



Conservation

Climate Change

Sustainability

WWF professional development framework of teacher competences for learning for sustainability

Learning for
Sustainability 

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EXECUTIVE SUMMARY

This report constructs a Professional Development Framework in learning for sustainability (LfS), which can form the basis of a continuing professional development programme for teachers. The approach to constructing the framework has been to review thirty-

two documents, most of which contain a range of frameworks for LfS and some of which contain general teaching standards from the four UK governments (education is one of the devolved responsibilities in the UK).

The documents were assembled through recommendations from the WWF Working Group for this project and all the documents are listed in Appendix A of this report. The resulting Professional Development Framework presented in this report draws on the key competences from the frameworks in the documents and it captures a particular view of education, which is relatively consistent throughout the documents under review.

The Professional Development Framework is presented as four interconnected groups of competences under the following headings.

- Values of the LfS View of Education
- Personal and Professional Attitudes
- Skills for Professional Practice
- Core Knowledge and Understanding

The Values of the LfS View of Education underpin the whole Framework as they characterise the view of education commensurate with LfS. The Personal and Professional Attitudes are closely linked with the LfS view of education and identify the attitudes teachers' engaged in LfS will display and promote. The Skills for Professional Practice competences cover mainly pedagogic skills, but also include skills linked to sustainability literacy. The concepts listed under Core Knowledge and Understanding address the issue of LfS being about 'everything' by identifying the core concepts associated with LfS, which all teachers should understand regardless of age phase or subject specialism.

VALUES
THE VALUES OF THE LfS
VIEW OF EDUCATION
UNDERPIN THE WHOLE
FRAMEWORK

INTRODUCTION AND BACKGROUND

This project report contributes to an on-going process by WWF-UK and WWF Scotland, which has included the scoping of a project for funding, a workshop event in January 2011 and a Working Group meeting in June 2011. This process has the overall

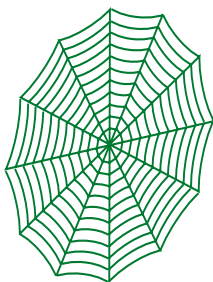
aim of producing a programme of professional development for teachers in learning for sustainability. The terms of reference for this report identified the purpose as *'a professional development framework of teacher competences, skills, values and core knowledge for effective learning for sustainability'*.

Before responding directly to the terms of reference, Section 2 in this report clarifies the way in which the term 'learning for sustainability' (or 'Lfs') and the term 'competence' are be used in this report. The report is based on a broad review of the literature related to frameworks for Lfs; the reviewed documents are listed in the Appendix of this report. The approach to reviewing the documents and the rationale for synthesising the key elements of the frameworks contained within the documents is provided in Section 3 of the report.

The WWF concept of Lfs is central to shaping the Professional Development Framework therefore the concept is discussed in Section 4 before the Framework is presented in Section 5. The Framework is underpinned by a particular view of education, which is presented as a series of value-related statements and which would result in classroom practice that reflects this view of education. The Framework is completed by further competence statements which are grouped into Personal and Professional Attitudes, Skills for Professional Practice and Core Knowledge and Understanding.

A full reference for each of the reviewed documents is provided in the Appendix and these references are not repeated in the references in Section 6 of the report. Section 6 only contains references which occur in the report, but which are not listed in the Appendix. The Appendix also identifies where the vast majority of these documents can be found on the internet.

Finally this report has incorporated feedback comments received from the Working Group following the circulation of an interim draft at the end of August 2011.



A NOTE ON TERMINOLOGY

Learning for Sustainability (LfS) is a term used by WWF to describe the type of education required to contribute to achieving a good quality of life for current and future generations while respecting the environmental limits and carrying

capacity of the planet. A more detailed description of LfS is covered later in this report. There are a number of other terms used by governments, organisations and publications, which overlap significantly with LfS, these include:

- Education for Sustainability (Efs)
- Education for Sustainable Development (ESD)
- Sustainable Development Education (SDE)

Throughout this report LfS will be used to refer to this field of education, the other terms will only be used when quoting documents in which these specific terms are used.

The term “competences” is used in slightly different ways within the literature on teacher training and in the wider field of education. The potential for ambiguity increases when similar terms are also used, as noted by Brett et al when developing a framework for Citizenship and Human Rights Education (document 23 in Appendix A).

‘First developed in the management field, the terms “competence”, “competences”, “competency” and “competencies” are often used interchangeably’ (Brett et al, 2009, page 14).

For Brett et al the term competence “has a large variety of meanings, and it can be captured by the terms “ability”, “aptitude”, “capability”, “effectiveness” and “skill”” (ibid).

The Chartered Institute of Development and Personnel has these definitions on its website.

“Competency” and “competencies” may be defined as the behaviours (and, where appropriate, technical attributes) that individuals must have, or must acquire, to perform effectively at work – that is, the terms focus on the personal attributes or inputs of the individual.’

“Competence” and “competences” are broader concepts that encompass demonstrable performance outputs as well as behaviour inputs, and may relate to a system or set of minimum standards required for effective performance at work.²

The documents reviewed as part of the research for this report use the term ‘competence’. However, there is an added dimension given to the term by several of the documents, which gives it a dynamic aspect recognising the interrelated nature of competences. The General Teaching Council for Northern Ireland in document 26 in Appendix A describe competences as follows.

‘The development of competence goes well beyond the simple acquisition of knowledge and skills; although curricular knowledge and pedagogical skills are important, we should be mindful that teaching is both an intellectual and practical activity with important emotional and creative dimensions.’ (GTCNI, 2007, page 11)

This report will use the term competences to refer to a dynamic and interrelated set of knowledge, intellectual skills, pedagogical skills, attitudes and dispositions.

² Taken from CIPD website <http://www.cipd.co.uk/hr-resources/factsheets/competence-competency-frameworks.aspx> viewed 18 August 2011

COMPETENCES
REFER TO A DYNAMIC AND
INTERRELATED SET OF
KNOWLEDGE, INTELLECTUAL
SKILLS, PEDAGOGICAL
SKILLS, ATTITUDES AND
DISPOSITIONS

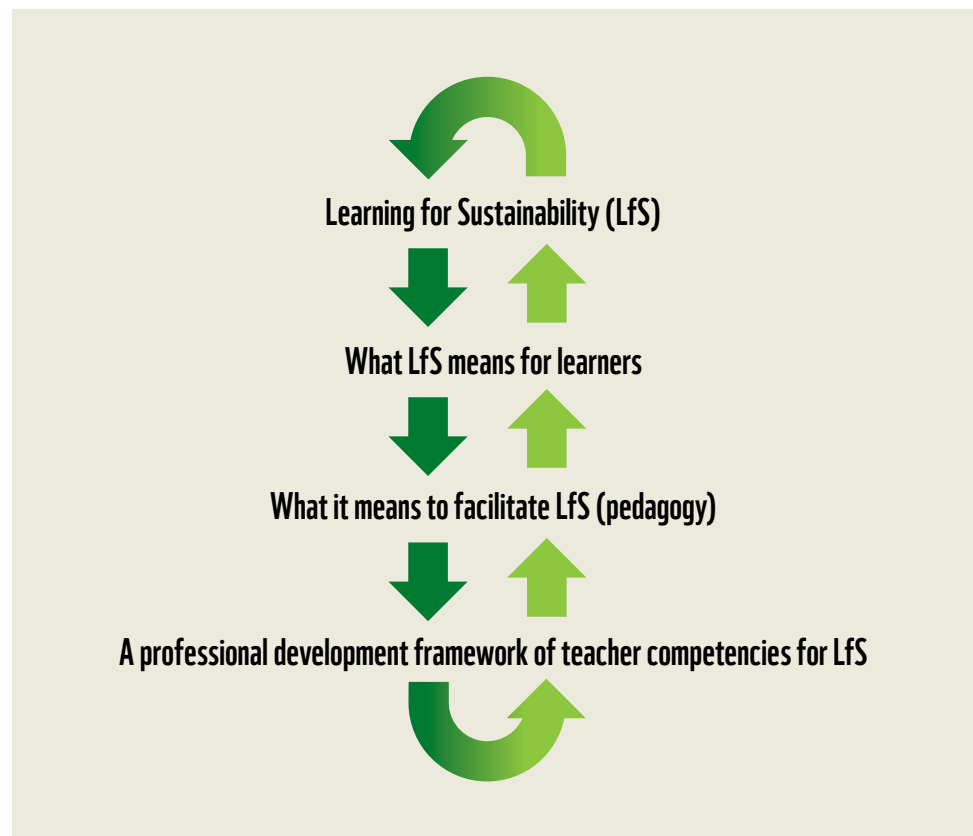
APPROACH AND METHODS

Having a clear vision of LfS from a WWF perspective was a starting point for developing the Development Framework. By understanding what LfS should mean for learners, it is possible to identify the pedagogical approaches that can deliver

LfS and therefore the competences needed by teachers to be able to effectively use those approaches and feel confident about LfS.

