiveness movement. They shape the mainstream ESD curriculum in schools and are promoted by such documents as *Agenda 21* and *Securing the Future*. It is clearly important that pupils have an understanding of environmental science and management and develop social and environmental responsibility, but without ESD as a form of socially critical education, there is a danger that ESD remains merely an aspect of policy flawed by instrumental rationality and modernist assumptions.

In their evidence to the Government's Environmental Audit Committee, Scott and Gough (2003, [download](#)) review research evidence that challenges dominant forms of ESD and their assumptions that educating people about environmental issues will automatically result in more enlightened or pro-environmental behaviour.

We ourselves argue that the challenge for learning in relation to sustainable development is to confront learners with competing accounts of human and environmental reality wherever complexity and uncertainty mean that it is possible for competing rationalities to yield

competing versions of the truth. This, we suggest, radically revises our view of learning: from a process which acts on individuals' characteristics in order to change the world; to one which challenges individuals' views of the world as a means of influencing their characteristics and hence ways of thinking and living.

(Scott & Gough, 2003a, p. 3)

This may seem to suggest that Scott supports ESD as socially critical education, but elsewhere he and Oulton (Scott & Oulton, 1999) argue that such education is fundamentally flawed because rather than being value free, it is underpinned by ideology and values that are not themselves subject to critical analysis.

Thus, there is a contradiction built into socially critical theorising about environmental education: if research or development has to be underpinned by a priori ideology and values, how can schools accommodate it, practitioners have autonomy, and learners be free to evolve their own value positions, which we see as necessary conditions for environmental education?

Scott & Oulton, 1999, p. 119

They suggest that despite what they perceive as their dominance in environmental education, socially critical approaches have proved ineffective because they offer no viable strategies for action, are too radical to be accommodated in schools, and lack theory whereby teachers can improve practice. They argue for multiple approaches unfettered by particular groups' a priori assumptions about ends, means, and theoretical frameworks. These are likely to be informed by a combination of traditions and ideologies.

TEACHING AND LEARNING IN ESD

The knowledge and underlying beliefs encompassed by a curriculum also shape teaching and learning. Kemmis (1998) helps us understand the different **orientations to learning** that are variously found within ESD. Different philosophies of knowledge have shaped pedagogy at different times leading to changing representations of the social world in curricula and changing expectations of what pupils will learn about this world (see table, page 32). While Kemmis regards the orientations as complementary to one another, he is concerned about how they are balanced in contemporary curricula; how educational reforms guided by neo-liberalism emphasise pre-modern and modern orientations at the expense of late modern and postmodern ones; and how without the latter, schools may be failing to promote democracy. The balance of orientations in many schools suggests that they are delivering modern education in postmodern times and this may be a cause of pupil disaffection and indiscipline.

Late modern and postmodern orientations both regard knowledge as socially constructed and acknowledge increased **reflexivity** whereby individuals become more aware of the diversity and fallibility of knowledge and the unintended consequences of its application. While late modern learning clings to the possibility of consensus yielding general truths that provide the foundation for critical pedagogy, postmodern learning accepts only local or partial truths, invites a wider concept of rationality, and is valued by new kinds of **identity politics**.

Orientation Key notion Key figure	View of knowledge	View of learning	Mode of representing the social world in curricula	Expectations about what learners will learn about the social world
Pre-modern Repetition The cycle	Established patterns to be reproduced without change	Induction into pre- determined forms; mastery as the repetition of these forms	Foundationalist, essentialist: the word as a copy (or encoding) of the world.	Enculturation
Modern Development, expansion, extension The Spiral	Evolving; going 'deeper into' or 'beyond' surface appearances.	Existing forms of knowledge as springboards for development; 'going beyond the information given'; discovery and inquiry learning	Scientific representation, together with scientific attitude to the moral-legal and aesthetic-expressive domains	Enlightenment
Late Modern Problematisation, critique Recursion	Reflexively constructed in relation to cultural, social- political and material conditions	Critique of existing knowledge as a base for constructing new ways of seeing, doing, being; communicative action as a fragile basis for securing collective self- consciousness and organization	Critical perspectives on (critical distance from) existing patterns of language/discourses, social practices, forms of social organisation	Emancipation
Postmodern Fragmentary narratives Deconstruction Source: Kemmis, 1998	Reflexively constructed in relation to cultural, social- political, material and socio- biological standpoints and identities	Production of fragmentary narratives justified in relation to aesthetic- expressive criteria of identity-groups rather than universal theoretical- scientific or moral-legal criteria	Narrative, aesthetic- expressive	Celebration and production of difference

Environmental education and development education have well earned reputations for encouraging enlightened pedagogy in schools. Environmental education promotes diverse forms of inquiry in the environment and encourages debate and decision-making on environmental issues. Development education, in such forms as World Studies, has an extensive repertoire of experiential learning activities and does much to introduce teachers and pupils to the narratives of those living elsewhere in the world. Nevertheless it is questionable whether ESD in schools incorporates sufficient insights from critical theory and pedagogy to adequately represent the late modern orientation outlined in the table above, or whether it pays sufficient attention to identity and its formation through text and narrative, to adequately represent the postmodern orientation

ESD AND ‘BORDER YOUTH’

Giroux develops the notions of **border youth** and **border pedagogy** to describe young people and teaching and learning styles caught between modernity and postmodernity. Border youth have little or no faith in modern narratives of work, progress and emancipation; recognize new or heightened risks such as unemployment, homelessness or HIV/Aids; and find their attention and understanding dislocated by popular culture and consumerism. Sustainable development can offer them a shared language of hope and possibility provided it keeps a wide range of options open. For *indeterminacy rather than order should become the guiding principle of a pedagogy in which multiple views, possibilities and differences are opened up as part of an attempt to read the future contingently rather than from the perspective of a master narrative that assumes rather than problematises specific notions of work, progress, and agency* (Giroux, 1999, p. 102).

Furlong and Cartmel (1997) support Giroux’s argument for a border pedagogy that connects young people with social movements that offer alternative meanings and identities. They write of an ‘**epistemological fallacy**’ whereby postmodernity with its diversification of lifestyles, erosion of collectivist traditions, and intensification of individual values, increasingly obscures the structures and processes shaping pupils’ life chances and the environments in which they live. Unaccountable and undemocratic powers continue to deny them more sustainable ways of living, yet they are increasingly encouraged to regard the resulting risks, setbacks and anxieties as individual shortcomings that they must solve on a personal basis rather than through politics. Citizenship education and ESD in schools can help pupils confront this fallacy if they are realistic about power and agency, acknowledge new forms of identity politics, and provide the real participation in decision making that many young people seek.

Having recognized earlier that new technologies and media provide new ways of teaching and learning for sustainable development, it is clear that developing critical **media literacy** is a key element of ESD. Future citizens should be able to constructively contest and transform the media (see for example the [Media Awareness Network](#)) so that it no longer has the power to render them passive, apolitical subjects who remain unaware of more sustainable and fulfilling ways of life.

Sterling (2001) believes that education cannot promote sustainability while it remains dominated by modern forms of knowledge and pedagogy. He draws on systems theory to argue for a **paradigm shift in education** from modern, mechanistic and reductionist forms to postmodern, ecological and holistic forms. These allow transformative learning and build upon the relational view of education intrinsic to liberal humanism. Further arguments for basing ESD on new philosophies and forms of knowledge can be found in Leff (1997) and Slattery (1995).

Such arguments remind us that if current reforms in education re-emphasise modern forms of knowledge and pedagogy and reinforce instrumental, individualist and managerial values, then they may run counter to the philosophical and ethical foundations of a viable ESD. ITT should explore such

arguments and in so doing consider a range of explanations for the continuing marginal status of ESD. These will draw on differing accounts of education and social change (Coffey, 2001, Hartley, 1997, Hill, 1999) and encourage trainees to locate their work within a wider context.

Chapter 3 Developments in ESD

There is a significant level of ESD activity taking place across Government departments, statutory agencies (e.g. English Nature, the Countryside Agency, and the Environment Agency), local and regional government, national and local non-governmental organizations (NGOs), the business sector, trade unions, and the professions. LtSL suggests that an absence of strategic leadership limits the effectiveness and efficiency of these initiatives and prevents them developing into a coherent programme (para. 28).

UNESCO's draft framework for implementing the Decade of ESD calls for partnerships between governments, NGOs, and the private sector at local, national, regional and international levels. Such partnerships should develop and articulate a clear vision of ESD; ensure that their networks connect with governments and civil society; and carry out demonstration activities. The framework emphasizes community based processes and contains tables suggesting what cooperation and at different levels might involve. The table (page 35) relating to the national level is particularly relevant in the context of this paper.

Actors at national level	Working individually to:	Working together as an national ESD task force to:
Education ministry and other relevant ministries	<ul style="list-style-type: none">▶ provide a national policy framework for ESD▶ budget and mobilise resources▶ support sub-national departments▶ foster public awareness on ESD and SD	<ul style="list-style-type: none">▶ debate and recommend ESD policy options which reflect local-level experience and challenges▶ integrate ESD into Education for All (EFA) and UN Literacy Decade planning in the context of the EFA forum
NGOs, NGO and civil society networks and alliances	<ul style="list-style-type: none">▶ facilitate exchange and information sharing among their members about ESD practices and experiences	<ul style="list-style-type: none">▶ provide a forum for exchange of experience, positive and negative, in ESD
Media groups and agencies	<ul style="list-style-type: none">▶ integrate ESD and SD awareness building into media strategies	<ul style="list-style-type: none">▶ identify research issues in ESD and plan cooperative research projects
Private sector companies and trade associations	<ul style="list-style-type: none">▶ provide a forum to identify SD challenges they face, and identify necessary learning needs	<ul style="list-style-type: none">▶ identify capacity-building needs and the actor best placed to meet them▶ develop relevant monitoring indicators for ESD

UNESCO, 2003, p. 12

While the following paragraphs review developments in the government, business, NGO and university sectors, the selection of initiatives sampled it by no means comprehensive. Seventy six individuals and organizations provided [written evidence for the EAC](#) inquiry and this is perhaps the most comprehensive source of information about current initiatives and viewpoints in the UK.

It should be realized that business, government, and NGOs are increasingly interdependent. NGOs receive grants from government and business, business receives grants from government, and materials designed for use in ESD are often sponsored or funded by the private sector. The erosion of a truly autonomous public sphere is of concern to critical educators such as Kemmis and Giroux.

NATIONAL GOVERNMENT

The [Department for Food and Rural Affairs](#) (Defra) is the department which leads on sustainable development across Government although it has now passed responsibility for ESD to the Department for Education and Skills. [Defra's web pages on sustainable development](#) provide access to publications and action at all levels from the local to the international and Community Action 2020 is particularly relevant for tutors seeking to engage trainees in local action for sustainability.

The policies of the [Department for International Development](#) (DfID) are summarised in *Making Globalisation Work for the World's Poor* (DFID, 2000). They build on the 1997 White Paper that committed the Government to internationally agreed targets to halve world poverty by 2015. DFID's magazine *Developments* is a useful source for teachers and an issue in 2002 focussed on sustainable development (Shaw, 2002). DFID promotes more effective and widespread teaching of development issues in schools by working with the Development Education Association and others to produce guidance and resources. It funds regional networks of CPD/INSET providers and its publication *Enabling Effective Support* ([download](#)) offers advice on working in partnership in such networks and the development of best practice models/frameworks.

The [Department of Culture Media and Sport](#) consults with the media about ESD programming and coverage and also promotes ESD through such informal learning channels as museums and botanic gardens.

The [Department for Education and Skills](#) (DfES) is the lead department for delivering and promoting ESD with its own [web pages on sustainable development](#). Responsibility for the current action plan for ESD (SDAP) is now at corporate level with a senior advisor and a policy analyst from the Sustainable Development Commission attached to the Department. ESD features in the Department's Five Year Strategy for Children and Learners ([download](#)) and strategies for skills, the primary sector, and key stage three; the review of the 14-19 curriculum; and new initiatives in citizenship education; all provide opportunities for ESD.

The Five Year Strategy states that:

Every school should (also) be an environmentally sustainable school, with a good plan for school transport that encourages walking and cycling, an active and effective recycling policy (moving from paper to electronic processes wherever possible) and a school garden or other opportunities for children to explore the natural world. Schools must teach our children by example as well as by instruction.

Learning the Sustainability Lesson (LtSL - see page 14) recommended that the enthusiasm and body of expertise which already exists within the field would benefit from an overall strategic framework. Paragraph 40 urges the DfES to develop a framework which:

- puts ESD firmly on the education agenda;
- provides direction and impetus to existing initiatives;

- identifies and builds upon existing good practice; and
- prevents any unnecessary duplication of effort and resources.

The DfES subsequently published a response ([download](#)) and in 2003 produced its first *Sustainable Development Action Plan for Education and Skills* (SDAP).

