

# Can Education for Sustainable Development Change Entrepreneurship Education to Deliver a Sustainable Future?

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## Abstract

An objective of the European Union's Entrepreneurship 2020 Action Plan is to address high levels of youth unemployment in Europe by promoting entrepreneurship. Implementing entrepreneurship education in schools, colleges and universities is one of three strategic interventions proposed by the Action Plan. Sustainable entrepreneurship is a recognised branch of the wider field of entrepreneurship and the literature on sustainable entrepreneurship sees it as a means of addressing some of the sustainability challenges of the 21<sup>st</sup> century. This article compares the pedagogical approaches and the competences of ESD (Education for Sustainable Development) with those of entrepreneurship education to identify how ESD might influence entrepreneurship education in order to develop entrepreneurs that contribute to a sustainable future. This comparison is placed in the context of the broader debate on the need to transform the dominant neo-liberal economic systems as part of the precondition for achieving a more sustainable future.

*Keywords:* entrepreneurship education, education for sustainable development, pedagogy, economy, transformation.

## Introduction

Within the broader field of education ESD (Education for Sustainable Development) is a relatively new concept, but pedagogically it draws on longer established pedagogies found in environmental education and development education. Entrepreneurial education has emerged in recent years, particularly in Europe, as part of a response to the need to develop a new generation of entrepreneurs as set out in the European Union's Entrepreneurship 2020 Action Plan (European Commission, 2013). The direction of travel in terms of the pedagogy for entrepreneurship education indicates similarities with ESD in terms of approach and implementation. This article seeks to explore the potential contribution of ESD to entrepreneurship education with the aim of influencing a move towards what is referred to as sustainable entrepreneurship. Can incorporating ESD into entrepreneurship education lead towards developing sustainable entrepreneurs who will not only create new economic activity and jobs, but also contribute to achieving a sustainable

future as characterised by the United Nations' Sustainable Development Goals? This article has been informed in part by the author's involvement in the Erasmus project Met-ESD (*Methods for ESD – Competences and Curricula*), which is concerned with embedding the themes of ESD and entrepreneurship in the curriculum development in vocational schools in Europe.

This article acknowledges that this exploration and discussion of ESD in relation to entrepreneurship education takes place against a back-drop of broader debates about the need to challenge and change the predominant paradigms in both education and economics from a sustainable development perspective. While acknowledging these broader systemic debates, this article will focus on the characteristics of ESD and entrepreneurship education and seek to identify how an ESD approach to entrepreneurship education can contribute towards sustainable entrepreneurial practices in the short to medium term that might lead to broader changes towards sustainability in the long term.

The potential to interpret terminology in different ways can be both a strength and a weakness in a discourse, as Corcoran and Wals (2014, p. 91) point out with regard to the multiple meanings of sustainability. In this article the use of the word 'sustainable' in conjunction with entrepreneurs and entrepreneurship, refers to interrelated environmental, social and economic sustainability rather than referring to something that is simply on-going, regardless of its characteristics.

In the literature the term 'entrepreneurship' is also used in ways that give different emphases to its meaning. For some it refers to involvement in any kind of business activity, for others an entrepreneur is anyone capable of generating results in any area of human activity (Motomura, no date, p. 1). However, more generally it carries connotations of innovation, creativity, and change in terms of developing new activity or increasing existing activity, be that in the context of a purely commercial enterprise or a social enterprise. Batra (2012) identifies that most studies in entrepreneurship emphasise its strong relationship with innovation to the extent that entrepreneurship and innovation can be considered as virtually synonymous (Batra, 2012, p. 5).

### **Entrepreneurship as a Response to Current Economic Challenges**

The European Union's Entrepreneurship 2020 Action Plan begins by referring to the economic and financial crises of the late 20<sup>th</sup> and early 21<sup>st</sup> centuries. From a European perspective these have included structural challenges to competitiveness and growth as well as a world economy that has been transformed by rapidly increasing demand and rising production in global markets. According to the Action Plan "*Correcting the problems of the past and putting the EU on a more sustainable development path for the future is a shared responsibility of the Member States and the EU Institutions*" (European Commission, 2013, p. 3).