Figure 3.1 summarises this approach and it also recognises the influence of reflective feedback between professional practice and our understanding of LfS.

FIGURE 3.1 THE LINKS BETWEEN LfS AND THE PROFESSIONAL DEVELOPMENT FRAMEWORK FOR TEACHERS



Review of existing frameworks

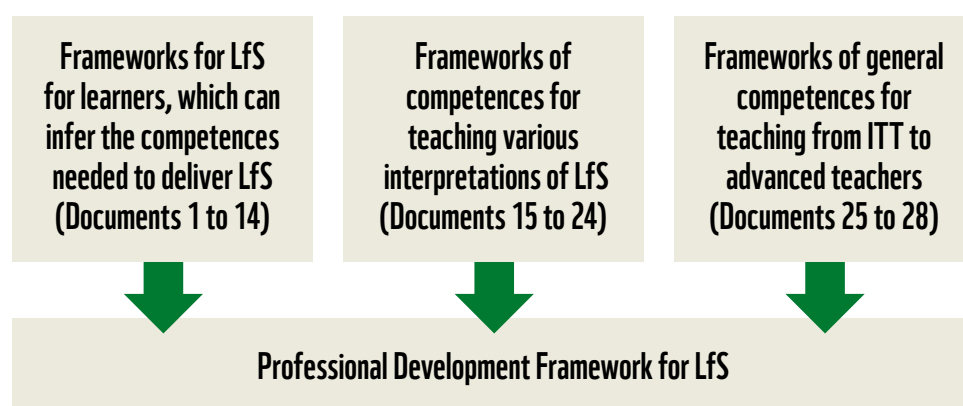
A significant number of documents have been produced to scope what the various forms of LfS might mean for learners, schools and other education institutions. Some frameworks have been developed specifically for the teaching of LfS and in addition there are a number of sets of general standards for teaching. A range of these existing documents were selected by members of the Working Group (as convened in June 2011) and reviewed by the author of this report to draw out common factors and to build on the extensive work already completed in this area. The documents are listed in the Appendix of this report and are broadly grouped in the following manner.

- Documents numbered 1 to 14 refer to implementing LfS or similar with learners other than trainee teachers; they include whole institutional approaches as well as purely curriculum frameworks.
- Documents numbered 15 to 24 refer specifically to teacher competences for delivering LfS or similar.
- Documents numbered 25a to 28d refer to sets of standards of general competences for teachers in the four UK devolved authorities.

The documents are in no significant order within these groupings and the numbering is only for ease of reference within this report and has no other significance.

All the documents have the potential to contribute to the Professional Development Framework for LfS, as shown by figure 3.2 below.

FIGURE 3.2 GROUPS OF DOCUMENTS REVIEWED FOR THE PROFESSIONAL DEVELOPMENT FRAMEWORK FOR LfS



The frameworks in documents 1 to 14, which refer to curricula for LfS or whole institutional approaches to LfS, are useful for scoping the extent of knowledge, skills and values that teachers involved with LfS are likely to encounter and therefore can be indicative of the approaches LfS may demand of teachers. The submission to the review of the National Curriculum in 1998 by the UK Sustainable Education Panel (document 1) sets out a framework based on seven key concepts for sustainable development. This framework has been used as a basis for several subsequent frameworks, which appear in the list of documents. Frameworks outlining curricula for Global Citizenship Education demonstrate their close relationship with LfS frameworks with only subtle shifts in emphasis around social and environmental issues. Oxfam’s 2006 publication *A Curriculum for Global Citizenship* (document 2) established a benchmark for developments in this particular area. The devolved administrations in the UK have all developed their own approaches to LfS and Global Citizenship, with Wales overtly combining the two under the heading ESDGC (Education for Sustainable Development and Global Citizenship, documents 5, 21 and 22). One strong characteristic common to all of the curricula frameworks and the whole institutional approaches is the emphasis on the interdependent relationships of the elements in the frameworks, which implicitly demands a degree of systemic thinking by those wishing to engage with them. This is a theme also found among the frameworks of teacher competences.

The frameworks of competences designed for teachers of LfS and similar areas such as Global Citizenship and Human Rights Education were particularly valuable in developing the Professional Development Framework. Several international frameworks were identified and reviewed (documents 15, 16, 18 and 23), which have incorporated

experiences from other, mainly European, countries. Systems thinking is a key feature of these frameworks and it emerges as a core competence for teachers of LfS. UNECE 2011 (document 16) refers to the educator knowing ‘the basics of systems thinking’. In *The Application of the Professional Standards for Embedding ESDGC in the Lifelong Learning Sector in Wales* (document 22) Lifelong Learning UK has the following statement under teaching and learning competences.

‘Emphasise systems thinking as a way of understanding interdependence and the complex nature of the world we live in’. (LLUK, July 2009, page 18)

In the framework produced by the Comenius 2.1 Project (document 15) systems thinking features prominently as one of five domains (the others being knowledge, emotions, ethics and values, and action), each domain has banks of competences relating to the ‘professional dimensions’ of teachers.

All of the examples reviewed struggle to represent the dynamic nature of the frameworks and the interrelated nature of the competences they contain. The framework produced by the Comenius 2.1 Project is the most innovative in attempting to portray these features through two overlapping triangles. One triangle represents professional competences, the other represents overall competences. The reader is asked to envisage the triangles rotating so that each of the competences is recognised as interacting with each of the professional dimensions. Significantly, this focuses on the role of human relationships, something that is overlooked in most frameworks although the UNECE framework (document 16) does highlight the importance of building positive relationships between teachers and learners in order to achieve transformation.

The standards for teachers from each of the devolved administrations in the UK provide frameworks of general competences, many of which correspond to the competences for LfS. The standards in Scotland and Wales give prominent references to sustainable development, citizenship, international education and ESDGC. The standards published by the General Teaching Council for Northern Ireland (document 26), with its concept of the teacher as “a reflective and activist practitioner”, has a particular resonance with LfS. By achieving a level of synergy between the general teaching standards and the competences in this WWF Framework, teachers who engage in LfS professional development will be contributing to maintaining their national professional standards.

Appendix A of this report summarises each of the documents that were reviewed. It briefly identifies the main audience for the document and gives an indication of the perspective on education suggested by the document. The brief summary of each document simply indicates the structure and main headings of any framework contained within the document. The vast majority of the documents reviewed are in the public domain on the internet and web addresses are provided for these. The models and contents of each framework were analysed for commonality and potential contribution to the Professional Development Framework.

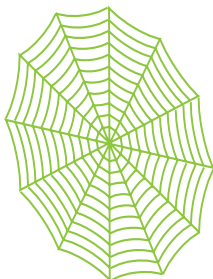
Shaping the Professional Development Framework

LfS is the focus for the continuing professional development that teachers will experience as a result of the Framework. The approach adopted in developing the Framework has attempted to reflect the ethos of LfS. The following principles have been used to shape the Professional Development Framework.

The Framework should:

- Reflect a view of education commensurate with the principles and values which underpin LfS.
- Emphasise the importance of the relationships between the competences. For example, the way in which a particular skill is applied will be influenced by the attitudes of the teacher.

- Achieve a balance between the clarity and firmness of the competence and the opportunity for the teacher to develop the competence and apply it to different contexts.
- Address the issue of boundaries around the scope of LfS, particularly in relation to knowledge and understanding.
- Encourage self-development through reflection on practice and encourage research linking theory to practice.
- Achieve a balance between the extent to which the framework aims to transform education while identifying links with existing policies and trends in education.
- Be capable of evolving in the light of new knowledge and understanding relating to learning and sustainability.
- Where possible tie in with existing WWF good practice in LfS including:
 - *Linking Thinking* with regard to developing knowledge and skills on systems thinking;
 - *One Planet Living* with regard to developing knowledge on environmental limits;
 - *Pathways* and *School Leadership* courses for heads of departments, heads and deputies.



LEARNING FOR SUSTAINABILITY

With the emergence of sustainable development towards the end of the 20th century WWF developed their model of LfS concurrently with other conceptual models of education for sustainability, most of which have their pedagogical roots

in environmental education, development education and other adjectival educations such as human rights education and global education.