In evidence to an EAC subcommittee in early 2005 the Department listed its achievements: [Building Schools for the Future](#) (environmental design); the [Healthy Living Blueprint](#) (personal sustainability); a [Global Gateway](#) for international school linking; the [school transport bill](#) (encouraging walking and cycling); new curriculum units across four subjects (developed with subject associations and the QCA); and a self-evaluation framework for schools focussing on ESD. Other evidence to the subcommittee was critical of the Department's role suggesting that it had failed to raise awareness of SDAP in schools and exercise the leadership required. *Environmental Education: follow-up to Learning the Sustainability Lesson* (EEfLtSL [download](#)) subsequently criticised the DfES for lack of leadership and commitment, stating that it had failed to communicate SDAP to schools (para 38); had no system of measuring progress against the plan (para 47); and attached no real priority to ESD (para. 80). The DfES responded in its second action plan, *Learning for the Future* (2006):

Although we did not agree with all of the conclusions drawn by the EAC report, we do appreciate that it raised a series of important issues for the Department such as communicating a clearer sustainable development message to schools, better partnership working and providing support to schools to put sustainable development into practice. This action plan, together with the forthcoming Sustainable Schools consultation, clarifies how the Department is addressing the issues raised in the EAC report (LftF, page 27)

The origins of the DfES' action plans can be traced to the [Sustainable Development Education Panel](#) (SDEP) established by the then Department of the Environment, Transport and the Regions (DETR) in 1998 for a five year period. Its aim was to consider ESD in its broadest sense and make practical recommendations for action in England. The Panel reported directly to the Deputy Prime Minister and the Secretary of State for Education and Employment and was chaired by Sir Geoffrey Holland, the vice-chancellor of Exeter University. **The SDEP** produced 60 recommendations in 25 publications; five annual reports; and a draft national strategy for ESD *Learning to Last* ([download](#)). This formed the basis of work by a Sustainable Development Education Sounding Board set up by the DfES to draw up a national action plan for ESD in England; develop the means of implementing this plan; and advise on the consultation process for it. The Department published its first *Sustainable Development Action Plan for Education and Skills* (SDAP) in September 2003 (see page 40).

The SDEP produced a report to the DfEE/QCA, *Education for Sustainable Development in the Schools Sector*, in September 1998 (Sterling, 1998) and this informs the [ESD pages of the QCA website](#). The report offered two **definitions of ESD**, one of which was designed with immediacy and directness in order to have meaning and currency in the schools' sector:

Education for sustainable development enables people to develop the knowledge, values and skills to participate in decisions about the way we do things,

individually and collectively, both locally and globally, that will improve the quality of life now without damaging the planet for the future.

The report goes on to list seven **key concepts** for ESD (which some suggest originated as key concepts of sustainable development):

- Interdependence – of society, economy and natural environment, from local to global (chain reactions, multiple causes and multiple effects, trade offs)
- Citizenship and stewardship (rights and responsibilities, participation and co-operation)
- Needs and rights of future generations
- Diversity (cultural, social, economic and biological)
- Quality of life, equity and justice
- Development and carrying capacity
- Uncertainty and precaution in action

Each of these is linked to lists of **associated values and dispositions, skills and aptitudes, and knowledge and understanding**, and then also linked with specific **learning outcomes** for each key stage of the national curriculum.

Additional guidance from the Panel to the QCA (dated 22nd October 1998) suggests that the distinctive features of ESD are its three main contexts:

- the interaction and interdependence of society, economy and environment
- the needs of both present and future generations
- the local and global implications of lifestyle choices.

With regard to the positioning of ESD in the revised national curriculum, the SDEP suggested that it would be inappropriate for ESD to be compartmentalised into, or depend completely upon, one subject or aspect of the curriculum, or to depend solely on the ethos of a school. An appendix to this paper (reproduced as appendix 2) shows how all the elements of knowledge and understanding within the key concepts can be delivered through a wide range of subjects.

In June 1998 the Forum for the Future and a number of partners conducted a **survey of ITE curricula in higher education** as part of the SDEP's work programme. This sought to assess the current status of sustainable development education within HE teacher education departments and take teacher trainer's views on appropriate sustainability learning, but did not obtain a valid response from ITE providers. Subsequently the Panel developed an **ESD specification relating to teacher education** (Ali Khan & Sterling, 1998) to encourage and help institutions to identify gaps in ESD provision and, more generally, to develop and implement ESD strategies. This specification is so relevant to the focus of this paper that it is included as appendix 3. It sets out the specification in three parts. The first part relates to sustainability concepts, the second to sustainability solutions, and the third to effective sustainability teaching.

In 1999 the Panel commissioned [a survey of ESD in schools](#). This examined awareness of ESD, whether it is reflected in the ethos of schools, the teaching of sustainable development, and other aspects including pupils' attitudes, extra-

curricular activities, and barriers to such teaching. Particularly relevant to this report are the **school subjects** and **barriers to ESD** that respondents mentioned (see Appendix 4). The conclusions in the executive summary of the survey are that:

- *There is more concentration on the teaching of environmental issues than on other aspects of sustainable development in schools, especially in primary schools.*
- *There is some discussion of links between sustainable development topics in the majority of schools, but there is still room for improvement.*
- *Schools with a sustainable development related link to the local authority (including Local Agenda 21 Officers) are more likely to have a policy on sustainable development issues and more likely teach these issues in lessons.*
- *School leavers are aware of global issues, and the need to get involved globally. However, their concern for the environment tends to overshadow their concern for other sustainable development areas.*
- *Time and resources are seen as major barriers to teaching sustainable development, mainly by state schools but also by independent schools. However, sustainable development would not necessarily need to be a subject in its own right to be taught effectively.*

The DfES commissioned the Geographical Association to carry out research on ESD and **teachers' needs** in 2004. The results, summarised in appendix 5, suggest that ESD remains a low priority in an overfull curriculum, with teachers lacking knowledge, time, co-ordination and communication. The research identifies seven potential areas for development and highlights the need for CPD related curriculum development within subject communities (also see Elshof, 2005).

Learning to Last, the SDEP's draft national strategy, aims to ensure that all aspects of life long learning are fully engaged in the provision of effective ESD. The executive summary contains this paragraph:

In schools and early years settings, the key concepts of ESD must be exemplified within the curriculum and there must be coherence across subject areas, the school ethos and estate management. The new protection afforded to school grounds and the huge investment programme for rebuilding and refurbishing school buildings and facilities provides a once in a lifetime opportunity to create sustainable working environments and new learning contexts for pupils, teachers, governors and the wider school community alike. We need to ensure that teachers have access to skills, expertise and a body of knowledge in ESD. It is important to ensure that newly qualified teachers are competent and confident in this area and that they continue to develop these skills throughout their professional life.

Learning to Last, 2003, p. 4

The strategy suggests that developments in the curriculum, especially the focus on citizenship and the fashioning of a new curriculum for 14 – 19 year olds, provide major opportunities. But it is also realistic about obstacles to progress: the lack of a positive vision; fatalism and feelings of helplessness; the short term driving out

the long term; sustainable development often being compartmentalised; and a lack of capacity to carry out the task.

Training is one of the strategy's seven major themes and it suggests that all teachers *will acquire, or have access to, the skills, knowledge and support to deliver good quality ESD within schools, seeing ESD not as a bolt-on extra or a series of projects or initiatives, but as an integral component of the ongoing life of the school* (para. 3.1b) Opportunities for supporting teachers are identified and paragraph 3.8 refers specifically to the TTA: *The Teacher Training Agency will work with the National College for School Leadership, teacher training institutions and other partners to develop a strategic approach to teacher training for ESD, to complement the current citizenship teacher training initiative and to draw lessons from other initiatives, such as ICT, which have sought to raise the understanding and skills levels of serving teachers very quickly.*

The first action plan from the DfES, SDAP ([download](#)), incorporates many of the recommendations in *Learning to Last*. In his foreword, the then Secretary of State (Charles Clark) sets out his vision which includes *making sure that children, young people and adult learners are aware that what they do in their day to day lives has huge implications for everyone in this country and in the world at large . . . ensuring that people engaged in learning are given the inspiration to think about and really appreciate their role as world citizens* (SDAP, pp. 2 –3)

The action plan is organised around four key objectives:

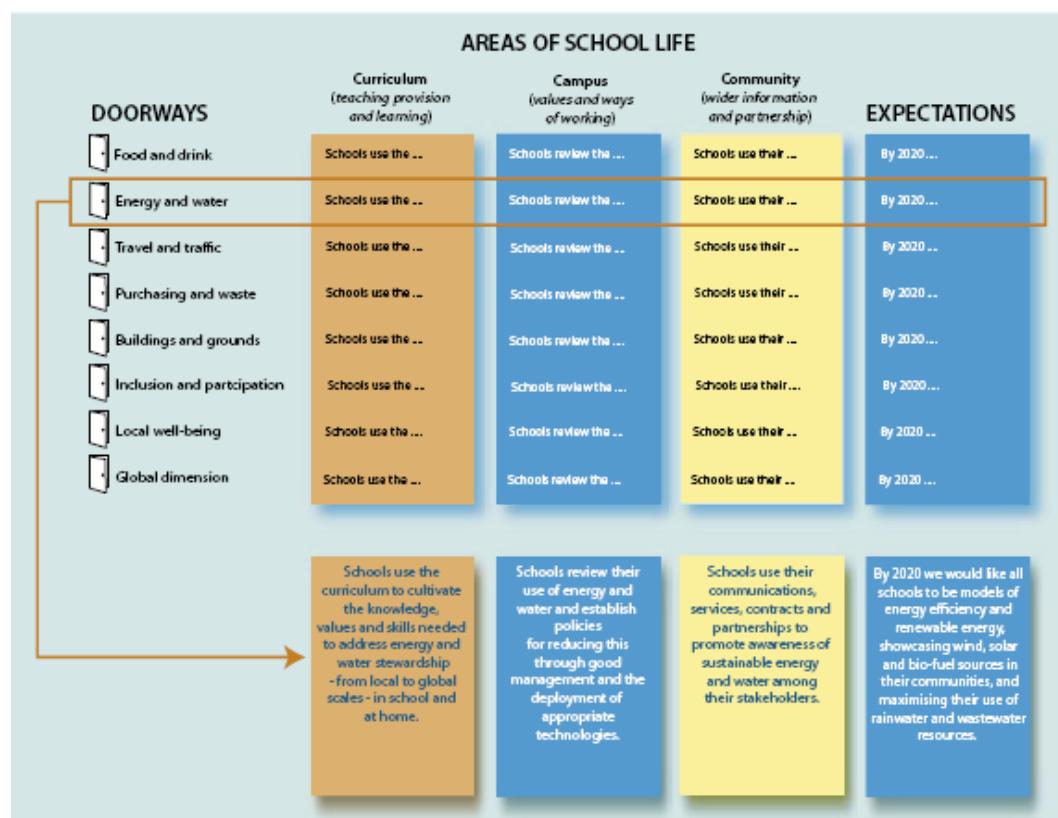
1. *ESD: all learners will develop the skills, knowledge and value base to be active citizens in creating a more sustainable society.*
2. *The environmental impact of the Department and its partner bodies: we will pursue the highest standards of environmental management across all properties owned and managed by the Department and its associated bodies.*
3. *The environmental impact of the educational estate: we will encourage and support all publicly-funded educational establishments to help them operate to the highest environmental standards.*
4. *Local and global partnership activity. we will make effective links between education and sustainable development to build capacity within local communities.*

Under each of these objectives issues to be addressed are identified, actions to be taken over the next two years are listed, and partners are indicated. The plan brings together the environmental management and ESD agendas, sets overall goals, but emphasises the importance of partnerships and new thinking at the local level. It gives the TTA and National College for School Leadership roles in teacher training for ESD.

EEfLtSL concluded that by April 2005 there were signs of achievement in relation to objectives 2, 3 and 4 of SDAP, but that the DfES was failing on objective 1 (para. 37). The formal sector now needed action not rhetoric (para. 124) and while there has been progress on the design and management of schools, the Department appeared unable or unwilling to make the same commitment to teaching pupils about sustainable development (para. 75). In this respect the

design, delivery and assessment of the national curriculum is a key factor along with the inspection of schools.

The **second DfES action plan**, ([LftF, 2006, download](#)), acknowledges that *it is in schools that there is most to be done and where it is right to focus over the two years ahead* (page 8). It seeks to raise awareness and commitment; build on progress; and encourage more sustainable school estates; largely through a **national sustainable schools framework**. A consultation paper *Sustainable Schools* (DfES, 2006) explains that many current initiatives encourage such schools: initiatives shaping the curriculum (national curriculum review, outdoor education, global citizenship); community initiatives (Every Child Matters, extended schools, education improvement partnerships); and campus initiatives (food, travel planning, renewable energy, and new school buildings). Sustainable schools have the potential to improve motivation and achievement, encourage healthy living, and foster social inclusion and participation. The paper encourages schools to review their achievements and plan what more they do by use of a framework that offers eight doorways (or routes to improving sustainability) across the three areas of school life.



A national framework for sustainable schools (*Sustainable Schools*, page 18)

For each of the eight doorways, the paper clarifies the link with sustainable development, sets out expectations for the year 2020, provides a case study of how one school is meeting the challenge, and outlines an integrated approach across curriculum (teaching provision and learning), campus (values and ways of working), and community (wider influence and partnerships). It considers how sustainable schools and an integrated approach can best be promoted, suggesting teachers explore links between their subject areas and sustainable development, and use projects within and outside the classroom to link subject areas (para. 51).