Two of the current economic challenges in Europe are addressed through the European Union's Entrepreneurship 2020 Action Plan: low economic growth and changing employment patterns, particularly unemployment among young people. The Action Plan sees promoting entrepreneurship as one element of addressing these challenges.

*To bring Europe back to growth and higher levels of employment, Europe needs more entrepreneurs. .... It is based on three pillars: developing*

*entrepreneurial education and training; creating the right business environment; role models and reaching out to specific groups* (European Commission, 2013, p. 3).

The European Commission sees entrepreneurship education as having a particularly important role to play in addressing youth unemployment and preparing young people for a world in which employment patterns and practices have changed compared to the Europe of the 20<sup>th</sup> century. The OECD (Organisation for Economic Cooperation and Development) Policy Brief on Youth Entrepreneurship also identifies the problem of youth unemployment, which is higher in Europe than in other OECD countries: “*Youth unemployment is one of the principal social and economic challenges of this decade in Europe and around the world*” (OECD, 2012, p. 3). Entrepreneurship education is seen as one of the policy initiatives that should be introduced to contribute to solving youth unemployment by enabling those young people who are interested in becoming entrepreneurs. To demonstrate that there is an interest among young people the OECD cites the outcomes from the European Commission’s Eurobarometer survey conducted in 2009, which showed that 40% of fifteen to twenty-four year olds thought that being self-employed in the following five years was either ‘very feasible’ or ‘quite feasible’ (OECD, 2012, p. 6). These figures are supported by a more recent survey in 2017, conducted as part of the Erasmus project Met-ESD. The survey gathered responses from 253, sixteen to twenty year old students from vocational schools in Germany, Latvia and The Netherlands. When asked to respond to a series of statements on what was most important to them in their future career, 64% of males and 57% of females said starting their own business and working for themselves was either ‘very important’ or ‘important’.

These figures may indicate an openness among young people to see entrepreneurship as an element of their future career, but will entrepreneurship enable them to transition into the future employment patterns of the 21<sup>st</sup> century as the European Commission and the OECD suggest? Especially if putting the European Union on ‘*a more sustainable development path*’ is also a requirement. To achieve this level of change a number of economists and commentators (for example, Hawken, 1993; Jackson, 2009; Spratt et al., 2009; Zadek, 2017) argue that a much broader economic transition is needed in order to accommodate these new employment patterns. Spratt et al. argue that a fundamental change in the economic systems is needed and that curbing the excesses of business as usual will not lead to the transformation in the economy that is required. In *The Great Transition*, a report published by the New Economics Foundation, Spratt et al. set out the social, political and cultural changes needed to transform the economy and the rationale behind these changes. Implementing these changes still remains a challenge and while ultimately it needs to happen in a comprehensive way at all levels, it is at local level that the changes are most likely to be initiated leading to an emergent transformation rather than a sudden and dramatic revolution.

The scale of change required to the economic systems and to business practices has been highlighted over a considerable period of time. For example, the recognition that adopting environmentally friendly practices within the established business model would not bring about the fundamental changes that were needed is what drove Paul Hawken to write *The Ecology of Commerce* in 1993. Although this book and others in a similar vein have inspired some changes in business practice, as will be mentioned later in this article, the dominant paradigm remains neo-liberal economics, in Europe at least (Varou-

fakis, 2017). While changes towards more sustainable business practices can be accommodated, providing that they make a positive economic case within the context of neo-liberal economics, this dominant economic paradigm presents an entrenched barrier to the systemic change and maintains the basic principles that underpin 'business as usual'. It leaves open the question as to whether engaging young people in a form of sustainable entrepreneurship education could contribute to initiating a change in business practices and a wider transition in the economy.

### **Towards Sustainable Entrepreneurship**

Before exploring the potential relationship between ESD and entrepreneurship education, it is worth looking at the relationship between sustainable development and entrepreneurship. According to Greco and De Jong (2011) the common ground between entrepreneurship and sustainability is "*the concept of longevity, assuring long lasting goods, values or services: preserving current resources for future generations (sustainability) and developing unique solutions for the long run (entrepreneurship)*" (Greco & De Jong, 2011, p. 14). This relationship has resulted in the emergence of several branches of entrepreneurship, including eco-preneurship, social entrepreneurship, as well as sustainable entrepreneurship (Schaltegger & Wagner, 2011). These branches of entrepreneurship have all drawn on various aspects of the debates around sustainable development that have emerged and expanded since the publication of *Our Common Future* in 1987 by the World Commission on Environment and Development (WCED, 1987).