LfS has been the focus of WWF's education work during the first decade of the 21st century and this conceptual model of education has been described in a number of WWF publications, particularly the influential *Pathways: A Development Framework for Sustainability*, which presents LfS as follows.

'In the context of WWF's formal education work, Learning for Sustainability refers to all the different processes that advance knowledge, skills, values and attitudes, and empower individuals, schools and communities to pursue social justice, economic security, environmental stewardship and civic democracy as complementary goals – now and in the future.'

Learning for Sustainability is a lifelong process, or journey, influenced by the social and environmental contexts in which it takes place. It's not a new field or merely a cross-cutting theme; it's the essence of a whole school or community ethos that helps people of all ages make better sense of their world. It's a standard against which communities (and schools) can measure their contributions to their futures and the learners they serve.

Each school's Learning for Sustainability journey will be unique. Learning for Sustainability is different in each place it is practised. Its key concepts, processes and design practices will reflect the character of your local community – its environment, social setting, economic development practices and links to the global community. And each school will set off on its journey with a range of human and financial resources, and a range of institutional capacities to embrace and develop a whole school approach to Learning for Sustainability.' (WWF, 2005, page 4)

One of the challenges of LfS is accepting that it is a dynamic concept, which can change as a result of context. This is a key aspect that the Professional Development Framework must enable teachers to come to terms with. The influence of context is a feature of sustainable development and the close relationship between sustainable development and LfS is highlighted in this extract from a publication from WWF Scotland.

'Sustainable Development is the drive to improve the quality of people's lives and surroundings, and to prosper without destroying the life-supporting systems that current and future generations of humans depend on. Learning for sustainability is at the heart of making progress on this – it is about equipping people with the knowledge, skills, values, attitudes and perspectives they need to engage with sustainable development and the benefits it can bring.'

(WWF Scotland, 2005, LfS Enhancing Pupil Motivation: Submission to the Education Committee Inquiry into Pupil Motivation, page 1)

The importance of values and attitudes interacting with knowledge and skills is emphasised by Chris Gayford (document 24).

'Achieving sustainability – where we live within the environmental limits of our planet in a just and equitable society – will require new knowledge, skills, values and attitudes. Learning for sustainability is the process of developing the knowledge, skills, values and attitudes needed to move from where we are now to a state of sustainability.'

It is important to note that learning which simply develops knowledge, understanding and skills is not enough. The values that learners attach to this knowledge, and their attitudes to applying these skills, are of huge importance. Learning about sustainability in ways that do not address values and attitudes is not considered either learning for sustainability or effective practice.'

(Gayford, 2010, Learning for Sustainability in Schools: Effective Pedagogy, page 6)

In his report for the Higher Education Academy *Future Fit Framework* (document 9) Stephen Sterling identifies a series of assumptions which underpin his view on ESD and these assumptions apply equally well to the WWF view of LfS. These assumptions inform the knowledge, skills, values, attitudes and perspectives referred to in the extracts above and the competences of the Professional Development Framework.

'The kind of assumptions that underlie thinking and practice in ESD are that:

- individuals, organisations and society need to shift values, thinking, policies and practices towards those that can help ensure a viable future*
- sustainability issues are often characterised by complexity and uncertainty and cannot be understood adequately through single disciplines, although each has a contribution to make*
- sustainability issues often present ethical challenges and dilemmas*
- sustainability issues are often marked by rapid change as evidenced by news coverage of such topics as energy, health, social justice, migration, environmental stresses, climate change, globalisation etc.*
- sustainability requires learning that engages and develops the 'whole person': affective, cognitive, and practical dimensions and abilities, in relation to 'real-world' issues and concerns.'*

(Sterling, *Future Fit Framework*, awaiting publication at the time this report was written.)

There is a further challenge for teachers engaged with LfS linked to complexity, uncertainty and rapid change in Sterling's second and fourth bullet points above. Sustainable development is based on the best available knowledge at a given time, but it accepts that knowledge is always potentially incomplete and that new knowledge emerges which changes existing orthodoxy. This presents a particular challenge to teachers in their professional role and demands a certain approach to education and pedagogy as well as re-assessing their view of the concept of knowledge. The Comenius 2.1 Project (document 15) includes a discussion on the concept of knowledge within the teaching of LfS.

The Professional Development Framework must not only support teachers in engaging learners with appropriate knowledge, skills and attitudes, but these must also be inherent in the way the Framework is constructed and eventually in the model of continuing professional development for the delivery of the Framework.

THE PROFESSIONAL DEVELOPMENT FRAMEWORK

The frameworks reviewed in the Appendix have a variety of statements referring to knowledge, skills, attributes, attitudes, values and dispositions. The proposed Professional Development Framework has drawn on these statements and where necessary converted statements of content or learning outcomes into competences

which are appropriate for practising teachers. The Framework attempts to promote the progressive and transformative aspects of LfS, while recognising that the majority of teachers are working in the formal state systems of the UK and will need to respond to the needs of students in achieving traditional outcomes such as examination results.

The Framework of competences is divided into four groupings, which should be considered as four parts of an interrelated whole. The groupings are:

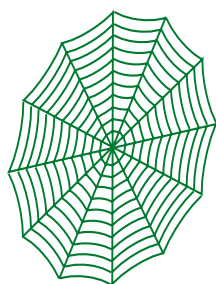
- Values of the LfS View of Education
- Personal and Professional Attitudes
- Skills for Professional Practice
- Core Knowledge and Understanding

The Values of the LfS View of Education provide a lens which gives a particular view of education, one which enables an individual to engage with the attitudes, skills and knowledge in the rest of the Framework. Because the values are fundamental to the individual's perception of education they underpin the whole Framework, including the Personal and Professional Attitudes linked to the teaching of LfS. This relationship between the values and attitudes is comparable to the way in which Griffin et al (2002, document 20) distinguish between dispositions and values for ITT students. For Griffin et al the dispositions are what students entering into ITT should demonstrate while the values are what the ITT process should promote. In this WWF Framework the values are held or adopted by teachers engaging with LfS and the attitudes are promoted through practicing LfS. The values and attitudes are closely related and both manifest themselves through the classroom practice which is the outcome of implementing the Framework.

The Skills for Professional Practice combine generic teaching skills relevant to LfS as well as skills specifically associated with sustainability. Recognising the interaction between these skills is important, because bringing the generic teaching skills into play in the context of sustainability results in the pedagogical approaches that distinguish LfS.

The Core Knowledge and Understanding element of the Framework is an attempt to identify the concepts, of which all teachers involved in LfS should have a basic understanding. This section is also designed to address the issue of the need to be an 'expert' in everything. Systems thinking is a key aspect of understanding sustainability, but it also leads to the recognition that sustainability can involve "everything". This has been a barrier for some teachers when it comes to engaging with LfS as Griffin et al point out in relation to initial teacher training.

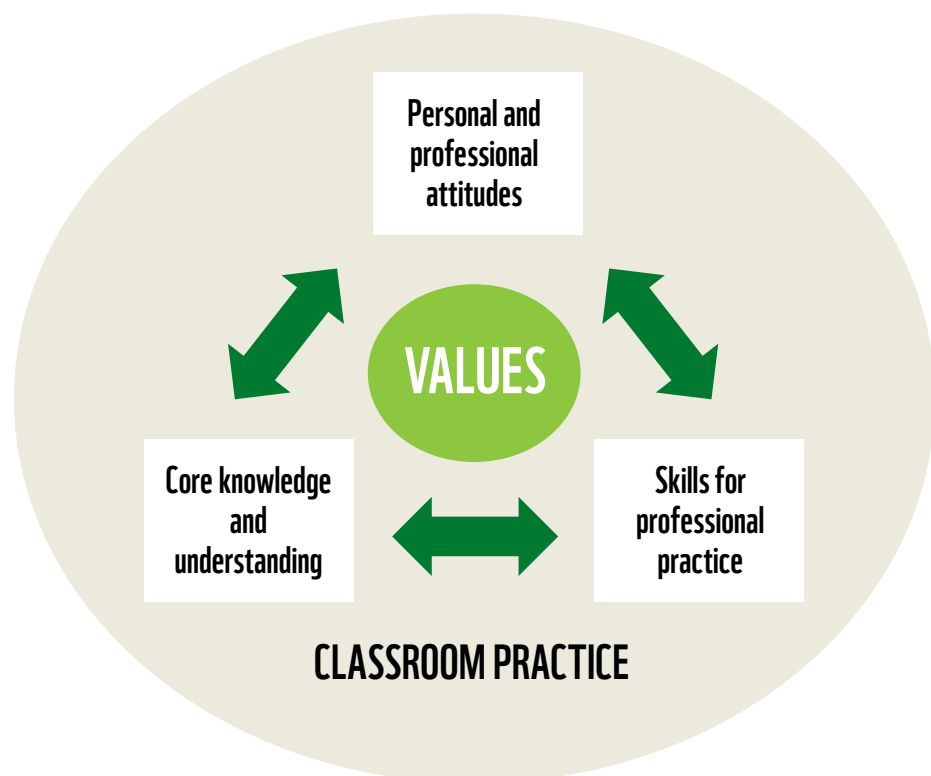
'SDE involves huge and complex areas of knowledge and understanding. This is often daunting for new teachers and ITT tutors. In our experience it is the fear of not knowing enough that sometimes prevents teachers from engaging with SDE in the ITT and school classroom.' (Griffin et al, 2002, page 8)