They will be supported by a [sustainable schools web service](#) and an evaluation instrument. The TDA should raise the profile of sustainable development substantially in its work, ensuring that teachers are knowledgeable and confident about it in order to inspire their pupils and school communities (para. 64).

The **revised national curriculum** published in 2000, is underpinned by a [statement of values](#). These relate to the self, relationships, society, and the environment. In introducing this curriculum [NC Online](#) states:

Education is also a route to equality of opportunity for all, a healthy and just democracy, a productive economy, and sustainable development. Education should reflect the enduring values that contribute to these ends. These include valuing ourselves, our families and other relationships, the wider groups to which we belong, the diversity in our society and the environment in which we live. Education should also reaffirm our commitment to the virtues of truth, justice, honesty, trust and a sense of duty.

At the same time, education must enable us to respond positively to the opportunities and challenges of the rapidly changing world in which we live and work. In particular, we need to be prepared to engage as individuals, parents, workers and citizens with economic, social and cultural change, including the continued globalisation of the economy and society, with new work and leisure patterns and with the rapid expansion of communication technologies

The second aim of the NC states that pupils *should develop awareness and understanding of, and respect for, the environments in which they live, and secure their commitment to sustainable development at local national and international levels.*

It may be that the aims and values that underpin the NC were not agreed prior to the revision of subject content and therefore had less impact than they might have done. The revised curriculum introduced citizenship as a new subject for all four key stages and left ESD as a **theme for learning across the curriculum** (Chatzifotiou, 2002). As such it appears to have similar status to spiritual, cultural and moral development; thinking skills; financial capability; or work related learning. It has a clear but perhaps unresolved relationship with citizenship and personal, social and health education (PSHE), and in terms of programmes of study there are explicit requirements for ESD in citizenship, geography, science, and design and technology. The SDAP seeks to strengthen links between ESD and these subjects and encourage whole school approaches.

The NC describes **geography** as *the focus within the curriculum for understanding and resolving issues about the environment and sustainable development, and also as an important link between the natural and the social sciences.* Sustainable development features in all key stages and the fact that geography has come to be seen as ESD's natural home is reflected in the positioning of responsibilities in DfES, Ofsted and QCA. Sustainable development only gets one mention in **citizenship** at KS 3 & 4 when pupils are to be taught about *the wider issues and challenges of global interdependence, including sustainable development and Local Agenda 21.* Citizenship and PSHE at KS1&2 contain one reference at KS2 when pupils are to be taught *that*

resources can be allocated in different ways and that these economic choices affect individuals, communities and the sustainability of the environment.

Citizenship is a new aspect of the curriculum for pupils at all stages of compulsory education and for young adults in post-16 learning training and work. It seeks to provide opportunities for children and young people to learn about their rights and responsibilities, government and democracy, and communities and identity. It was made statutory for those aged between 11 and 16 in 2002 and is linked to personal, social and health education (PSHE) at KS 1 & 2. While Part One of this paper has pointed to significant overlap between citizenship and ESD, ESD has not been sufficiently integrated into the citizenship curriculum. This may be due to it being seen as something that had already been incorporated into other subjects. LtSL recommends that the DfES evaluates the opportunities for integrating ESD more effectively and explicitly into the existing framework of citizenship teaching; suggests that both Ofsted and the QCA acknowledge that there are opportunities to link the two; and notes that active involvement in stewardship of their environment and involvement in the decision-making process, provides pupils with practical experience of citizenship (para. 74).

LfSL also notes that ESD has not benefited from the strategic approach and resources applied to citizenship; that citizenship unlike geography continues for all pupils post-14; and that the current review of the 14 – 19 curriculum provides an opportunity to take a more holistic approach to learning across the curriculum (paragraphs 75 – 76). The TDA currently sponsors [citizenED](#), a group of ITT tutors building their professional knowledge base for training teachers of citizenship. The author of this paper contributed materials on ESD to the citizenED website in 2004.

The [Qualifications and Curriculum Authority](#) is in charge of developing the school curriculum, and views ESD as *an approach to the whole curriculum and management of a school, not a new subject*. It acknowledges its roots in environmental and development education and maintains that many of ESD's building blocks are already present in schools. Eight of the NC subject handbooks contain a statement about how the subject might promote ESD and the QCA has also issued guidance and case studies relating to all subjects. It is currently working with OCR to produce pilot GCSE courses in science and geography that have sustainable development as a key theme.

The [QCA ESD website](#) is the prime web resource for teachers seeking information and guidance on ESD. It is divided into pages on teaching and school management and the former outline key elements and characteristics of ESD; NC requirements and opportunities; opportunities in QCA/DfES schemes of work and GCSE and AS/A level qualifications; the scope for ESD in NC subjects; and case studies by key stages. The key elements of curriculum content are particularly relevant to the focus of this paper:

- *Key concepts:* (those from the Sustainable Development Education Panel listed above);
- *Skills: development of a wide range of skills, e.g. critical thinking, finding information, weighing evidence and presenting reasoned argument on sustainable development issues;*

- *Personal and Social Development: ESD involves personal and social development, e.g. an awareness of the needs of others and an appreciation of diverse viewpoints;*
- *The Global Dimension: understanding of sustainable development is improved where issues are investigated at a local, national and global level, and where pupils are helped to understand the impact of the global dimension on their own lives;*
- *Systems approach: understanding of sustainable development involves pupils considering the interaction between economic, social and environmental systems*
- *Range of viewpoints and opinions: exposure to many different ideas and views helps pupils to develop an awareness of the complexity of sustainable development issues, and helps them to develop their own attitudes towards such issues;*
- *Futures: pupils are encouraged to develop an understanding of the concept of possible and preferred futures.*

Search facilities on the QCA website and at [NC Online](#) allows teachers to find **opportunities for ESD in the NC** within a [particular subject, key stage, scheme of work](#), or GCSE & AS/A level qualification. The site also provides definitions of sustainable development and ESD; lists of the key elements and characteristics of ESD; help with curriculum planning; case studies of good practice; and professional development activities. QCA officers told the EAC that this website is ‘the most powerful weapon in our ESD armoury’; that it receives some 9,000 hits a month; but that they have observed that the pages most visited are those that provide a basic introduction to ESD rather than any of the detail.

LtSL urges the DfES and TTA to maximise the potential of this resource in the context of ITT and CPD, but warns that it does not obviate the need to continue to develop a more comprehensive range of ESD support for teachers (para. 91).

EEfLtSL repeats this criticism of over-reliance on websites and quotes the Development Education Association’s evidence suggesting that the DfES should work in local partnerships with teachers (paras. 78 & 79). [Teachernet](#) is another key resource for teachers seeking guidance on ESD and it is planned that the QCA ESD website will be incorporated into teachernet sometime after March 2005.

In anticipation of a possible future review of the national curriculum, the QCA has published *Futures, meeting the challenge* ([download](#)). This asks how we should develop the curriculum in the context of social change and is supported by think pieces, including one by Sara Parkin on sustainable development ([download](#)).

ESD has to be infused across the curriculum and there are various models for such infusion. The ESD Panel survey (appendix 4) suggested that lack of time, resulting from continuing curriculum overload and teachers’ increased workloads, is a major barrier. So too is the decline of topic work in primary schools and integrated approaches to the curriculum in secondary schools. LtSL notes that *without clear ownership, a cross-cutting theme such as sustainability, has no natural home or baseline and can be easily lost* (para. 70). It also comments that *the constant drive to raise educational standards (narrowly defined as academic outcomes) does not always sit easily with efforts to develop a more rounded curriculum* (para. 78). In his evidence to the EAC subcommittee, the chief

executive of the Geographical Association claimed that ESD cannot flourish in an over prescribed, overfull and fragmented curriculum. EEfLtSL concludes that there is as yet no real priority attached to ESD. Not enough schools are aware of it and few teachers are comfortable teaching it (para. 80).

Within the [Office for Standards in Education](#) (Ofsted) the responsibility for ESD rests with the geography subject officer. ESD is not directly inspected by Ofsted although inspectors do inspect and report on ESD where they encounter it. Both the SDEP and EEfLtSL (para. 86) recommended that ESD be included in Ofsted's inspection framework as it is in the parallel framework in Wales. In its evidence to the EAC Ofsted noted more evidence of ESD in primary schools than in secondary schools:

Despite the raising of the profile of education for sustainable development (ESD) through the revision of the National Curriculum in 2000 and the launch of the Sustainable Development Action Plan by Charles Clarke a year ago, ESD is not easily identifiable in the majority of schools in England. It is more evident and better organised in primary schools, where teachers are more used to working across a range of subjects. In secondary schools work on ESD is limited because individual departments have not fully explored the wide range of opportunities open to them [...] Few schools, too, are aware of the ways in which ESD can support teaching and learning in geography, science, design and technology , citizenship, personal, social and health education and the wider school curriculum.

EEfLtSL, para.73

Ofsted has published a report on effective ESD practice in schools: the result of a limited benchmarking exercise to aid the development of more detailed future work. *Taking the first step forward . . . towards an education for sustainable development* ([download](#)) is based on 27 schools (10 Secondary, 17 Primary) in NW England, chosen on the basis of their potential to reveal good practice. By focussing on the quality of learning through the SDEP's seven key concepts, it identifies factors which characterise the work of the most successful schools, and provides a checklist for school self-evaluation. A new project on ESD and school improvement started in April 2005.

While the [Tomlinson Report](#) did not mention ESD, a situation that EEfLtSL regrets (para. 55), the Government's proposed [reforms of 14-19 education](#) may provide opportunities for new vocational qualifications in sustainable development such as the [NCFE Foundation Certificate](#). This could also prove a useful qualification for classroom assistants and others working with teachers to create more sustainable schools.

REGIONAL AND LOCAL GOVERNMENT

At this level many schools work with officers, elected members, and community groups on such initiatives as children's parliaments, 'walking buses' to school, food growing and recycling. Local and regional governments have statutory duties relating to sustainable development and should have policies on the nature and form of their support for ESD in schools. Local Agenda 21, local plans, and [biodiversity action plans](#), provide much scope for education and participation, and [Community Action 2020](#) is welcome in this regard. SDAP seeks a growth of local

activity and strategic partnerships designed to increase young people's participation and the DfES is issuing related guidance Working Together: Giving children and young people a say ([download](#)).

The [North West Regional Assembly](#) illustrates how ESD is often part of such initiatives as healthy schools, education action zones, or urban regeneration, while [ESD Bristol](#) is one example of how curriculum guidance can be delivered in a local context. Yorkshire and Humberside has an ESD officer and [website](#); ESD strategy has been produced for the South West; and there is an [ESD forum](#) in the West Midlands. The role of such regional networks in delivering SDAPES is unclear as is their relation to the regional networks supported by DfID's Enabling Effective Support initiative (for example [TIDE](#) in the West Midlands).

Below the regional level there are a great number of local government initiatives. See for example [Worcestershire County Council](#); [Bristol](#); and [Bolton](#).

There is an extensive literature on encouraging children's participation in environmental planning (Adams & Ingham, 1998) and such participation can clearly develop active citizenship.

THE BUSINESS SECTOR

Some companies, such as [Interface](#) the world's largest carpet manufacturer, have ESD programmes for their staff. It and others publish corporate social responsibility reports outlining progress towards more sustainable forms of production and consumption. The DTI intends to launch a strategy for sustainable growth and is prepared to regulate to ensure compliance as it has done with the landfill tax, climate change levy and EU energy labelling. [Codes of corporate governance](#) are relevant to ESD as are those [corporate social responsibility campaigners](#) who seek to ensure more widespread and honest reporting. [Authentic Business](#) provides a newsletter about ethically sound businesses.

In addition to providing funding and partnerships for government and NGO initiatives in ESD, businesses also run their own educational services that may publish relevant materials or encourage school-industry links. The waste company [Shanks](#) for example runs recycling education centres that schools visit, whilst [Education-Business Plus](#) illustrates the kinds of projects business can promote in schools. [The Social Science Information Gateway](#) lists internet resources relating to business, society and the environment. The [WorldWatch Institute](#) monitors progress towards more sustainable forms of production and consumption.

Many employers, trade unions and professions are becoming aware of the need for appropriate forms of ESD to develop the workforce. The Learning and Skills Councils, the Sector Skills Councils, the Union Learning Fund and Union Learning Representatives all have roles to play and the report *Learning to Last* (same title as SDEPs draft strategy, [download](#)) from the [Learning and Skills Development Agency](#) outlines the potential. The [Learning and Skills Council](#) hopes to publish its strategy for ESD in summer 2005 ([download consultation](#)). The SDEP has already produced a series of [workplace guides](#) and Learndirect has a modular programme [Sustainable Development for All](#). The [Trade Union Sustainable Development Advisory Committee](#) develops ideas and encourages practical action amongst employers and employees.

LtSL considers ESD in the context of the recent Skills White Paper and expresses disappointment that the Government *chose to present its future skills policy so visibly and exclusively within the narrow context of economic competitiveness rather than against a background of sustainable development* (para. 38). SDAPES seeks to give sustainable development greater emphasis, making it a priority for Sector Skills Councils and the Sector Skills Development Agency.

The private sector is the main producer of textbooks and other learning resources for schools. Beginning teachers should review and evaluate a wide range of teaching and learning resources relevant to ESD (see for example [this website for beginning geography teachers at Bath University](#) or [learnthings](#). from The Guardian).