Sustainable entrepreneurship is recognized as the overarching term for this subdivision of entrepreneurship by Ploum et al. (2017), and in their literature review of sustainable entrepreneurship Greco and De Jong formulate a general definition from a range of sources including Hockerts and Wüstenhagen (2010); Pacheco et al. (2010); and Shepherd and Patzelt (2011) "*Sustainable entrepreneurship refers to the discovery, creation, and exploitation of entrepreneurial opportunities that contribute to sustainability by generating social and environmental gains for others in society*" (Greco & De Jong, 2017, p. 14).

Elements within the literature as reviewed by Greco and De Jong regard sustainable entrepreneurship as 'the answer' to many of the environmental and social challenges that society faces in the 21<sup>st</sup> century, such as climate change, inequality and other issues, which are the focus of the Sustainable Development Goals (Greco & De Jong, 2011, p. 5). In which case, from a sustainable development perspective, all entrepreneurship should be sustainable entrepreneurship. The fact that sustainable entrepreneurship can be distinguished from entrepreneurship generally highlights the fact that not all entrepreneurial activity benefits the wider society or takes account of environmental impact.

ESD is concerned with contributing to change towards sustainability and achieving this in part by developing agents of change that can take action for sustainable development. Ploum et al. (2017) highlight how sustainable entrepreneurs act as change agents as they integrate sustainable development criteria into their entrepreneurial activities and transfer a vision of sustainability to society. Pascual et al. (2011) provide examples to support the notion that sustainable entrepreneurship can deliver on key aspects of sustainable development as well as the entrepreneurial goal of creating economic value.

*There are plenty of examples of entrepreneurs that have demonstrated that a look through the lens of sustainability reveals opportunities to improve our natural environment, people's quality of life, while at the same time creating economic value. Examples include Elon Musk of Tesla Motors, Igor Kluin of Qurrent, Matt Flannery of Kiva, or Stef van Dongen of Enviu (Pascual et al., 2011, p. 4).*

Other examples of entrepreneurs who adopted a sustainable development perspective that lead to innovative and fundamental change to business models include Ray Anderson and Hugo Spowers. Ray Anderson was the founder and chief executive of the Interface Corporation ([www.interfaceglobal.com/sustainability.aspx](http://www.interfaceglobal.com/sustainability.aspx)). He transformed his existing business by changing his approach to an innovative and sustainable model that aimed at not just minimizing its environmental impact, but being restorative in terms of the environment. Ray Anderson was inspired by Paul Hawken's book *The Ecology of Commerce* referenced earlier in this article. The same book is cited by Hugo Spowers as a key turning point in his thinking. Spowers is developing a hydrogen powered car that will be more sustainable than the current electric models. A key difference in the business approach is that he aims to be a car producer who does not intend to sell any cars. Selling cars does not encourage the manufacturers to constantly increase efficiency and the longevity of the car. Spowers's model is to lease a complete package of car, fuel, insurance, etc. directly to customers. This means it is in his interests to develop a car that is as fuel efficient and as long lasting as possible. Twenty cars are about to enter a beta testing phase with twenty residents in Wales close to the manufacturing site (Franklin-Wallis, 2017).

Another way of characterizing sustainable entrepreneurship is to identify the competencies required to operate as a sustainable entrepreneur. Ploum et al. (2017) define competencies as consisting of knowledge elements, skills and attitudes that enable the successful performance of tasks and problem-solving. Competencies related to sustainable development in either entrepreneurship or education are context specific, because what might be the correct decision for a sustainability outcome in one context might be unsustainable in another context. A framework of competencies for sustainable entrepreneurship is presented by Ploum et al. (2017). This framework is drawn from the work of Lans et al. (2014) and it is reproduced in Appendix A of this article as it is referred to later in drawing comparison with ESD.