It is impossible to have detailed, in-depth knowledge in all subject areas; there has to be a balance between breadth and depth. Just as systems thinking seems to be at the root of this problem, it can also provide the solution. In order to have in-depth knowledge there needs to be a degree of reductionist learning, but this should always be conducted in the systemic context i.e. recognising how specific subject learning connects to the bigger picture. Meadows (2009) in the book *Thinking in Systems* begins by emphasising the need for both reductionist thinking and systems thinking, and that the two should be complementary. In studying any subject or topic teachers and learners have to draw boundaries based on limiting factors, but they should always be aware of the broader context. Meadows refers to 'bounded rationality', which means making decisions on the knowledge available, while recognising that that knowledge may be incomplete. This also raises the question of the nature of knowledge as discussed in section 5.5 below.

It is important to highlight the interrelated nature of the competences within and across the groupings of the competences. As mentioned above the Comenius 2.1 Project does attempt this through a diagrammatic presentation. Diagram 5.1 summarises the Professional Development Framework for LfS demonstrating the central role of the Values of the LfS View of Education in the Framework, which works as an interrelated whole to influence classroom practice.

FIGURE 5.1 THE STRUCTURE OF THE PROFESSIONAL DEVELOPMENT FRAMEWORK FOR LfS



VALUES OF THE LfS VIEW OF EDUCATION

‘More progressive educational thinking considers effective pedagogy to involve more participative approaches between teacher and pupils. Here the role of the teacher is to facilitate and guide learning rather than being a ‘fount of all knowledge’,

and the learner is an active partner in judging their progress towards learning objectives.’ (Gayford, 2010, page 10)

This view of teaching and learning is common among the documents reviewed, in particular UNESCO 2011 (document 18) references a range of research from the UK and internationally, which links participative approaches to ESD practice. In some of the documents the teacher is seen not only as a facilitator and guide, but also a co-learner. This view of the role of the teacher requires a particular view of education and as a result the following values are identified as underpinning the Professional Development Framework and characterising a view of education commensurate with LfS.

Teachers of LfS will hold a view of education which:

- recognises that each individual is on their own learning journey and they progress at different rates;
- adopts a co-learning approach with students, while offering guidance and showing leadership;
- recognises that teaching is not value-neutral and the learning context and the learning process should reflect the values being taught;
- promotes critical thinking and questioning;
- perceives education as a transformative process, expanding the individual’s worldview;
- sees reflection as a key part of teaching and learning;
- sees knowledge as continually emerging and liable to change;
- requires teachers to question themselves in terms of their practice and take opportunities to conduct research into their own teaching;
- has a balance between disciplines and interdisciplinarity where the reductionist focus on individual subjects is seen in the context of the systemic whole;
- values and promotes learning outside the classroom.

The values inherent in these statements link with the teaching standards of the four devolved administrations in the UK, which in varying degrees call for teachers to recognise the individual needs of students; to model attitudes and values; and to reflect and be self-critical as a means of continuous improvement.

PERSONAL AND PROFESSIONAL ATTITUDES

There is a recognition among the documents reviewed that a crossover exists between personal and professional values and attitudes not only in LfS, but in teaching generally. For example, the GTC in Scotland refers to 'Professional values and personal commitments', and the UNECE 2011 framework has a cluster of competences around the concept of 'Learning to be'.

'Learning to be addresses the development of one's personal attributes and ability to act with greater autonomy, judgement and personal responsibility in relation to sustainable development.' (UNECE, 2011, page 6)

It is a false dichotomy to separate personal attitudes towards sustainability issues from attitudes related to LfS. The following attitudes will influence personal behaviour as well as professional practice.

Teachers of LfS, through their professional practice, will show a commitment to:

- equality and justice, including the rights of future generations;
- valuing biodiversity and the natural systems which support life;
- respecting social and cultural diversity;
- dialogue and collaboration with colleagues, especially in relation to bridging subject barriers;
- challenging assumptions, including the assumptions underlying unsustainable practice;
- being open-minded;
- reviewing and developing their own practice through reflection and by being prepared to risk experimenting with new approaches to learning;
- promoting systems thinking as a means to understanding the interdependent nature of the world;
- respecting the voice of learners in discussion and democratic decision-making.

SKILLS FOR PROFESSIONAL PRACTICE

The research conducted by Gayford (2010) identified sixteen examples of pedagogical approaches which support LfS, including participative approaches. The prominence of active learning and participative approaches is supported by the UNESCO 2011 Expert Review into ESD.

‘Active and participatory learning have been broadly agreed as core processes underpinning ESD by a number of researchers and commentators worldwide and across educational settings. They are commonly recognised as central to teaching and learning strategies for sustainable development because they encourage learners to:

- *ask critical reflective questions;*
- *clarify values;*
- *envision more positive futures;*
- *think systemically;*
- *respond through applied learning;*
- *explore the dialectic between tradition and innovation.’*

(UNESCO, 2011, page 29)

Wider research in education also supports the view that active learning, critical thinking and reflecting on their own values contributes to good teaching.

‘... good teaching (is) taking place when students are involved in important issues, real-life experiences and the problems of living, when they are actively involved in doing things rather than watching, when they are questioning common-sense and widely-held assumptions, including their own feelings and beliefs, and when they are involved in planning what they do and what outcomes they produce.’

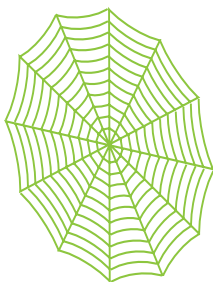
(Morgan et al, 2007, page 25)

This suggests that LfS has much to offer ‘good teaching’ and by doing so it support the career development of individual teachers. The skills listed below focus primarily on pedagogy, but they also relate to the individual being “sustainability literate”.

Teachers of LfS will, as part of their professional practice, be able to:

- adopt a connected (systemic) view of the world;
- engage and empathise with learners and build positive relationships;
- select appropriate teaching methods that reflect the knowledge skills and attitudes inherent in LfS;
- devise and facilitate learning that encourages systems thinking, creative thinking and critical thinking;
- promote a balance between independent learning and collaborative learning with peers;
- create opportunities for learning to be transformative in terms of challenging assumptions and expanding worldviews;
- encourage meaningful participation in debate and decision-making;
- reveal the links between rights and responsibilities, and between actions and consequences;

- help learners develop strategies for coping with issues which are open-ended, complex or uncertain;
- help learners to recognise alternative perspectives on controversial issues and on issues which may cause an emotional response;
- help learners envision alternative futures and practice action-planning;
- create opportunities to reflect on learning;
- devise assessments which are formative and developmental, and which address attitudes as well as knowledge and skills;
- connect learners to their dependence on the natural world;
- connect learners to a sense of local and global community;
- reflect and make connections between theory and practice;
- use research to develop own practice;
- work collaboratively with colleagues to facilitate interdisciplinary learning and to develop LfS;
- advocate and provide leadership for sustainability when appropriate.



CORE KNOWLEDGE AND UNDERSTANDING

The certainty of knowledge is a critical issue for both learners and teachers in relation to the traditional outcomes of formal education. For most subject areas knowledge is changing at such a slow rate during the course of a student's school

career that it is perceived as being fixed. This enables teachers to teach, and students to approach assessments, with a degree of confidence in their understanding.

However, new knowledge is emerging all the time, particularly in areas associated with LfS. Adopting the view that knowledge is never complete and that current learning and decision-making is based on the best knowledge available, while accepting that one's understanding may change at some point in the future, is a challenge for teachers and learners, but it is a key disposition associated with LfS.

While it is neither possible nor necessary to have an in-depth knowledge of all the subjects that fall within the scope of sustainability, this Framework proposes that LfS does demand a basic level of understanding of the following key concepts.