THE NGO SECTOR

The rise of the new social movements prompted the formation of many non-governmental organisations campaigning on issues of the environment, development and sustainability. Most have a national and local presence and may join local community groups and business in forming strategic partnerships for sustainable development with local and regional governments. Most NGOs regard education as a key aspect of their work and many provide curriculum resources for schools. The Council for Environmental Education and the Development Education Association co-ordinate their efforts.

The Council for Environmental Education ([CEE](#)) is a national charity, founded in 1968, which is governed by its members, 80 national organisations with a shared belief in the value of education for sustainable development. Its mission is to ensure that the principles of ESD are at the heart of education policy and development by seeking to influence the development of public policy, enhancing the quality of professional practice, and increasing the effectiveness of the ESD movement.

In 2005 the Council lost its core funding from Defra, staff were made redundant and its office closed. Its website remains available and the Field Studies Council is hosting its mailbox to provide a communication link for members..

The Development Education Association ([DEA](#)) works with key governmental and non-governmental educational bodies across the UK to provide guidance on how teachers can incorporate development issues and a global dimension into their teaching. It is a key agent of DfID's Enabling Effective Support strategy and SDAPES echoes this by seeking to raise international awareness and understanding of developing countries. The DfES plans to introduce an international education week supported by DfID.

The first guidance document, for schools in England, [Developing a global dimension in the school curriculum](#), was published, with DFID, DFEE, QCA and the Central Bureau, in 2000. The DEA seeks to ensure that teachers have access to development education resources, both material, and human and organisational.. The [Global Dimension website](#) includes over 500 evaluated resources for teachers to use across the curriculum, and SDAPES has established a [global gateway](#) for schools supporting an international dimension in all areas of the curriculum. The

DEA is developing a series of guidance booklets with subject associations, the first relates to science.

The DEA works in partnership with teacher educators and published a charter for initial teacher education (ITE) *Training Teachers for Tomorrow* in 1998. It has subsequently refined a set of indicators for global perspectives in ITE (see appendix 5) through a [web based debate](#) and will be publishing a set of case studies of good practice reflecting these indicators. Development education centres around the country are members of DEA and several of these have curriculum development projects relating to ESD, [Manchester](#) has a sustainable cities project and [Birmingham](#) one on citizenship and sustainable development. DECs have also developed the [global footprints project](#) and information and activities about [global and ethical issues](#) for teachers and students of business studies and economics.

This briefing paper cannot cover the work of the many NGOs that promote ESD in schools. The following selection is indicative of their work but neglects other organisations that have materials and ideas that are highly relevant in the education of beginning teachers. The CEE and DEA provide directories to help tutors locate these.

[Eco Schools](#), which is managed by [EnCams](#), involves the whole school together with members of the local community creating a shared understanding of what it takes to run a school in a way that respects the environment. It offers schools support to develop an environmental management system through the action research process and to link this with the promotion of environmental awareness across the curriculum. LtSL suggests that the DfES should promote Eco-Schools, almost exclusively, as the key ESD model (para. 64) and SDAPES involves the establishment of the Schools Environmental Assessment Method, to monitor a school's environmental performance, by 2004. Subsequent and ongoing DfES policy and action can be followed on the sustainable schools web service. Other sources on sustainable schools include Wals et al (2005) and Henderson and Tilbury (2004).

The potential for greening a school can be seen by looking at the [school management pages](#) of the QCA ESD website; case studies on the Eco Schools website; or on a site in the [USA](#). A school that treats its waste water with reed beds, collects its energy from the sun and wind, grows some of its lunchtime food, and has a bicycle repair workshop, has made a significant move towards ecological sustainability. [Learning through landscapes](#) offers schools a toolkit to improve their grounds this promotes gardening as a means of sustaining both biological and cultural diversity in a multicultural society. LtSL suggests that the DfES can encourage sustainability by taking an active role in promoting guidance on building design and monitoring and evaluating the extent to which it is being adopted (para. 57). Other initiatives that may provide models for school development related to ESD include [Growing Schools](#) and [Global Action Plan](#).

The World Wide Fund for Nature ([WWF-UK](#)) began its educational work in the early 1980s. By the early 1990s it began to refocus its work on the evolving formal education practices addressing sustainable development. In 2003, the organisation's work with the formal education sector was reframed as 'learning for sustainability'. In 2004, WWF-UK summarised and analysed more than a decade

of working with schools on sustainability issues. *One school at a time-a decade of learning for sustainability* revealed six domains through which schools had worked to bring about whole school change. These included: school culture and ethos, monitoring and evaluation, teaching and learning, pupil participation, community links, and school estate development and management. These formed the foundation of *Pathways: a development framework for school sustainability* (WWF-UK, 2004). *Pathways* offers a participatory process for cultivating a whole school approach to learning for sustainability. This process, now featured on the DfES Sustainable Schools website, is supported by professional development and teaching and learning resources. Professional development is offered through on-line courses hosted by WWF-UK (*Opening the doorway to ESD: a participative on-line course for teachers*) and the National College of School Leadership (Leadership and education for sustainable development: a participative on-line course for 'Leading From the Middle' participants). A range of teaching resources that support learning for sustainability are available from the [wwflearning website](#).

The [Royal Town Planning Institute](#) has set up an [ESD network](#) to provide a clear and effective voice for all its members with an interest in ESD. The Network disseminates knowledge, promotes good practice, and seeks to influence key decision-makers. It has published a manual for teachers ([download](#)) that outlines the demands for development, how planning can influence or manage these demands and how they relate to sustainability. It illustrates the wealth of topics and materials available to schools locally, in every locality whether in urban or rural areas. The manual also contains a guide to some planning orientated resource packs that deal with sustainable development issues using local case studies. Some have been developed by teachers and planning authorities together.

[Groundwork](#) is a national charity delivering environmental projects in the most deprived communities. It seeks to 'build sustainable communities in areas of need through joint environmental action' with local projects complemented by a range of national programmes aimed at delivering ESD in its broadest sense. Local programmes have involved around 1,800 schools and are always linked to wider regeneration activity in the neighbourhood. They embrace biodiversity, waste, farming, transport, energy, heritage, the arts and local industry links. National programmes, supported by DCLG and Defra, as well as companies and charitable trusts, have been delivered in more than 2,000 schools. They include Past on your Doorstep, Future in your Hands, Farmlink, Sustainable Development Certificates and Supergrounds. A review in 2003 ([download](#)) suggested seven key practices that enabled excellence in Groundwork's ESD provision, assessed end user satisfaction and future potential. The review has pertinent comments to make about ESD's position in the NC.

ESD now exists as a statutory element of the curriculum. However, although some of the learning outcomes associated with ESD do exist within the statutory orders of other curriculum subjects, they do not exist as a freestanding entity. Nor have the learning outcomes ever been comprehensively mapped back to a consensual definition or understanding of ESD.

Consistent with this is the fact that ESD is not yet the focus of Ofsted inspections except within subject area inspections. There is therefore no compelling force for

schools to commit themselves to a robust provision of ESD ie provision is statutory but without accountability.

Some would argue that because ESD exists within the curriculum, albeit not as a discrete subject, young people are nevertheless being exposed to it. This statement raises the pedagogic issue of comparisons between explicit and implicit learning. It is still very much open to debate whether learners can make connections between learning achieved across different subject areas and so it could be argued that ESD should be further developed in a way which provides opportunities for both explicit and implicit learning.

There are those that claim that Citizenship already has ample scope to cover the learning outcomes of ESD. There is no doubt that ESD issues are touched upon in the statutory orders for Citizenship. However if Citizenship is to develop in a way that more fully embraces and delivers the principles of sustainability, then there is a clear need to integrate further within it the concept of 'Global Citizenship' or, perhaps more appropriately, 'citizenship in a global context'.

From *Learning, Citizenship and Sustainability*, Groundwork, 2003

The [Field Studies Council](#) was founded in 1943 with a mission 'bringing environmental understanding to all' through first hand experience. The charity works through 14 residential and 3 day centres. Programmes tend to be tailored to schools needs and are frequently linked to the NC and examination syllabuses. Emphasis is placed on a model of transferring responsibility for identification, management and analysis of activities/experience from the teacher to the learner. Programmes embrace local / regional issues such as biodiversity, waste management, catchment and coastal management, regeneration and redevelopment, rural and urban deprivation and resource management.

Working with EnCams, the FSC has created Eco-Centres that involve members of the local community and visiting teachers/students, creating a shared understanding of what it takes to run a Centre in a way that is environmentally sensitive and supportive of local / regional economy. The FSC promotes the [professional development](#) of teachers and innovation in ESD is carried out by FSC Environmental Education. It works in partnership both in UK and overseas with schools, colleges, local communities and teacher training institutes. In Russia it helped to develop an ESD strategy for St Petersburg and in Central Asia it helped to produce an ESD text book for schools in Kazakhstan (see [EfS Europe](#)). Ken Webster is a key figure in these developments and his recent text on ESD is a key resource for teacher educators (Webster, 2004).

[Oxfam](#) is a development, relief, and campaigning organisation dedicated to finding lasting solutions to poverty and suffering around the world. Its education programme engages with educational policy and practice in accordance with its Curriculum for Global Citizenship, which is reproduced in their current publication *Education for Global Citizenship: A guide for schools* ([download](#)). It advocates Education for Global Citizenship as essential education for all, and sees ESD as being integral to this. Indeed, Oxfam recognises holistic conceptions of ESD (i.e. those that integrate global, social, economic, political, and cultural perspectives) as being essentially 'the same thing' as Education for Global Citizenship, even if they come from different starting points.

Oxfam believes that the aims of Education for Global Citizenship / ESD can only be fully realised when it becomes embedded in the ethos, organisation and curriculum of educational institutions. It influences and supports educational practice through engagement with ITE and CPD programmes, its grants programme, publications and the Oxfam Catalogue for Schools. In recent times, Oxfam's ITE strategy has focused on working in partnership with tutors and students in a small number of institutions in order to learn how Education for Global Citizenship can be most effectively embedded in ITE programmes and students' practice, and its grants programme has also funded a range of projects to this end. Oxfam is also currently working with two HE institutions (University of Middlesex and London Metropolitan University) in developing the DfES Certificate in Citizenship CPD programme.

The [Institution of Environmental Sciences](#) is a professional body for environmental scientists. Its Environmental Education Committee aims to promote environmental education and awareness across all sectors of education and the community. The Institution facilitates the project [Professional Practice for Sustainable Development \(PP4SD\)](#) in partnership with the Environment Agency and the RSPB. The Project involves fourteen professional institutions seeking a path to a more sustainable future through shared training materials, courses and other tools. Materials based on key concepts of sustainable development and systems thinking have been used with professional bodies; professionals in a single business or NGO; and with the graduate intake of Barclays Bank. Recent work includes research into skills for sustainable development and curriculum development in the learning and skills sector. The Geographical Association has developed a CPD course based on PP4SD and the two PP4SD booklets can be downloaded from the PP4SD website. They contain much of value to ITT tutors, including a list of websites that provide over 300 links to information and activities on sustainable development and ESD.

Eighteen **subject associations** were contacted when writing this briefing paper. They were asked for information on past or current initiatives (publications, conferences, guidance) to encourage the delivery of ESD within subject teaching. Six replied with information and expressions of interest (Citizenship Institute; Economics and Business Education Association; Geographical Association (GA); Professional Committee for Religious Education; Association for Science Education; and the National Association for Environmental Education (NAEE)). Two replied that they were unable to offer information (Historical Association, Mathematics Association). The responses from the GA and the NAEE are included as Appendix 6. Lambert (2004) has suggested that ESD provides such associations with a new role.

THE UNIVERSITY SECTOR

LtSL reviews the response of Government and higher education institutions to the Toyne Report (CEEFHE, 1993) and its review (para. 111). It suggests that there is little evidence of ESD being effectively integrated into HE syllabuses and recommends that the DfES should assess the adequacy of the range of guidance available, and that the [Higher Education Funding Council for England](#) (HEFCE) should evaluate whether its funding for teaching and research sufficiently supports cross-curricular activities such as ESD (para. 113). SDAPES will use the

grant settlement process to signal, via HEFCE, that ESD is a priority for development.

HEFC launched a consultation on sustainable development in HE in 2005 ([download](#)). This sets out a broad vision together with an action plan and argues in paragraph 62, that *the greatest contribution higher education has to make to sustainable development is by enabling students to develop new values, skills and knowledge. The main (though not the only) way to make this happen is through developments in curricula and pedagogy.*

Mention has already been made of the curriculum specification for teacher education (Appendix 3) drawn up by Forum for the Future for the SDEP. Teacher education at undergraduate level was one element of the HE21 project, sponsored by the DTER, that ran from 1997 to 1998. More recently the Forum has collaborated with 18 HE institutions on the [Higher Education Partnership for Sustainability](#), (2000 – 2003). It has published a report on the partnership, *On course for sustainability*, and a guide to course planning, *Learning and Skills for Sustainable Development*, that includes a curriculum toolkit ([download HEPS publications](#)).

Learning and Skills for Sustainable Development suggests that all graduates should be **sustainability literate**. They should:

- *understand the need to change to a sustainable way of doing things, individually and collectively;*
- *have sufficient knowledge and skills to decide and act in a way that favours sustainable development; and*
- *be able to recognise and reward other people's decisions and actions that favour sustainable development.* (Learning and Skills for Sustainable Development, page 9)

The publication outlines a seven step process of course design, guided by five principles:

Five principles underlying course design	Seven steps in curriculum design
<ol style="list-style-type: none">1. The 'at the same time' rule should be applied2. A learner-centre approach works best3. Ethics and values matter4. Sustainability literacy should be integrated into the content and delivery of all courses5. Good learning practice is essential	<ol style="list-style-type: none">1. Mapping the learner's world2. Making values and ethics explicit3. Determining sustainability competences4. Identifying learning outcomes5. Deciding on the best delivery methodology6. Promoting the course7. Reviewing and renewing the course

Course developers using the toolkit determine the general and specific sustainability competences required by the learner, by reference to a five capitals

model of sustainable development. They answer the question ‘what should a graduate be sufficiently good at or be able to do to manage the relationships in their sphere of influence in a way that maintains or enhances the resources or capitals (natural, human, social, manufactured and financial) available to us’. *Sustainability Literacy: knowledge and skills for the future* ([download](#)) reports the outcomes of a consultative workshop, organised by Forum for the Future, at which participants identified the knowledge and skills required by sustainability literate graduates (see Appendix 8). It concluded that ‘most knowledge and skills relating to sustainable development are, in fact, generic. That is common to all jobs and people. The difference was the level to which an individual might need to acquire the knowledge and skill’ (*Sustainability Literacy: knowledge and skills for the future*. Conclusion 1, page 20).

Clearly *Learning and Skills for Sustainable Development* is a useful resource for tutors in ITT. Its attention to values and ethics is consistent with the development of sustainability as a frame of mind, and its determination of competences and outcomes by reference to the learner’s profile and five capitals model can be applied to the needs of a trainee teacher in a school setting. The knowledge and skills identified in *Sustainability Literacy* (Appendix 8) suggest what might be incorporated into ITT courses and it is for tutors to then explore with trainees the scope for these to enter the school curriculum at an appropriate level.

In addition to encouraging sustainability literacy through teaching and research, the HEPS encouraged universities to become more sustainable as businesses and in their links with the community. *On course for sustainability* offers guidance to institutions training teachers while Wright (2002) provides an overview of definitions and frameworks for environmental sustainability in higher education, and Corcoran and Wals (2004) outline the challenge of sustainability to the sector. The [Association of University Leaders for a Sustainable Future](#) seeks to help HE institutions move towards sustainability, while the [Environmental Association of Universities and Colleges](#) works to disseminate good practice on environmental issues, campus greening and curriculum greening

ESD is an ongoing interest of many ITT tutors who specialise in environmental education and/or development education. The majority of these tutors also have a specialism related to a NC curriculum subject, often geography, science, or citizenship, but some approach ESD as professional studies specialists. The main networks for these tutors are facilitated by the [Global Teacher Project](#) (Steiner, 1996); the [Centre for Research in Education and the Environment](#) at the University of Bath; and the NFER which has a project on [connecting research and practice in ESD](#) (Rickinson, 2003, Rickinson et al, 2003). Such tutors are likely to publish in the DEA’s *Development Education Journal* or in *Environmental Education Research*. Subject associations may have working groups on ESD in which such tutors are active, for example the [Geographical Association](#).

There are plans to establish a centre for research in development education at the London Institute of Education in early 2007 (details from DEA).

The [Global Teacher Project](#) an initiative by the World Studies Trust believes ESD in initial teacher education would be enhanced if ITE curricula incorporated the four main strands of global education outlined below. These underlying concepts can enable tutors and trainee teachers to develop knowledge understanding, skills,

professional values and practice in line with the seven interrelated concepts proposed by the SDEP:

1. **Issues** – *This covers four major problem areas (and possible solutions to them): wealth and poverty; human rights; peace and conflict; sustainable development.*
2. **Spatial** – *This emphasises exploration of the local-global connections, and the global in the local connections, that exist in relation to these issues, including the nature of interdependency and dependency.*
3. **Temporal** – *This emphasises exploration of the connections that exist between past, present and future in relation to such issues and in particular scenarios of preferred futures.*
4. **Process** – *This emphasises a participatory and experiential pedagogy which explores differing value perspectives and leads to politically aware local and global citizenship.*

There is little knowledge of the extent of coverage of ESD in courses of initial teacher education. In one year PGCE courses, pressure on time may mean, that ESD receives minimal coverage. There does however appear to be interest amongst tutors. Between 30 and 40 attended a recent DEA workshop at the London Institute of Education. Some tutors are encouraged by trainees entering PGCE courses with relevant degrees in environmental and/or development studies, but not all graduates have a basic understanding of sustainable development. A group of tutors at the Oxford University Department of Education is currently carrying out research into trainees' and teachers' understanding of ESD (Summers, Corney & Childs, 2003, 2005).

In BEd courses there is more time for innovation. The modules for primary trainees at the University of Hertfordshire (appendix 8) are one example although these will disappear due to pressure on time as the course is reduced from four years to three. The case studies compiled by the DEA and WWF illustrate potential but as in schools ESD is generally regarded as a 'bolt on' or 'something we would do if we had the time'.

A particularly significant initiative is a dedicated ITE website called [Education for a Sustainable Future](#), jointly owned and managed by the Institute of Education at Manchester Metropolitan University (MMU) and the Moray House Faculty of Education of the University of Edinburgh. Developed from a Scottish ITE module and the EU funded SEEPS Project, which promotes school focused programmes in education for sustainability, it provides on-line supported self study materials, consisting of activities and resources linked to a study guide (see outline, appendix 8). It has developed five units to date and a further two units (self-evaluation and case studies) are currently under development. Fourteen European countries have been involved and nine are currently active. The materials are used in COMENIUS CPD courses at MMU and in an elective on ESD for ITT students that will come on stream next year.

Tony Shallock (Robinson & Shallock, 1998, Shallock, O'Loan & Hui, 2000) who is one of the principal authors of this material is currently developing the site to address the knowledge, understanding, values and skills demands of ESD and active citizenship placed on trainee teachers by the introduction of citizenship education into schools. Case studies on the site will feature schools involved in an award scheme, run by the Citizenship Foundation and Institute for Global Ethics. Copies of the SEEPS project have been forwarded to the TTA and DfES.

[Teach Global](#) is a website developed by the Open University to support primary and secondary teachers wanting to extend their teaching of the global dimension through all aspects of school life. Two of the courses focus on managing this process and two look specifically at curriculum issues. Accreditation linked to the resources is available.

Universities are major providers of CPD but ESD is generally a low priority when deciding provision. Most ESD related course development has been at masters level and here courses tend to cater for relatively small numbers of teachers who are already 'converted'. The [Education for Sustainability Programme](#) at South Bank University is delivered through distance learning and attracts many teachers throughout the world. Both South Bank University and Manchester Metropolitan University gave written evidence to the EAC.

In 2006, [York University](#) launched a two year part-time MA with a focus on ESD in conjunction with the Specialist Schools and Academies Trust, and financial support from the TDA.

As regards scholarship and research in the area, something of the different perspectives can be perceived by reviewing Gayford, 2004, Gough, 2001, Jucker, 2002, Huckle & Sterling, 1996, Plant, 1998, Scott & Gough, 2003b&c, Stables & Scott, 2002, and Sterling, 2001.

INTERNATIONAL DEVELOPMENTS

Mention has already been made of the United Nations Decade of Education for Sustainable Development for which UNESCO is the lead agency (page 11). The Decade was proposed by [Japan](#) at the Johannesburg summit.

In December 2002, the UN General Assembly resolved that there would be a **United Nations Decade of Education for Sustainable Development**. The United Kingdom was not a sponsor of the resolution. UNESCO is to be the lead agency and it will consult on and draft a proposed programme for the Decade for discussion by the General Assembly. National governments, relevant international organisations and NGOs will be asked to consider their contributions to the Decade. [UNED-UK](#) is involved in the follow-up to UNED 2002.

UNESCO has an extensive [website devoted to ESD](#). In 1999 it established [a Chair on Reorienting Teacher Education to Address Sustainability](#) at York University in Toronto. Professor Charles Hopkins is undertaking research on different approaches to this task with an international network of around 35 teacher education institutions that includes Bath University. UNESCO has already developed [Teaching and Learning for a Sustainable Future](#), a multimedia teacher education programme containing 25 modules divided into four sections: curriculum rationale; teaching about sustainability across the curriculum; interdisciplinary curriculum themes; and teaching and learning strategies. This material is available on the internet and as a CD. In 2002 UNESCO published *Education for Sustainability, from Rio to Johannesburg*, a report on the lessons learnt about ESD since UNCED 1992.

In 2001, the [TETSDAIS project](#) (Training European Teachers for Sustainable Development and Intercultural Sensitivity) was set up, an EU Comenius project, with partners from Portugal, the UK, Spain and Finland.

In September 2002, the [University Leaders for a Sustainable Future](#) (ULSF), the [International Association of Universities](#) (IAU), [Copernicus-Campus](#) (the European university alliance for sustainability) and UNESCO formed a [Global Higher Education for Sustainability Partnership](#) (GHESP) (UNESA, 2002) in response to Chapter 36 of Agenda 21.

The [Commission on Education and Communication](#) of the International Union for the Conservation of Nature has several publications relating to ESD. Particularly significant is [ES Debate](#), the record of an online discussion between international experts that took place in 2000.

[Big Picture TV](#) is a free media channel based in London and San Francisco. It streams short talking heads of some of the most renowned pioneers in Sustainable Development and from the environmental, social justice and peace movements. By offering progressive leaders in such fields as ESD a fully independent web-based media platform, it aims to make the big picture a clearer one for the world's online community.

The [World Bank site](#) on development education and sustainability includes learning modules, information on aspects of sustainable development, and extensive links to other aspects of the World Bank's work.

Established in 1998, and focusing on Civil Society Organisations (CSOs), the [Sustainable Development Communications Network](#) is a group of leading civil society organizations seeking to enhance the implementation of sustainable development through broader, integrated information and communications

The [Environment and Schools Initiative](#), funded by the European Union, was a major environmental education project in Europe in which England did not participate. It maintains a network of teacher educators and schools carrying out action research projects.

There are several teacher ESD initiatives in English speaking countries that provide valuable sources of ideas and activities. Amongst these are the [Education for Sustainable Development Toolkit](#) and [Biodiversity Basics](#) in the USA and [Learning for Sustainability](#) in South Africa (Janse van Rensburg & Sisitka, 2000).

Canada is one country that has [a framework for environmental learning and sustainability](#).

The [Australian Research Institute in Education for Sustainability](#) has reviewed environmental education, including teacher education, and its contribution to sustainability in Australia (Tilbury et al, 2005).

[Projects International](#) seeks to promote ESD through the teaching of English as a foreign language worldwide.

The other nations within the United Kingdom have their own policies and guidance on ESD ([Wales](#); [Scotland](#) ; and [Northern Ireland](#)).

CONCLUSIONS

The contested nature of sustainable development; the diversity of available knowledge, pedagogy and resources; and the relevance of sustainability to all our futures, make ESD a very fertile ground for teacher education.

ESD has seen significant curriculum development prompted by the ESD Panel Report and carried out mainly by NGOs and interested university tutors. As LtSL suggests, ESD is now at a critical juncture. The Decade of ESD, and key education initiatives such as the review of the 14-19 curriculum, provide significant opportunities and the DfES action plan could shift ESD from the margins to the mainstream.

For the moment, ESD remains predominantly an interest of environmental and development educators who share some common language but are divided by EE's focus on sustainability and DE's focus on 'the global dimension'. Beyond a 'converted minority' there is limited awareness of ESD amongst teachers but what good practice exists is more likely to be found in primary than in secondary schools. The action plan will need to raise the visibility and status of ESD as a cross-curricular theme; ensure that teachers, schools and ITT providers are made accountable for its delivery; and provide the time and space in which they can innovate with new kinds of curriculum content and pedagogy. The Environmental Audit Committee has exposed the weaknesses in Government policy and challenged the DfES and others to respond.

The UNESCO-UNEP International Environmental Education Programme once described the preparation of teachers as the 'priority of priorities'. This paper has suggested that the teacher's frame of mind is key to ESD. The DfES, TDA, and teacher educators, can facilitate a shift in teachers' outlooks by providing ITT and CPD courses that engage trainees and teachers with the kinds of theory, practice and resources outlined in this paper. Moving towards sustainability may involve a fundamental reassessment of the purposes, content and processes of education, and this could refresh schools and ITT and bring them closer to the students and communities they serve.

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Appendix 1

Some key contributions of school subjects to ESD

All subjects should foster sustainability as a frame of mind. This involves the clarification and application of values through teaching and learning activities that promote a range of skills.

Values

- respect and care for the community of life, including the integrity of ecological systems;
- commitment to human rights, social and economic justice, and critical and participatory forms of democracy;
- commitment to tolerance, rationality, open mindedness, non-violence and peace;
- commitment to work with others to bring about more sustainable futures

Skills

- skills for oral and written communication, numeracy and use of appropriate ICTs, creative and critical thinking, problem solving, decision making and planning, collaboration and cooperation, conflict management, and practical citizenship
- the technological, economic, political, social and psychological skills needed to live more sustainably.