LEARNING FOR SUSTAINABILITY KEY CONCEPTS

CONCEPT	UNDERSTANDING REQUIRED
THE INTERDEPENDENCE IN NATURAL AND HUMAN SYSTEMS	<ul style="list-style-type: none"> • the difference between reductionist thinking and systems thinking; • that everything in the world is connected and all actions have consequences.
CONSUMPTION AND ENVIRONMENTAL LIMITS	<ul style="list-style-type: none"> • what is meant by carrying capacity; • the ten principles of WWF One Planet Living.
EQUITY, JUSTICE AND CULTURAL DIVERSITY	<ul style="list-style-type: none"> • that human rights and human needs are universal and apply to future generations; • why maintaining cultural diversity is valuable; • the relationship between rights and responsibilities; • what justice and fairness means in practice.
BIODIVERSITY	<ul style="list-style-type: none"> • the importance of diverse species of animals and plants for human well-being; • the urgency of protecting endangered species and ecosystems.
POWER AND DEMOCRACY	<ul style="list-style-type: none"> • that political power is a feature of human relationships; • that there are different methods of democratic decision-making; • that the principles of democratic decision-making can apply at different levels including the classroom, school, national government, EU and UN.

CONCEPT	UNDERSTANDING REQUIRED
THE LINEAR AND THE CYCLICAL ECONOMIES	<ul style="list-style-type: none"> • that the dominant economic model is linear, i.e. take resources, make products, dispose of waste from the process including end of product life; • the need to move to a cyclical economic model, i.e. use renewable resources where possible and view all waste as a valuable resource to be recycled.
CLIMATE CHANGE	<ul style="list-style-type: none"> • the difference between climate and weather; • that global warming refers to an increase in the average temperature of the Planet, which can result in a range of changes to climate and weather; • the link between carbon dioxide and global warming.
UNCERTAINTY, RISK AND PRECAUTION	<ul style="list-style-type: none"> • how to evaluate risk and take decisions when knowledge is incomplete; • the value of the precautionary principle in personal, social, economic, scientific and technological decision-making in the light of uncertainty.
CHANGE FOR SUSTAINABILITY	<ul style="list-style-type: none"> • that change for sustainability in individuals requires a change in values and perspective; • that change for sustainability in institutions and society requires a cultural change.

The final competences in this group relate to subject specialists with an in-depth knowledge in their chosen field. Once a subject specialist has the core knowledge and understanding of LfS outlined above they should:

- understand the links between their specialist subject and LfS;
- appreciate the contribution of their subject to LfS and the contribution of LfS to their subject.

REFERENCES

NOT INCLUDED IN THE APPENDIX

Meadows D, (Edited, Wright D), 2009, *Thinking in Systems: A Primer*, Earthscan, London

Morgan J, Williamson B, Lee T, Facer K (2007) *Enquiring Minds*, Futurelab, Bristol

WWF, 2005, *Linking Thinking: New Perspectives on Thinking and Learning for Sustainability*, WWF Scotland, Perthshire

WWF, 2005, *Pathways: A Development Framework for School Sustainability*, WWF-UK, Godalming

APPENDIX

SUMMARY OF DOCUMENTS WITH THE POTENTIAL TO CONTRIBUTE TO A PROFESSIONAL DEVELOPMENT FRAMEWORK OF COMPETENCES FOR LEARNING FOR SUSTAINABILITY

These documents have been identified by the Working Group members as having the potential to contribute to the Professional Development Framework.

- Documents 1 to 14 refer to implementing LfS or similar with learners other than trainee teachers, they include whole institutional approaches as well as purely curriculum frameworks.
- Documents 15 to 24 refer specifically to teacher competences for delivering LfS or similar.
- Documents 25a to 28b refer to general teacher competences including achieving QTS.

NB. Within these groupings the documents are in no significant order and the numbering system is purely for use in this report.

DOCUMENT	
1	<i>Annex 4: Submission to QCA in First Annual Report 1998</i>
BY	Sustainable Development Education Panel, London, 1999.
AT	http://www.tidec.org/Visuals/Downloads/Sustainable_Development_Education_Panel_Annual_Report_1998.pdf
TARGET	The document was directed at the committee who were revising the content of the National Curriculum for England and Wales for implementation in 2000.
PERSPECTIVE	A need to transform the established system of education in schools, the document calls for ‘...a change in educational thinking and practice.’
SUMMARY	<p>The document sets out a definition and rationale for ESD. Seven Key Concepts for sustainable development form a key part of the structure of this framework:</p> <ul style="list-style-type: none"> • Interdependence • Citizenship and stewardship • Needs and rights of future generations • Diversity • Quality of life, equity and justice • Sustainable Change • Uncertainty and precaution in action <p>To create the framework each Key Concepts is set against:</p> <ul style="list-style-type: none"> • Values and dispositions – Reflect and enact... • Skills and aptitudes – Ability to... • Knowledge and understanding – Know and understand... <p>The final element of the framework is to set out learning outcomes for each Key Stage for each Key Concept.</p>

2	<i>A Curriculum for Global Citizenship</i>
BY	Oxfam, Oxford, 2006.
AT	http://www.oxfam.org.uk/education/gc/files/education_for_global_citizenship_a_guide_for_schools.pdf
TARGET	Those who can influence what is taught in schools, primarily teachers, parents, governors, inspectors and others. There are three activities for introducing the global dimension to teachers.
PERSPECTIVE	The document is focused on emphasising the importance of the global dimension within the wider context of education and it sees education as “a powerful tool for changing the world”. A Curriculum for Global Citizenship takes a holistic approach to influencing school based education. It seeks to integrate the global dimension to all subject areas and influence the values that underpin the ethos of the school.
SUMMARY	<p>The framework sets out what should be delivered to students in relation to global citizenship. The structure of the framework is based on “The Key Elements of Responsible Global Citizenship” which are developed for each Key Stage from Early Years to 16 – 19. The Key Elements are identified under knowledge, skills and values as follows:</p> <p>Knowledge and Understanding</p> <ul style="list-style-type: none"> • Social justice and equity • Diversity • Globalisation and interdependence • Sustainable development • Peace and conflict <p>Skills</p> <ul style="list-style-type: none"> • Critical thinking • Ability to argue effectively • Ability to challenge injustice and inequality • Respect for people and things • Co-operation and conflict resolution <p>Values and attitudes</p> <ul style="list-style-type: none"> • Sense of identity and self-esteem • Empathy • Commitment to social justice and equity • Value and respect for diversity • Concern for the environment and commitment to sustainable development • Belief that people can make a difference
3	<i>Sustainable Development Education in a Curriculum for Excellence</i>
BY	An SDELG Discussion Paper
AT	http://www.scwg.aaps.ed.ac.uk/docs/open/SDELG.pdf
TARGET	The Sustainable Development Education Liaison Group (SDELG) produced this document in order to influence the developers of A Curriculum for Excellence in Scotland.
PERSPECTIVE	SDE is presented in the context for education set out in A Curriculum for Excellence. It is a whole school approach to education and based on curriculum development principles listed under “Design principles” in Learning and Teaching Scotland, 2011 below. The SDE content is located in three parts of the curriculum: 1. Across subject areas, 2. Within Citizenship, and 3. Core content for SD as a cross-curricular, interdisciplinary element.