Subjects also have their own contributions to make to the knowledge and understanding that further fosters sustainability as a frame of mind and supports ESD as a cross-curricular theme.

Knowledge and understanding

Art and design	Representations and appreciation of nature, environment and environment and development issues in art of all kinds. Design and representation of more sustainable futures.
Citizenship	Regulation of social and environmental relations within different models of democracy and citizenship. Rights and responsibilities in different domains (ecological economic, political, cultural) and at different levels (local, national, regional, global) of global society/institutions. Green political thought and discourses of sustainability. Identity politics. Active citizenship for sustainability.
Design and technology	Ecological design and appropriate technology
Economics and business	Environmental and development economics. Models and indicators of a sustainable economy. Ecological modernisation. Benefits and limits of

	corporate social responsibility. The economics of green capitalism and post-industrial socialism.
English including drama	Representing and interpreting nature, environment and development in texts of all kinds. The history of sustainability concepts in English language and literature. Using drama to explore more sustainable futures. Popular culture, identity and sustainability.
Geography	Understanding of bio-physical and social systems and their inter-relations. Environmental change. Combined and uneven development in the capitalist world economy and its impact on people and the environment. State of the world indicators. Concept of sustainable development. Globalisation and anti-globalisation movements. Planning and environmental management strategies. Studies of more sustainable societies elsewhere in the world. Localisation. Nature, environment and development in cultural 'texts' of all kinds. Fieldwork to promote active ecological and global citizenship.
History	Environmental history. Nature- society relations in pre-modern and modern societies. Ecological imperialism. Legacy of past in present day.
ICT	Role of ICT in enabling communication on environment and development issues. Virtual communities and cyber democracy. ICT as an enabler of global citizenship and more sustainable futures.
Mathematics	Handling and evaluating data on the environment, population and development. Ecological footprint analysis. Risk assessment. Communicating the case for sustainable development.
Modern foreign languages	Learning from other cultures and languages about environment and development issues and living more sustainably.
Music	Themes of nature, the environment and development in music. Music and spirituality. Self expression through music as a route to identity.
Physical education	Role of health, diet, exercise in sustainable development. Self expression through PE as a route to identity.
Religious education	The ethics of sustainability as expressed in the world's religions. Spirituality in nature. The Earth Charter, what it means for how we live. Values

clarification. Explaining gaps between values and behaviour.

Science

Basic entropy/energy laws. Ecological systems and limits. Carrying capacity. Biodiversity. Modern vs postmodern science. Awe and wonder via science. Systems and complexity theory. Precautionary principle. Health and the environment. Science and public policy, the governance of science and technology.

School subjects should explore the following ten themes singly or in combination, at an appropriate level, in a variety of contexts and at a variety of scales. They should do this in ways that relate to the interests and concerns of pupils and the 'everyday' knowledge they bring to the classroom.

Themes for learning and teaching

1. overcoming poverty;
2. gender equality;
3. health promotion;
4. environmental protection and conservation;
5. rural transformation;
6. human rights;
7. intercultural understanding and peace;
8. sustainable production and consumption;
9. cultural diversity; and
10. information and communication technologies.

As a cross-curricular theme ESD should develop the ten key concepts.

Key concepts

- Interdependence – of society, economy and natural environment, from local to global (chain reactions, multiple causes and multiple effects, trade offs)
- Citizenship and stewardship (rights and responsibilities, participation and co-operation)
- Needs and rights of future generations
- Diversity (cultural, social, economic and biological)
- Quality of life, equity and justice
- Development and carrying capacity
- Uncertainty and precaution in action

Sources: the Earth Charter; UNESCO draft framework for the Decade of ESD; Sustainable Development Education Panel.

Appendix 2 Linking the knowledge and understanding components of ESD to existing subjects

Source: ESD in the Schools Sector, Additional Guidance for QCA relating to report to the DfEE/QCA dated 14 September 1998 from the Sustainable Development Education Panel – Linking ESD with the Existing National Curriculum Orders and with Recommendations from National Advisory Groups, 22 October 1998

Key Concept	Knowledge and Understanding	Delivery Subject
Interdependence	<p>The environment and human conditions are inextricably interrelated.</p> <p>Personal understanding of the environment derives from direct experiences which may be spiritual, aesthetic, or practical, as well as secondary sources.</p> <p>How people continually impact on the environment and others, as individuals and as part of wider society, from local to global levels.</p> <p>How biological systems operate and support life on earth and are affected by human activity</p> <p>How major issues such as poverty, consumption, development, health and loss of species are interrelated.</p> <p>How changes in science and technology have changed the nature and extent of people's effect on the environment.</p> <p>How the economy, society and the environment are mutually affecting and interdependent.</p>	<p>Geography, Science</p> <p>Religious education, Art, Music, English</p> <p>Geography</p> <p>Science, Geography</p> <p>Geography, Science</p> <p>Design & Technology, History, Science</p> <p>Geography</p>
Citizenship, stewardship	Community action and partnership is necessary to the achievement of more	Geography

	<p>sustainable lifestyles.</p> <p>The connection between personal values and beliefs and behaviour.</p> <p>How the school, community and household can be managed more sustainably.</p> <p>The roles and responsibilities of government and business in achieving sustainable development.</p>	<p>Religious Education, English</p> <p>Science, Design & Technology</p> <p>Geography, Design & Technology</p>
Future generations	<p>Conservation, efficiency and restraint in use of resources is necessary to ensure quality of life in the future.</p> <p>How the current quality of the environment is a result of human and natural history.</p>	<p>Design and Technology, Science</p> <p>History, Science</p>
Diversity	The maintenance of diversity is necessary to the health and sustainability of natural and human systems.	Science, Geography
Quality of life and equity	<p>There are basic human needs and these are universal.</p> <p>Inequality, exclusion and injustice persist within and between societies.</p> <p>Quality of life is a broader concept than standard of living.</p>	<p>Geography, Science</p> <p>Geography</p> <p>English, Art, Music, Religious Education</p>
Development, carrying capacity and change	<p>The earth's resources are finite, precious and access to them is unequal.</p> <p>A variety of economic and political forces determine how resources are used and managed.</p> <p>A variety of cultural and</p>	<p>Geography</p> <p>Geography</p> <p>Geography, Religious</p>

	<p>social values influence how resources are viewed.</p> <p>The carrying capacity of any environment, and of the earth as a whole, is limited by natural systems and resources.</p> <p>How increasing efforts by people around the world are working towards more sustainable development.</p> <p>How business and industry is responding to the challenge of sustainable development.</p>	<p>Education</p> <p>Science, Geography</p> <p>Geography</p> <p>Design & Technology, Geography</p>
Uncertainty and precaution	Knowledge about the environment and our relation to it is growing, changing and uncertain.	Science, Geography

Appendix 3 Sustainable Development Education: Teacher Education Specification

Source: Ali-Khan & Sterling, 1998 for Sustainable Development Education Panel

The Panel has developed a sustainable development education specification relating to teacher education to encourage and help institutions to identify gaps in existing sustainable development education provision and, more generally, to develop and implement sustainable development education strategies. The first part of the specification (A), relates to sustainability concepts, the second section (B) to sustainability solutions and the third part (C) to effective sustainability teaching.

Sections A and B are expressed in terms of learning outcomes. These are specific statements of intent that predict what learners should know, understand and be able to do as a result of learning in the context of a particular (in this case teacher education) programme/ module/ learning materials. They describe assessable changes in knowledge and skills development and behaviour that the programme is designed to bring about.

The development of the specification has been informed by the findings of the teacher education survey, desk-based research relating to core sustainability learning and the comments of practitioners.

Sustainable Development Education: Teacher Education Specification

A Sustainability concepts

At the end of their teacher education programmes all teacher trainees should have:

1 An understanding of the interdependence of major systems

- the role of natural systems in maintaining an environment which can support life
- the relationship between the health of the natural environment and the health and living conditions of people
- the connection between poverty, population, consumption and the degradation of the global environment
- the need for sustainable natural, social and economic systems to secure sustainable development

2 An understanding of the needs and rights of future generations

- the legacy of the past in relation to current levels of social, economic and environmental sustainability
- the need for conservation, efficiency and restraint in consumption and resource use
- the need for long-term thinking in relation to sustainable development
- the possibility of different development routes eg globalised v localised; high tech v low tech; consumer v conserver

3 An understanding of the value of diversity

- the relationship between diversity and the health and sustainability of human systems - cultural, social and economic - and of natural systems (biodiversity)
- reasons for the loss of diversity
- the urgent need to protect biodiversity

4 An understanding of the quality of life, equity and justice issues associated with the sustainable development process

- the difference between measures of standard of living and quality of life
- the place and need for equity, justice and social cohesion in sustainable development process
- the reasons for and effects of inequality, exclusion and injustice within and between societies

5 An awareness the Earth's carrying capacity

- alternative perceptions of growth and development
- the earth's capacity to disperse, absorb, recycle or otherwise neutralise the harmful effects of materials extraction and production
- key resources, valuable to people, currently being depleted or degraded
- the effect of political and economic forces on how resources are used and managed

6 An appreciation of the need for precaution

- the uncertain nature of knowledge in relation to sustainable development
- the need for critical thinking, systems thinking and life-long learning in response to uncertainty, information overload and the complexity of sustainable development issues
- the nature of and need for the precautionary principle in relation to action at individual and collective levels

B Sustainability solutions

1 A sense of responsible citizenship

- individual social and environmental rights and responsibilities implied by citizenship
- clarification of personal values relating to sustainable development
- approaches to sustainable solutions: legal, economic, managerial, scientific and technological, educational
- action that can be taken at personal, household, institutional and community levels relating to sustainable development
- tools and techniques available to guide consumer choice and use of resources, such as eco-labelling, sustainability indicators and green consumer guides
- the relevance of local knowledge and cross-sector partnerships to building sustainable communities

C Effective sustainability teaching

1 Teacher trainees should understand the reasons why it is important for pupils to learn how to become responsible global citizens, including the following:

- Consensus - there is an emerging consensus amongst public, government and business in relation to the need to move with some urgency towards more sustainable lifestyles if future generations are to enjoy quality of life.
- Understanding - all people are directly affected by sustainable development issues but while awareness of these issues is high, the general level of understanding of these issues and of their significance and relevance is poor.
- Policy - while education has long been recognised as a key instrument for achieving participative citizenship in relation to sustainable development,

policies that support practical educational change in this regard have been largely absent.

- Entitlement - all pupils need to be equipped with the knowledge, values and skills relating to sustainable development that will allow them to participate as full members of society and work towards sustainability
- Effective education - education for sustainable development can motivate teachers and pupils resulting in effective teaching and learning which meets many established educational goals

2 Teacher trainees should be able to devise appropriate teaching strategies relating to sustainable development education which

- balance intuitive, intellectual, affective and cognitive learning approaches
- use direct experience in a variety of settings
- use pupils' knowledge and local community knowledge as well as abstract and decontextualised knowledge in relation to sustainable development
- explore and clarify values in relation to sustainable development
- use of range of participative techniques to facilitate the development and exchange of viewpoints in relation to sustainable development
- consider the interrelationship between uncertainty and controversy
- critically reflect on pedagogical approaches
- consider both sustainability related problems (cause and effect) and possible solutions
- refer to and encourage participation in responsible sustainable development practices at school and at home
- include school links to local community sustainable development / LA 21 initiatives
- make regional and global links
- use interdisciplinary and transdisciplinary approaches where appropriate

3 Teacher trainees should be able to track pupil progress relating to sustainable development education in the following areas:

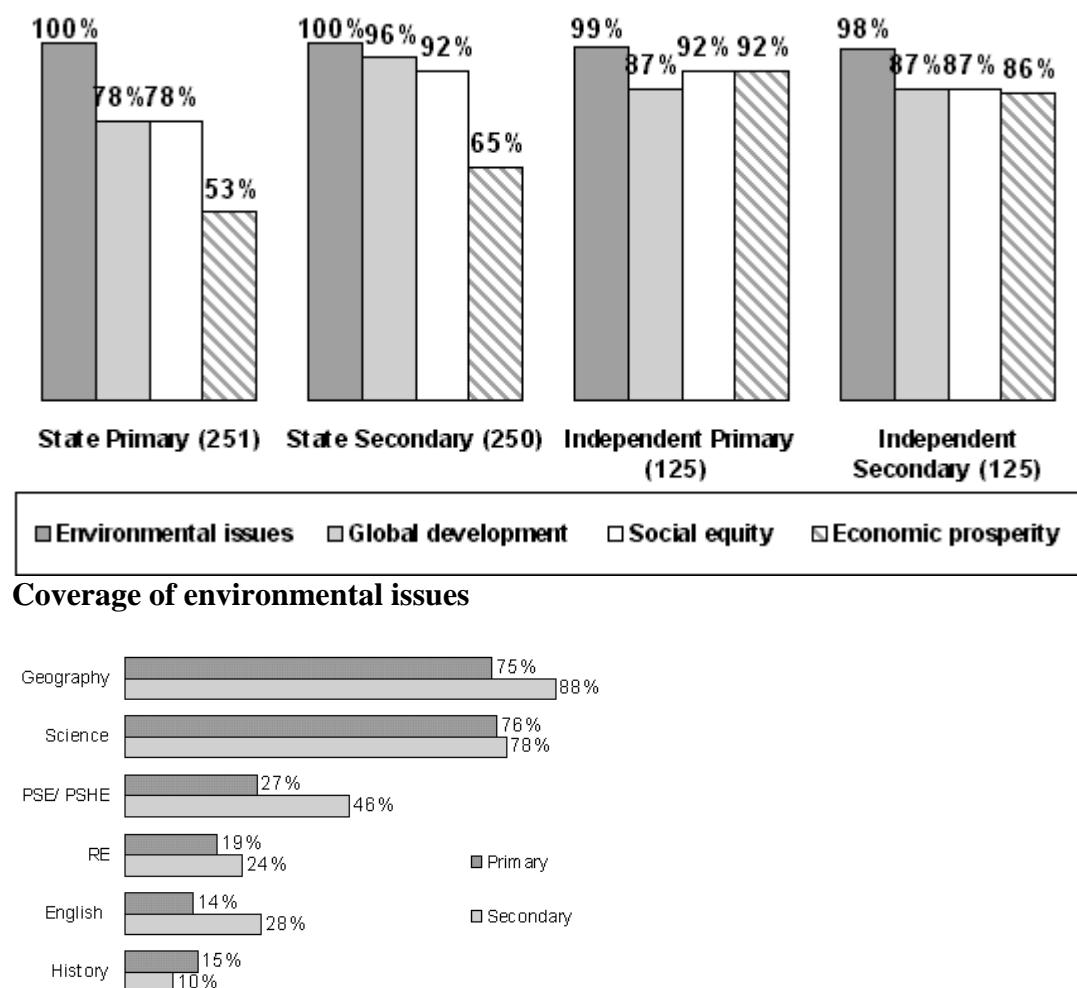
- from seeing simple connections between cause and effect to an appreciation of complexity
- from an appreciation of the importance of individual action to an understanding of the need for cooperation with others to effect strategic change
- from a view that separates out the environmental, economic and social aspects of sustainable development to a more integrated, holistic approach
- from a concern for personal and local sustainability issues to an understanding of national and global sustainability issues and the links between them
- from a focus on current sustainability problems to an appreciation of the influence of past decisions and the implications of current trends for the future
- from an uncritical acceptance of the views of others, values and assumptions relating to sustainable development to a critical, creative evaluation of alternative views and possible solutions

Appendix 4 Some charts from the Sustainable Development Education Panel's Survey into ESD in schools

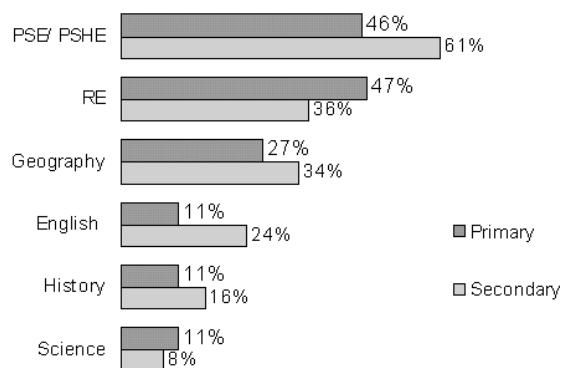
Source:

<http://www.defra.gov.uk/environment/sustainable/educpanel/educationsurveys/index.htm>

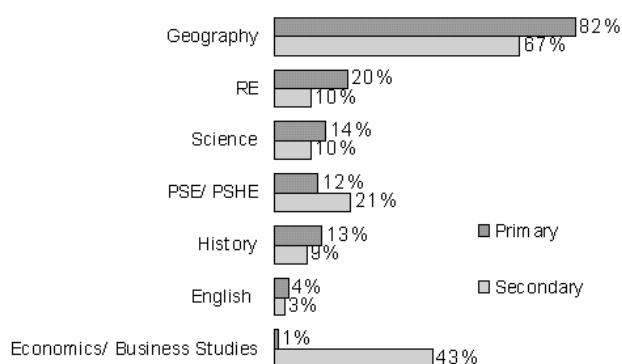
The survey, carried out in 1998/9, asked schools to report whether they addressed four topics (environmental issues, social equity, global development and economic prosperity through the wise use of resources) in their teaching, and in particular in which subjects they are featured.



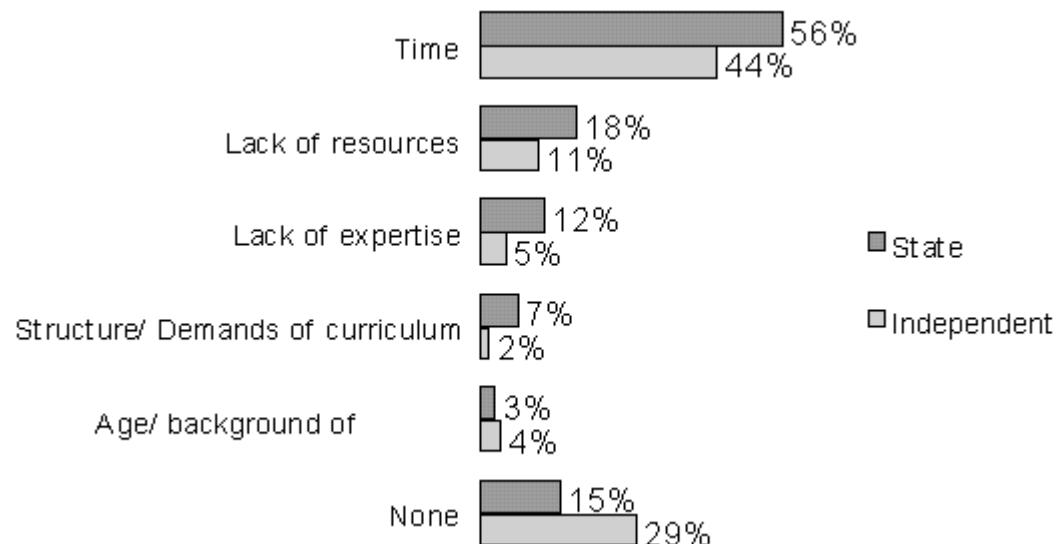
Coverage of social equity



Coverage of economic prosperity through the wise use of resources



Barriers to ESD in schools



Appendix 5

Education For Sustainable Development (ESD) A Needs Analysis of School Teachers

EXECUTIVE SUMMARY

This 'Needs Analysis' is based on the findings of six focus group discussions held between May and June 2004. Four groups were made up of subject specialist teachers (Geography, Design and Technology, Science and Citizenship respectively). There were in addition one primary group and one group of senior school managers.

The overarching purpose of the discussions was to gain greater insight into how education for sustainable development (ESD) is perceived in schools, the difficulties teachers find in incorporating ESD in their subject classrooms/schools and the ways in which ESD may be supported in the classroom and in their schools.

Although none of the participants knew of the *Sustainable Development Action Plan for Education and Skills* (SDAPES) launched in September 2003 by the DfES, many of the outcomes from the focus groups can be linked to recommendations in the SDAPES. An important question running through the discussions was 'How many practical steps have been implemented to turn this plan into effect?' Responses from thirty-six teachers and senior managers imply that as yet not a lot is happening in schools under the guise of ESD.

Current views and perceptions of ESD vary:

- It is not a familiar term in many schools, though some teachers have tried to interpret the concept of ESD within their teaching.
- There is a lack of clarity about what it is, how it should be taught and who is 'responsible' for it.
- ESD is thought to apply almost exclusively to the environmental aspects: the economic and social dimensions are less well appreciated.
- The key subject in which ESD could be embedded is thought to be geography (even by science and citizenship teachers), although some geography teachers may not yet fully acknowledge the potential of geography to 'carry' ESD.
- Many teachers understood ESD to be a cross-curricular theme but there was uncertainty regarding effective coordination across the whole school.

Difficulties or obstacles in implementing ESD in subjects and schools centred around three main obstacles.

- ESD appears to have a low priority in the curriculum and in schools. Schools concentrate their efforts on aspects of school life that are statutory and seen to be priorities such as literacy, numeracy and examination grades. Sustainability is rarely encouraged in the ethos and practical life of

the school. Some observed a lack of support from Senior Management and a low priority in Initial Teacher Training (ITT) and Continued Professional Development (CPD).

- ESD cannot flourish in an over-prescribed and over-full curriculum. Testing and attainment drive the curriculum and there is a preoccupation with targets and results. The curriculum is fragmented, with no coordination or curricular planning for ESD.
- A lack of knowledge, time, communication and coordination were repeated throughout the focus groups as obstacles to progress. Time and space are needed to support the long term thinking required to build successful approaches to ESD and to embed these into curriculum programmes.

The key areas for development have been synthesised from the discussions and form seven themes:

1. **Resources:** the study highlighted the lack of awareness of the QCA/ESD website. Less than 10% of participants had heard of this site and nobody had used it in their teaching. Though participants acknowledge the need for adequate resources (eg see 'Links' and 'CPD' below), it is also recognised that establishing ESD is not simply a question of money. Once teachers and curriculum managers are convinced of the educational gains to be had from ESD, school resources can often be found and awareness raised of available support. However, the policy setting also has to be favourable for this to happen, and move beyond rhetoric. Resources in terms of teacher time should not be under-estimated, for planning, designing and evaluating teaching and learning activities.
2. **Establishing meaning and purpose:** The analysis shows that a sustained approach is needed to establish meaning and purpose to the term ESD, which may take several years. It is unlikely that a single viewpoint or concept will be appropriate for all schools, and local interpretations should be encouraged. However, 'local solutions' will require overarching guidance and stimulus, for teachers on the ground cannot always see the possibilities for curriculum development, nor have the theoretical resources to hand that will guide sound development.
3. **Identifying curriculum development opportunities:** The Tomlinson reform of 14-19 education provides a golden opportunity to ensure that ESD is a part of the curriculum experience for *all* young people. It was noteworthy that although geography teachers in particular can diagnose some significant curriculum issues impeding ESD (for example, the extreme compression of the curriculum content and the fragmented experience in KS3), they were less attuned to seeing the potential of ESD to reform the curriculum – to make it more coherent, stimulating and enjoyable for all participants.
4. **Links:** with Local Education Authorities (LEAs) and the community, which emphasise practical initiatives such as recycling, could be coordinated by a LEA advisor and can provide a 'hands on' approach

to sustainable living. Such schemes can be turned into a learning resource in their own right, with students evaluating their impact. Learning based on practical actions can be powerful.

5. **Whole school approaches:** the school ethos needs to embrace sustainability - possibly through a local 'sustainable development plan' which would set targets and make the school accountable to governors. ESD will not function while it is only 'encouraged', according to some, and may become more prominent when it becomes a 'requirement'. Perhaps the key goal for the whole school is to create a sustainable, learning environment for children.
6. **CPD:** teachers and management need time to participate in training activities on ESD themes, through INSET and other CPD opportunities. The need is for extended, practical, hands-on workshop type training which teachers can embed into their own practice. Opportunities for accrediting such professional practice (at Diploma or Masters level) should be sought and encouraged.
7. **Subject Associations:** can promote ESD explicitly on their websites, in resources and at conferences. They can help their communities identify materials available from other sources, often for free. They can become drivers of curriculum innovation and change through (funded) CPD activity and communicate this within and beyond their own established and trusted networks – that link with others, for example the KS3 strategy subject networks, the Specialist Schools Trust practitioner networks etc.

Recommendation:

The main purpose of the Needs Analysis was to identify with greater clarity what teachers meant when they said they 'needed help' to introduce ESD. We think this summary contributes effectively to helping understand the needs of subject teachers.

We believe the next stage would be to ask appropriate groups to tender in order to 'trial' some of the suggestions implied in the 'key areas of development' above. In the spirit of this enquiry, we would recommend emphasis on the 'subject curriculum', both primary and secondary, and how to set up effective CPD led curriculum developments. Apart from providing resourced, practical approaches to ESD the goal would be to broaden and deepen the understanding of ESD amongst practitioner communities and to realise more fully the potential of ESD to stimulate effective curriculum development.

What we envisage is a suite of projects to develop ESD with practitioner communities. We would of course be willing to explore this notion more fully.

**The Geographical Association
(revised September 2004)**

Appendix 6

The Development Education Association's good practice indicators for global perspectives in teacher education

Education for an Interdependent World

ITE institutions should explore the challenges and opportunities of educating teachers for a world characterised by globalisation and the realities of a global society.

Development of Political Literacy

ITE institutions should seek to develop students understanding of political and decision making processes at a local, national and global level.

Values and Attitudes

ITE institutions should encourage students to explore their own and other people's values and attitudes.

Teaching and Learning

ITE institutions should ensure that students know how to plan, deliver and evaluate active and participative schemes of work, which help pupils acquire a global perspective.

Subject Knowledge

ITE institutions should ensure that students have the knowledge and skills to deliver the global dimension through their specialist subject(s).

Research and Scholarship

ITE institutions should promote action research and other investigations into the theory and practice surrounding the global dimension in teaching.

School Policy

ITE institutions should encourage and support students to engage in debate about the global dimension and educational policy in the schools where they work.