SUMMARY	<p>The document sets out an “indicative curriculum framework” including the content for SDE for school students in Scotland. For each year group in Scottish schools the document scopes the content for Key SD Principles within the Citizenship curriculum and four Key SD Issues drawn from the Scottish and UK SD Strategies.</p> <p>Key SD Principles:</p> <ul style="list-style-type: none"> • Interdependence • Diversity • Carrying Capacity • Rights and Responsibilities • Equity and Justice • Uncertainty and Precaution <p>Key SD Issues</p> <ul style="list-style-type: none"> • Sustainable consumption and production • Climate change and energy • Natural resource protection and environmental enhancement • Sustainable communities
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4	<i>Developing Global Citizens within Curriculum for Excellence</i>
BY	Learning and Teaching Scotland, Glasgow, 2011
AT	http://www.ltscotland.org.uk/Images/DevelopingGlobalCitizens_tcm4-628187.pdf
TARGET	All practitioners and partner organisations engaged in Scottish education – all those seeking to develop young people as global citizens.
PERSPECTIVE	A reflective approach to learning in the context of A Curriculum for Excellence in Scotland, drawing on Sustainable Development Education, Education for Citizenship and International Education. ‘Education to develop global citizenship is values driven.’
SUMMARY	<p>The framework scopes the content for school based learners from the Foundation Phase through to 19 year olds, with special attention given to thinking, communication and ICT skills. Five “Common Areas” insure a whole school approach: 1 Commitment to Leadership; 2 Learning and Teaching; 3 School Management; 4 Partnerships and Community; 5 Research and Monitoring.</p> <p>The range of the ESDGC content is represented by seven themes:</p> <ul style="list-style-type: none"> • Wealth and Poverty • Identity and Culture • Choices and Decisions • Health • Consumption and Waste • Climate Change • The Natural Environment <p>These themes are underpinned by nine concepts:</p> <ul style="list-style-type: none"> • Interdependence • Citizenship and stewardship • Needs and rights • Diversity • Sustainable Change • Quality of life • Uncertainty and precaution • Values and perceptions • Conflict resolution

5	<i>Education for Sustainable Development and Global Citizenship: A Common Understanding for Schools</i>
BY	Information document no: 065/2008, Dept. for Children, Education, Lifelong Learning and Skills, Welsh Assembly Government, July 2008.
AT	http://wales.gov.uk/docs/dcells/publications/081204commonunderstschools.pdf
TARGET	‘Head teachers of all maintained schools in Wales’, teachers who may be unfamiliar with ESDGC and others concerned with ESDGC in Wales.

PERSPECTIVE	Integration of ESDGC into the existing curriculum structure for schools in Wales, enhancing the learning experience rather than transforming it.
SUMMARY	<p>The framework scopes the content for school based learners from the Foundation Phase through to 19 year olds, with special attention given to thinking, communication and ICT skills. Five 'Common Areas' insure a whole school approach: 1 Commitment to Leadership; 2 Learning and Teaching; 3 School Management; 4 Partnerships and Community; 5 Research and Monitoring.</p> <p>The range of the ESDGC content is represented by seven themes:</p> <ul style="list-style-type: none"> • Wealth and Poverty • Identity and Culture • Choices and Decisions • Health • Consumption and Waste • Climate Change • The Natural Environment <p>These themes are underpinned by nine concepts:</p> <ul style="list-style-type: none"> • Interdependence • Citizenship and stewardship • Needs and rights • Diversity • Sustainable Change • Quality of life • Uncertainty and precaution • Values and perceptions • Conflict resolution

6	<i>National Education for Sustainability K-12 Student Learning Standards Version 3</i>
BY	US Partnership for Education for Sustainable Development, September 2009.
AT	http://s3.amazonaws.com/usp_site_uploads/resources/152/USP_EFS_standards_V3_11_10.pdf
TARGET	Teachers wishing to integrate EfS into their courses.
PERSPECTIVE	Bringing an interdisciplinary approach into the established structure of formal school education in the US.
SUMMARY	<p>Providing a curriculum content framework for education for sustainability of 'what K-12 students should know and be able to do to be Sustainability literate'. The framework is based on three 'EfS Learning Standards' or 'Essential Understandings', each Standard has components and each component has a series of concepts for each age range.</p> <p>Components:</p> <ol style="list-style-type: none"> 1.1 Intergenerational responsibility 2.1 Interconnectedness 2.2 Ecological systems 2.3 Economic systems 2.4 Social and cultural systems 3.1 Personal action 3.2 Collective action

7	<i>Excellence in Environmental Education – Guidelines for Learning (K-12)</i>
BY	NAAEE, October 2003.
AT	http://www.fs.fed.us/outdoors/naturewatch/implementation/Curricula/Guidelines-for-Learning.PDF
TARGET	Students, parents, educators, home-schoolers, administrators, policy makers and the public.
PERSPECTIVE	Environmental education standards focused on learner attainment and linked to the school curriculum in the US.

SUMMARY	<p>The framework has ‘essential underpinnings’ which include:</p> <ul style="list-style-type: none"> • Systems • Interdependence • The importance of where one lives • Integration and infusion • Roots in the real world • Lifelong learning <p>These underpinnings give rise to four strands:</p> <p>Strand 1: Questioning and analysis skills Strand 2: Knowledge of environmental processes and systems Strand 3: Skills for understanding and addressing environmental issues Strand 4: Personal and civic responsibility</p>
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8	<i>Global Skills and Lifelong Learning: Future Challenges</i>
BY	DEA, London, June 2007.
AT	www.eauc.org.uk/file_uploads/a_global_skills_and_ll.pdf
TARGET	Tutors, lecturers, the learning and skills sector, DEC’s, inspectors and policy makers.
PERSPECTIVE	Emphasising skills within the context of development education in lifelong learning.
SUMMARY	<p>In this framework the DEA sets out priorities/actions for ‘key actors and agencies’ (including tutors and lecturers). The priorities/actions are grouped under the following four aspects:</p> <ul style="list-style-type: none"> • Global dimension: balancing the key concepts of citizenship, social justice, sustainable development, diversity, values and perceptions, interdependence, conflict resolution and human rights • Promoting skills for global engagement • Processes of learning and action • Multiple perspectives

9	<i>Future Fit Framework: An Introductory Guide to Teaching and Learning for Sustainability in HE</i>
BY	HEA ESD Project and the Centre for Sustainable Futures, Plymouth University (currently in press at September 2011).
AT	–
TARGET	Those interested in ESD in higher education.
PERSPECTIVE	A transformative view of education.
SUMMARY	<p>This comprehensive framework to teaching and learning for sustainability in HE incorporates several existing conceptual frameworks including the Seven Key Concepts in document number 1 in this table, the Five Capitals model and 10 Principles for One Planet Living. The skills element of this framework draws on previous work to identify what makes a sustainably literate graduate, including a model from Forum for the Future and the HEA report by Dawe et al in 2005, which listed the following attributes:</p> <ul style="list-style-type: none"> • be able to appreciate the importance of environmental, social and political contexts to their studies • be able to solve or ameliorate real-life problems through employing holistic as well as reductionist approaches, as appropriate to the issue • be able to think creatively, holistically, and systemically and make critical judgements on issues • be able to develop a high level of self-reflection at a personal and professional level • be able to understand, critically evaluate and adopt thoughtfully sustainability values • be able to apply theory to practice and vice-versa • be able to work collaboratively and work in interdisciplinary teams <p>A list of values are presented, which are drawn from the discourse on sustainability. Pedagogical approaches are identified along with appropriate teaching methods.</p>

10	<i>Washington State K-12 Integrated Environmental and Sustainability Education Learning Standards</i>
BY	Issued by Washington State Office of the Superintendent of Public Instruction, September 2009
AT	http://www.k12.wa.us/EnvironmentSustainability/pubdocs/ESEStandards.PDF
TARGET	Educators, community partners, parents and students in Washington State.
PERSPECTIVE	Cross-curricular approach for integration into the K-12 curriculum.
SUMMARY	Curriculum content based on a research report by Facing the Future consultancy in June 2008. The framework has three overarching standards, which are then linked to Essential Academic Learning Requirements in the Science Standards and Social Studies Standards for each age range. Standard 1: Ecological, social and economic systems Standard 2: The Natural and built environment Standard 3: Sustainability and civic responsibility
11	<i>Education for Sustainable Development Curriculum Pack</i>
BY	Howe Dell School, Hertfordshire.
AT	http://www.thegrid.org.uk/leadership/sustainability/casestudies/documents/howe_dell_ecocurriculum.pdf
TARGET	Staff, students, parents and governors at Howe Dell School and others interested in school based ESD.
PERSPECTIVE	Howe Dell is a new purpose built primary school with the building and the institution based on sustainability principles. A whole school approach to embedding ESD in the structure of the National Curriculum.
SUMMARY	The framework is based on the seven Key Concepts listed against document 1 in this table. The Key Concepts are expanded and a series of reflective questions is set against each Key Concept. For each subject a matrix is presented to identify the links between the Key Concepts and the subject, with the added dimension of identifying links between the subjects.
12	<i>Sustaining Our Future: A Framework for Moving Towards a Sustainable Learning and Skills Sector</i>
BY	The Learning and Skills Improvement Service, London 2011.
AT	http://www.ucu.org.uk/media/pdf/m/f/lslis_sustainingourfuturev3.pdf
TARGET	Institutions in the learning and skills sector.
PERSPECTIVE	A holistic approach to institutional change for sustainability.
SUMMARY	The framework has four key components. 1. An overarching vision: 'A learning and skills sector which maximises and mainstreams environmental, economic and social sustainability.' 2. Four themes: • Leadership • Learning • Organisational capacity • Partnerships 3. Information and resources linked to each theme. 4. Common resources, guidance and support.

13	<i>Sustainability and Scotland's Colleges</i>
BY	An Aspect Report by HM Inspectors on behalf of the Scottish Funding Council Scottish Funding Council, July 2009.
AT	–
TARGET	Colleges and other post-school institutions in Scotland.
PERSPECTIVE	A whole institutional approach in the context of the Scottish Government's commitment to sustainable development.
SUMMARY	This is a research report by HM Inspectorate for Education into the response of Scottish Colleges to the sustainability agenda in Scotland. The report uses a framework of key knowledge, skills and attitudes developed by the SDE Network in Scotland.

14	<i>Sustainable Schools: For Pupils, Communities and Environment</i>
BY	A Department for Education and Skills Consultation Paper, Nottingham, 2006.
AT	–
TARGET	School communities, pupils, teachers, parents, governors and LEAs.
PERSPECTIVE	Whole school approach based on the "Curriculum, Campus, Community" model, integrating ESD within the existing National Curriculum, not transformative.
SUMMARY	The framework of eight doorways providing a potentially systemic approach to the content of ESD. Doorways: <ul style="list-style-type: none"> • Food and drink • Energy and water • Travel and traffic • Purchasing and waste • Building and grounds • Inclusion and participation • Local well-being • Global dimension

15	<i>Competencies for ESD (Education for Sustainable Development) teachers: A framework to integrate ESD in the curriculum of teacher training institutes</i>
AUTHOR	
AT	http://www.ensi.org/media-global/downloads/Publications/303/CSCT%20Handbook_11_01_08.pdf
TARGET	Teacher training institutions and teachers across all sectors of education.
PERSPECTIVE	A holistic, futures oriented view of education with teachers as reflective practitioners working in dynamic relationship with their students.
SUMMARY	The framework is presented as a dynamic model of two overlapping triangles. One triangle represents the professional dimension of teachers and focuses on their relationships as individuals; as part of an institution; and as part of society. The second triangle represents overall competences in ESD under the headings: teaching; reflecting/visioning; and networking. The two triangles can be rotated connecting the overall competences with the different professional dimensions. In the centre of the model are five domains (knowledge, systems thinking, emotions, ethics and values and action) which have to be applied to each of the professional dimensions and they also relate to all overall competences. Finally the content of ESD has to be related to future development and to local and global contexts. This framework has the most extensive analysis of competences for teaching ESD of the of those listed in this table.

16	<i>Learning for the Future: Competencies in Education for Sustainable Development</i>
BY	United Nations Economic Commission for Europe, UNECE/CEP/AC.13/2011/6
AT	http://live.unece.org/fileadmin/DAM/env/esd/Sixth%20Meeting/Learning%20for%20the%20Future_%20Competences%20for%20Educators%20in%20ESD/ECE_CEP_AC13_2011_6%20COMPETENCES%20EN.pdf
TARGET	Educators involved in ESD across all sectors and particularly 'individuals, groups and institutions that have a multiplier effect, such as educators of educators'.
PERSPECTIVE	A whole institutional approach to education which is empowering and transformative.
SUMMARY	<p>This document presents a competences framework for ESD educators at all levels of education. The competences are embedded in a matrix which has the following essential characteristics of ESD on one axis:</p> <ul style="list-style-type: none"> • a holistic approach – integrative thinking and practice • envisioning change – past, present and future • achieving transformation – people, pedagogy and education systems <p>and categories which represent the four pillars of learning as identified in the 1996 'Delores Report', ('Learning the Treasure Within, Report to UNESCO of the International Commission on Education for the Twenty-first Century) on the other axis, namely:</p> <ul style="list-style-type: none"> • learning to know – the educator understands..... • learning to do – the educator is able to..... • learning to live together – the educator works with others in ways that..... • learning to be – the educator is someone who..... <p>Like document 15, the competences include reference to teacher-learner relationships as a means of achieving transformation.</p>
17	<i>Good Practices in Teacher Education Institutions</i>
BY	Education for Sustainable Development in Action, Good Practices No 2007, UNESCO Education Sector, Paris, January 2007.
AT	http://unesdoc.unesco.org/images/0015/001524/152452eo.pdf
TARGET	Educators and policy makers with an interest in ESD.
PERSPECTIVE	Perspectives on education vary to some extent across the different contributions to this document although they all subscribe to the aims of the UN Decade for ESD.
SUMMARY	The document presents eight examples of good practice from eight different countries. There is no single framework represented, but frameworks do underpin many of the examples. Some of these frameworks are inherent and others are overt, such as the 10 Aces model from Spain and the active learning model from South Africa.
18	<i>Education for Sustainable Development: An Expert Review</i>
BY	UNESCO, Paris 2011.
AT	http://unesdoc.unesco.org/images/0019/001914/191442e.pdf
TARGET	Officials and practitioners with an interest in the UN Decade for ESD.
PERSPECTIVE	Sees ESD as potentially transformative and is concerned with ESD across all sectors of education as well as informal learning.

SUMMARY	<p>The review has identified that certain key processes underpin ESD frameworks and practices. These include:</p> <ul style="list-style-type: none"> • processes of collaboration and dialogue (including multi-stakeholder and intercultural dialogue); • processes which engage the 'whole system'; • processes which innovate curriculum as well as teaching and learning experiences; • processes of active and participatory learning. <p>ESD learning also refers to:</p> <ul style="list-style-type: none"> • learning to ask critical questions; • learning to clarify one's own values; • learning to envision more positive and sustainable futures; • learning to think systemically; • learning to respond through applied learning; and, • learning to explore the dialectic between tradition and innovation.
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19	
BY	Pratchett, Presented as a paper at the 'All Our Futures Conference', Plymouth University, September 2008.
AT	http://esd.escalate.ac.uk/gattegno
TARGET	Practitioners, primarily in the schools sector.
PERSPECTIVE	ESD is both transmissive and transformative.
SUMMARY	Issues and change are at the centre of this framework. A cyclical model through awareness, analysis, evaluation and participation is facilitated by learning through the cognitive, affective and active domains at specific points in the cycle.

20	<i>Teaching for a Sustainable Future: Embedding Sustainable Development Education in Initial Teacher Training</i>
BY	Griffin, Inman, Meadows, Wade, Norman and Rodgers, Centre for Cross-Curricular Initiatives, LSBU, London 2002.
AT	http://www.lsbu.ac.uk/ccci/publications.shtml
TARGET	Teacher trainers.
PERSPECTIVE	A holistic, pupil centred approach to ITT.
SUMMARY	<p>A framework of knowledge, understandings, skills and values and dispositions for sustainable development education in initial teacher training.</p> <p>Knowledge and understanding for a sustainable future is identified through two 'central concepts' – social justice and equity. These two are then broken down into nine 'key concepts'.</p> <p>Skills identify the generic skills for the promotion of good practice in SDE and 'should be seen within the context of skills common to effective teaching for all areas of the curriculum.'</p> <p>Values and dispositions have two aspects. The dispositions that students entering into ITT should demonstrate and the values that the process of ITT should promote.</p>

21	<i>Education for Sustainable Development and Global Citizenship: Information for Teacher Trainees and New Teachers in Wales</i>
BY	Information document no: 066/2008, Dept. for Children, Education, Lifelong Learning and Skills, Welsh Assembly Government, July 2008.
AT	http://www.esd-wales.org.uk/english/higher_ed/downloads/ESDGC%20teacher%20trainees%20(e).pdf
TARGET	Teacher trainees, new teachers and teacher training institutions in Wales.
PERSPECTIVE	Enhancing pedagogy to deliver ESDGC within the school curriculum in Wales.
SUMMARY	Based on the framework for ESDGC as in document 5 in this table, this document provides examples of teaching strategies for ESDGC and suggested approaches for integrating ESDGC in subject areas.