Appendix 7 Two responses from subject associations

Response from the ESD working group of the Geographical Association to the TTA consultation on the scope for ESD within initial teacher education.

Note: these responses were made in 2003.

1. Initiatives

The working group has been involved with:

- Regional conferences. The working group held a successful regional conference on sustainable development issues in February 2003 in Bath, in collaboration with other organisations including the University of Bath and a local environment centre. The conference was aimed at teachers and sixth form pupils, and involved trainee teachers in the organisation and delivery of some of the sessions. The working group is planning to use this as a model for further regional conferences.
- Disseminating information about ESD at the annual GA conference. We hold regular, well attended workshops (the primary and secondary Green Variety Shows) providing up to date information, ideas, and case studies of good practice in ESD; the working group AGM provides a forum for discussion about ESD issues; and the group has a stand at the conference where we meet and talk to teachers about ESD concerns.
- Initiatives with other environmental and sustainable development organisations. Members of the working group sit on committees of other environmental and sustainable development education organisations (including RSPB, NAEE, IES) and are involved in initiatives including conferences, CPD, and practical projects. One initiative currently under consideration for example is the development of a CPD course in ESD based on a model developed for industry by the Institute of Environmental Sciences.
- Contributing where appropriate to new initiatives in education. Most recently the group was involved in discussions linked to the development of the pilot specification for a new geography/history GCSE course.

2. Publications

Julia Legg produced a full list of GA publications relating to ESD to accompany the GA response to the Select Committee Inquiry. Members of the working group have contributed to many of these.

Members of the working group also contribute to other journals (*International Research in Geographical and Environmental Education*, and *Environmental Education*, for example) and contribute to the publication of guidance material and initiatives with organisations. Recent examples of this include: 'Shape up to Sustainability' (IES), 'Green Expectations' (London Wildlife Trusts), The Tarka Trail, Earth Balloon (Worcestershire CC).

3. Policy Issues [The working group's wish list!]

Many members of the working group are involved in initial teacher education, either as , or working with, providers, or through experience as mentors to students in school.

Members of the working group strongly believe that:

- ESD is an entitlement for all trainee teachers and that they should have access to training that explores the basic concepts and principles of ESD. We deplore the fact that ESD is still not a key feature of initial teacher education.
- Although some support materials for ESD have been developed by the GA, and by other organisations eg QCA website on sustainable development, there is still a shortage of

resource materials, particularly those aimed specifically at beginning teachers. Many teachers (beginning and more experienced) are not aware of the resources/tools that are available to help them become engaged in teaching about ESD. Opportunities such as ESD pathways through the GA annual conference, and CPD in ESD developed by the GA could be a way of coordinating existing materials and developing new ones. The recently announced creation of schools specialising in the humanities would make promotion of ESD timely. However CPD in ESD is needed for all teachers, not just teachers of geography. This should be supported via subject (subject association) dialogue. Training/CPD in ESD also needs to be aimed at the professionals involved in ITE both in HEIs and in schools.

- If ESD is to become a key feature of initial teacher education, then it should be represented as one of the 'Professional values and practice' outcome statements in the TTA Standards for the Award of Qualified Teacher Status.
- Mechanisms are needed to facilitate the breakdown of barriers between education and the wider world. In ESD this could be through, for instance, an enhanced role in the delivery of Citizenship, and through incorporation of ESD in vocational courses.

We believe that ITE should provide the starting point for getting teachers engaged with thinking about ESD. The pointers indicated above would act as signposts to start that thinking.

Response from NAEE to TTA consultation on the scope for ESD within ITE

1 Initiatives

- Recent initiatives have been restricted to a regional level. We have worked with schools in Coventry and Warwickshire for instance, particularly through the Coventry and Warwickshire Green Education initiative. The regional branch of NAEE is still active locally in Cumbria, and we have been involved in local Agenda 21 initiatives in Sussex. We took action linked to various initiatives (eg. National Teachers Statement) leading up to the Earth Summit 2002
- Initiatives with other environmental and sustainable development organisations. Members of the executive sit on committees of other environmental and sustainable development education organisations (including GA, ASE) and are involved in initiatives including conferences, CPD, and practical projects. One joint initiative currently under consideration for example is the development of a series of regional conferences for teachers on ESD
- Contributing where appropriate to new initiatives in education. Most recently the group was involved in providing case studies for QCA for their sustainable development website.

2 Publications

See attached sheet

3 Policy Issues (The executive's wish list!)

(This was very similar, if not identical, to the GA working group's statement (wish list) on policy issues. This overlap is probably explained by the fact that the GA working group and the NAEE executive share some members in common.).

Appendix 8

Knowledge and Skills for Sustainable Development (as determined by Forum for the Future's consultation workshop, July 21st, 2004)

Knowledge

Capital	To maintain this stock of capital in good shape, we need to know about ...
Natural	<p>Basic ecology, and the physics of material transformation</p> <p>How energy is generated and choices of supply: eg, renewable and non-renewable, efficiency</p> <p>What achieving a low carbon future means</p> <p>Environmental constraints to human activity</p>
Human	<p>How to be healthy and stay well</p> <p>What equality and diversity mean in practice</p> <p>Capacity to see things from the perspective of others: customers/students' needs, values, behaviour and attitudes, motivations and backgrounds</p> <p>Capacity to achieve work-life balance: including applying legal rights, employment standards</p> <p>An ethical framework shared with others</p> <p>Human rights – what they are and how to assure them</p>
Social	<p>General:</p> <p>How power, responsibility structures, values, behaviour shape the world we live in</p> <p>What it means to be a responsible citizen</p> <p>Personal rights/responsibilities</p> <p>Impact of marketing on society – eg, manipulation/creation of desires</p> <p>Partnership working</p> <p>Trusted sources of information, evidence and inspiration on sustainable development</p> <p>Risk and regulation</p> <p>Metrics/indices for sustainable development</p> <p>Understanding of different accreditation systems</p> <p>What makes a good learning environment, or conducive working environment</p>

	<p>Government: Government departments, levels, remits, policy-making process Central government strategy and how this translates into local policies and practice</p> <p>Local/Regional Regional economic strategy Local delivery mechanisms</p> <p>Organisational: Organisational values Own company or organisation's sustainability framework Contract and supplier management/relationships Senior management priorities Training structures Internal decision-making process External decision-making process of stakeholder Customer focus</p>
Manufactured	<p>Best practice in building and infrastructure construction and management Environmental Management Systems (EMS) Knowledge of business case for sustainable development Minimum standards, their costs and implications Material and energy use</p>
Financial	<p>Basic economics Value creation Costs and benefits of sustainable development to core business (including innovation, future markets) Economic externalities and how to internalise the costs service of economy/ future economy Whole life costing models Knowledge of alternative measures of progress – eg not just economic growth Resources available from other sources – eg government funding streams</p>

Skills

a Skills for: Understanding the need for change to a sustainable way of doing things, individually and collectively	b Skills for: Having sufficient knowledge and skills to decide and act in a way that favours sustainable development	c Skills for: Being able to recognise and reward other people's decisions and actions that favour sustainable development
Long term thinking, futures planning	Leading by example (capacity for self-improvement)	Empathising with other people and their situation
Taking a solutions-orientated (rather than problem describing) approach	Parenting skills	Communication: listening, telling, learning
Articulating conflicts and solutions at different levels (barriers and opportunities)	Teaching skills, and influencing change	Appreciating the views of other people (even if don't agree!)
Visioning what the future might be like (for society, for an organisation)	Creating a common purpose, getting buy-in	Developing and sustaining good trusting relationships
Critical thinking and other analytical skills	Managing information	Being able to work in and with teams

Assimilating and organising relevant information (making connections between different bodies of facts)	Using good change management techniques. Creating environment where there's trust, security, etc; collaborative working	Respecting and working positively with diversity (of people, of views)
Confidence and ability to challenge (the status quo, business as usual)	Patience, negotiating, diplomacy	Managing stakeholder relations
Confidence to go above and beyond minimum standards	Designing a strategic vision, and integrating that with operational planning	Building partnerships, and capacity to participate
Ability to mediate so as to develop understanding of issues from both sides	Making a good case, justifying actions, lobbying	Advocacy
Inclusive of all opinions and levels of understanding	Taking responsibility and leading – trusting own actions, identifying emerging needs, prioritising (decision-making)	Knowing how to specify
Listening and reflecting	Participatory decision-making techniques	Inclusive decision-making and sustaining collaborative ventures. Consensus building.
Absorbing and giving information	Linking legislative drivers to positive agenda (eg, business, organisational opportunities)	Building capacity for learning about sustainable development

From: *Sustainability Literacy: knowledge and skills for the future*, Forum for the Future, 2004

Appendix 9 Two examples of ESD courses in ITT

Modules in the BEd course at University of Hertfordshire

Education for Sustainability: Teaching global perspectives for the 21st century

One of the strengths is that the course will have many contributors from a wide range of outlooks. MPs, local authority officers, senior officials in NGOs & pressure groups, and a wide range of lecturers and teachers have agreed to contribute. The essence of the course is to help student teachers, partnership schools and the local communities work together through an Agenda 21 framework toward sustainability in the 21st century. It is an elective course in years 3 and 4 of a BEd degree.

Module 1, Year 3 'The Global Picture', aims to bring together internal and external speakers to highlight the global implications of environmental and citizenship education and expose students to a wide range of contemporary thinking to help develop their thinking.

The rationale of the first module is to make the students aware of the cross curricular nature of Agenda 21 and its four strands:

- to decrease the use of raw materials and energy
- to reduce pollution and waste
- to protect fragile environments
- to share wealth and responsibilities more fairly in consideration of everyone's needs.

This module will explore conflicting environmental theories, values, attitudes, local and global citizenship.

Assessment : Internet search for local A21 policies and essay related exploring personal sustainability philosophy

Module 2, Year 4 'A green School' the focus is clearly on environmental and citizenship education in the primary school. Lecturers from across the curriculum will contribute, highlighting how LA21 can be delivered through their subject. Campus based fieldwork will make meaningful use of the surrogate 'school grounds' and buildings and lead into the third module

Assessment: production of a teaching resource related to Module 3.

Module 3, Year 4 'About, For and In the Environment', Environmental & citizenship projects with partnership schools and local community groups. Pairs of students will work with children on a local Agenda 21 project. It will be the responsibility of the students to make all the arrangements after the initial introductions from the course leader. The schools will already have been involved in the lead-in to the course. Many projects will be in the school grounds. A member of the course team will visit during the project to advise and encourage the students while checking that the work is firmly based within the National Curriculum incorporating literacy and numeracy and IT .

Assessment: A written evaluation of project.

The course has been well evaluated by the students. Comments like "it has really made me think" and "it's changed my ideas on primary education" have been welcomed. The wide range of speakers and lecturers gave a perspective of education from outside the primary classroom and certainly aligned with contemporary thinking on citizenship education. Projects have been established by partnership schools and students were involved in these. The projects strengthened the partnerships and have been really well evaluated by all concerned. One even had a visit from a delegation of Chinese environmental educators who with their hosts, WWF UK, were full of praise for the students and their involvement.

Peter Bloomfield (Course Leader)
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Department of Education
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Contents of *Education for a Sustainable Future*, a web based course jointly owned and managed by the Institute of Education at Manchester Metropolitan University and the Moray House Faculty of Education of the University of Edinburgh.

INTRODUCTION: How to use this site

Unit 1: WHY BOTHER WITH EDUCATION FOR SUSTAINABILITY?

[Section 1.0 Introduction](#)
[Section 1.1 Good Practice in Education for Sustainability](#)
[Section 1.2 The Environment](#)
[Section 1.3 Environmental Education in Primary Schools](#)
[Section 1.4 Has Environmental Education Failed?](#)
[Section 1.5 Education and Sustainability](#)
[Section 1.6 Envisioning the Future](#)
[Section 1.7 Educational Policy](#)
[Section 1.8 Environmental Ethics](#)

Unit 2: VALUES, ATTITUDES AND ACTIONS

[Section 2.0 Introduction](#)
[Section 2.1 A Personal Perspective](#)
[Section 2.2 Life Cycle Analysis](#)
[Section 2.3 Assessing Changes in Values and Attitudes](#)
[Section 2.4 Commitment and Actions](#)

Unit 3: CULTURE AND SUSTAINABILITY

[Section 3.0 Introduction](#)
[Section 3.1 Culture and Sustainability Case Studies](#)

Unit 4: CHANGE

[Section 4.0 Introduction](#)
[Section 4.1 Institutional Change](#)

Unit 5: TEACHING THROUGH THE ENVIRONMENT: CLASSROOM AND FIELDWORK PRACTICE

[Section 5.0 Introduction](#)
[Section 5.1 The Holistic Curriculum](#)
[Section 5.2 Expressive Arts and Language](#)
[Section 5.3 Humanities and Social Subjects](#)
[Section 5.4 Science, Mathematics, and Information and Computer Technology](#)
[- Activity 5.4.1 Investigations](#)
[- Activity 5.4.2 Ecological Footprint](#)
[- Activity 5.4.3 Analysing Forest Games for Understanding Ecological Concepts](#)
[- Activity 5.4.4 Experiments and Physical Models](#)
[- Activity 5.4.5 Simulations](#)
[- Activity 5.4.6 Systems Analysis](#)