22	<i>Application Guidelines: The Application of the Professional Standards for Embedding ESDGC in the Lifelong Learning Sector in Wales</i>
BY	LLUK and the Welsh Assembly Government, July 2009.
AT	http://www.unece.org/env/esd/EGC/Relevant%20materials/ESDGCApplicationsGuideEnglish.pdf
TARGET	Teachers in the lifelong learning sector in Wales, provider organisations in Wales and teacher educators.
PERSPECTIVE	College and work-based education within the context of the ESDGC agenda in Wales.
SUMMARY	<p>This document presents a framework that links elements of ESDGC practice to specific standards from the Professional Standards for teachers in the lifelong learning sector in Wales. Guidance on “extent” is provided for each ESDGC element. The framework is divided into six domains:</p> <ul style="list-style-type: none"> Domain A - Professional values and practice Domain B - Learning and teaching Domain C - Specialist learning and teaching Domain D - Planning for learning Domain E - Assessment for learning Domain F - Access and progression

23	<i>How Teachers Can Support Citizenship and Human Rights Education: A Framework for the Development of Competences</i>
BY	Brett et al, edited by Keating-Chetwynd S, Council of Europe, Belgium, March 2009.
AT	http://www.coe.int/t/dg4/education/edc/Source/Pdf/Documents/6555_How_all_Teachers_A4_assemble.pdf
TARGET	Teacher educators across Europe.
PERSPECTIVE	Education for democratic citizenship that contributes towards developing value oriented knowledge, action-based skills and change-centred competences that empower young people and strengthen social justice.
SUMMARY	<p>This framework consists of fifteen competences grouped into four clusters.</p> <ul style="list-style-type: none"> Cluster A: EDC/HRE knowledge and understanding Cluster B: teaching and learning activities that develop EDC/HRE in the classroom and school Cluster C: teaching and learning activities that develop EDC/HRE through partnerships and community involvement Cluster D: implementing and evaluating participatory EDC/HRE approaches

24	<i>Learning for Sustainability in Schools: Effective Pedagogy</i>
BY	Gayford C, WWF-UK, Godalming, 2010.
AT	http://assets.wwf.org.uk/downloads/wwf_pedagogy_report_final__no_back_tint__web.pdf
TARGET	Practitioners and academics interested in learning for sustainability.
PERSPECTIVE	Holistic approach to learning for a sustainable future, teacher as facilitator.
SUMMARY	This is a research report based on responses from schools. 32 examples of LfS provided by the schools are analysed to describe 19 broad groups of pedagogical approaches to LfS.

25 A	<i>Standard for Initial Teacher Education</i>
AUTHOR	GTC
PUBLISHER	General Teaching Council for Scotland (GTC), December 2006,

AT	http://www.gtcs.org.uk/standards/standards.aspx
TARGET	Teachers, teacher trainers and teacher assessors in Scotland.
PERSPECTIVE	Pupil centred education within the context of A Curriculum for Excellence.
SUMMARY	<p>A series of documents that presents a framework of professional standards grouped into three aspects in each document. The documents emphasise that it is the inter-relationships between these three aspects which develops the professionalism of the teacher. The three aspects are:</p> <ul style="list-style-type: none"> • Professional values and personal commitment • Professional skills and abilities • Professional knowledge and understanding

25 B	<i>The Standard for Full Registration</i>
BY	General Teaching Council for Scotland (GTCS), December 2006.
AT	http://www.gtcs.org.uk/standards/standards.aspx
TARGET	Teachers, teacher trainers and teacher assessors in Scotland.
PERSPECTIVE	Pupil centred education within the context of A Curriculum for Excellence.
SUMMARY	<p>A series of documents that presents a framework of professional standards grouped into three aspects in each document. The documents emphasise that it is the inter-relationships between these three aspects which develops the professionalism of the teacher. The three aspects are:</p> <ul style="list-style-type: none"> • Professional values and personal commitment • Professional skills and abilities • Professional knowledge and understanding

25 C	<i>The Standard for Chartered Teacher</i>
BY	General Teaching Council for Scotland (GTCS), December 2009.
AT	http://www.gtcs.org.uk/standards/standards.aspx
TARGET	Teachers, teacher trainers and teacher assessors in Scotland.
PERSPECTIVE	Pupil centred education within the context of A Curriculum for Excellence.
SUMMARY	<p>A series of documents that presents a framework of professional standards grouped into three aspects in each document. The documents emphasise that it is the inter-relationships between these three aspects which develops the professionalism of the teacher. The three aspects are:</p> <ul style="list-style-type: none"> • Professional values and personal commitment • Professional skills and abilities • Professional knowledge and understanding

25 D	<i>Ambitious, Excellent Schools: Standard for Headship</i>
BY	Scottish Executive, November 2005.
AT	http://www.gtcs.org.uk/standards/standards.aspx
TARGET	Headteachers, governors and local authority officers.
PERSPECTIVE	The focus is on leadership and management to achieve learning outcomes for students.
SUMMARY	The framework has professional actions at its centre, linked to personal qualities and interpersonal skills, strategic vision, values and aims, and knowledge and understanding. These elements of the framework are interdependent on each other and are designed to provide vision, direction and high standards of education, which create an enabling context for students.

26	<i>Teaching: the Reflective Profession (Incorporating the Northern Ireland Teacher Competences)</i>
BY	General Teaching Council for Northern Ireland, 2007.
AT	http://www.gtcni.org.uk/uploads/docs/GTCNI_Comp_Bmrk%20%20Aug%2007.pdf
TARGET	Teachers, teacher assessors, teacher trainers and Inspectors in Northern Ireland.
PERSPECTIVE	The concept of a reflective and activist practitioner sees the teacher as a moral agent and an informed, knowledgeable practitioner.
SUMMARY	<p>A framework of 27 competences grouped under the following three headings.</p> <ul style="list-style-type: none"> • Professional values and practice (As enshrined within the “Code of Values and Professional Practice”) • Professional knowledge and understanding • Professional skills and application <ul style="list-style-type: none"> – Planning and leading – Teaching and learning – Assessment

27	<i>Becoming a Qualified Teacher: Handbook for Guidance</i>
BY	Welsh Assembly Government Circular No. 017/2009, Cardiff, September 2009.
AT	http://teachertrainingcymru.org/ttwel/sites/default/files/090915becomingateacheren.pdf
TARGET	HE Funding Council for Wales, ITT institutions, Estyn, professional associations, schools in Wales and other interested parties.
PERSPECTIVE	Professional practice in relation to the National Curriculum for Wales.
SUMMARY	<p>A framework of standards for achieving Qualified Teacher Status in Wales. The standards are presented as three interrelated sections of outcome statements. The Sections are as follows.</p> <p>S1. Professional values and practice: these Standards outline the attitudes and commitment to be expected of anyone qualifying to be a teacher, and are derived from the General Teaching Council for Wales’s ‘Statement of Professional Values and Practice’.</p> <p>S2. Knowledge and understanding: these Standards require newly qualified teachers to be confident and authoritative in the subjects they teach and to have a clear understanding of how all learners should progress and what teachers should expect them to achieve.</p> <p>S3. Teaching: these Standards relate to skills of planning, monitoring and assessment, and teaching and class management. They are underpinned by the values and knowledge covered in the first two sections.</p>

28 A	<i>Professional Standards for Teachers</i>
BY	The Teacher Development Agency, London 2007.
AT	http://www.tda.gov.uk/teacher/developing-career/professional-standards-guidance/downloads.aspx
TARGET	Teachers and teacher educators and teacher assessors in England.
PERSPECTIVE	Pupil centred outcome focused education through the National Curriculum in the formal school sector in England.
SUMMARY	<p>This is a professional framework for teaching generally rather than ESD specifically. The framework sets out a career progression for teachers from Qualified Teacher Status to Advanced Skills Teacher through competences group under the following headings.</p> <ul style="list-style-type: none"> • Professional attributes • Professional knowledge and understanding • Professional skills

28 B	<i>Teachers' Standards: Effective from 1 September 2012</i>
BY	Department for Education, 2011.
AT	http://media.education.gov.uk/assets/files/pdf/t/teachers%2ostandards.pdf
TARGET	Teachers and teacher educators and teacher assessors in England.
PERSPECTIVE	Pupil centred, outcome focused education through the National Curriculum in the formal school sector in England.
SUMMARY	<p>A slimmed down framework to replace the document in 28a above. Three sections:</p> <p>Preamble provides a brief statement summarises the values and behaviours all teacher must demonstrate.</p> <p>Part One sets out the teaching standards under the following headings:</p> <ol style="list-style-type: none"> 1. Set high expectations which inspire, motivate and challenge pupils 2. Promote good progress and outcomes by pupils 3. Demonstrate good subject and curriculum knowledge 4. Plan and teach well structured lessons 5. Adapt teaching to respond to the strength and needs of all pupils 6. Make accurate and productive use of assessment 7. Manage behaviour effectively to ensure a good and safe learning environment 8. Fulfil wider professional duties <p>Part Two describes the personal and professional conduct of teachers.</p>

100%
RECYCLED



Teacher competences in numbers

12

Twelve working group members contributed to the development of this report

4

Four interconnected groups of competences for teachers



32

Thirty two documents reviewed to construct the framework

9

Nine learning for sustainability key concepts



Why we are here

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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