### **Education for Entrepreneurship and Sustainable Development**

The concept of entrepreneurship education, like ESD, is relatively new, and also like ESD it has drawn on longer established educational approaches such as enterprise competitions and activities in schools, aspects of business studies courses and economic awareness programmes associated with personal and social education. The research literature reports the same challenges and barriers to implementing entrepreneurship education as the research literature on implementing ESD. This is not surprising when both entrepreneurship education and ESD are not primarily defined as separate or additional academic subjects, rather they are partly defined by their pedagogical approach, which should be embedded across curricula. ESD requires a whole school approach so that the values of the school reflect the values being taught in respect of sustainable

development (Strachan, 2012). Similarly, the European Commission (2014) talks about the need for a school to be an ‘entrepreneurial school’ if entrepreneurship education is to be implemented successfully. Other common challenges include time constraints in existing curricula, accessing resources to support development, perceiving it as an additional subject, the need to find new methods of assessment and crucially, the need for training for new and practising teachers (European Commission, 2014; Lakéus, 2015).

Both entrepreneurship education and ESD are defined, at least in part, by their pedagogical approach. As McGuigan points out, “*What should be taught may not be as important as how it is taught*” (McGuigan, 2016, p. 43). In the literature on entrepreneurship education there is a distinction made between traditional pedagogy and entrepreneurship pedagogy, albeit that entrepreneurship pedagogy is new and still evolving (Powell, 2013; Lakéus, 2015; McGuigan, 2016). There is also an acknowledgement that despite the recent growth of courses addressing entrepreneurship, a consensus of exactly what should be taught in entrepreneurship education has not developed (Gedeon, 2014; Solomon, 2007). ESD pedagogy has established a considerable degree of consensus around its pedagogical approach as demonstrated by Strachan (2012) in a review that draws together the common characteristics from 28 documents that put forward models or frameworks for ESD or the closely related concepts of education for sustainability and learning for sustainability. (This overlapping of terminology for almost identical concepts also occurs in entrepreneurship education with terms such as enterprise education and entrepreneurial learning (Lakéus, 2015)). The output of the review of the ESD related documents was the *WWF Professional Development Framework for Teachers for Learning for Sustainability*, which is a framework of competencies divided into four interrelated groupings:

- Dispositions Related to the View of Education
- Personal and Professional Attitudes
- Skills for Professional Practice
- Core Knowledge and Understanding

The first three of these groupings are presented in Appendix B at the end of this article. Together they provide a comprehensive picture of the pedagogical approach that has emerged in ESD. The literature on entrepreneurship education indicates an emerging pedagogy that is still developing and that could draw on approaches from the field of ESD. Some of the key commonalities are discussed below. The characteristics of ESD are drawn from the detail provided in Appendix B.

A pedagogical approach is underpinned by the philosophical perspective that is held in relation to the purpose and the nature of education. In their research into entrepreneurship internships Lahm and Heriot (2013) conclude that although entrepreneurship education has been around for three decades the literature, and therefore the theoretical underpinning is “*still in a developmental stage*” (Lahm & Heriot, 2013, p. 74). In the first paragraph of his article *Dilemmas in Entrepreneurship Pedagogy*, Powell (2013) asserts that the teaching methods and practices of entrepreneurship education are still evolving and that even the purpose of entrepreneurship education is unresolved. Powell goes on to suggest that while the subject matter is established “*the pedagogy of entrepreneurship is not*” (Powell, 2013, p. 99). He cites some from the field as questioning whether or not it is possible to actually teach entrepreneurship. However, in spite of these issues there is sufficient information in the literature to indicate the direction of

travel in terms of entrepreneurship pedagogy. For many, including Gedeon (2014) and McGuigan (2016), entrepreneurship education encompasses a holistic approach to education covering not only an entrepreneurial approach to students' jobs and careers, but also to their own lives and community. From this perspective entrepreneurial action is seen as transformational for the individual.

The notion that education can be a transformational process and that the outcome of that process is dependent on the individual and not guaranteed, is a key feature of ESD. Sterling (2011) locates ESD in the established broader landscape of transformational learning. McGuigan (2016) applies a transformative approach to entrepreneurship education "*Entrepreneurship educators should inspire and motivate their students in order to spark transformative personal growth, desired learning outcomes and change in attitudes and values*" (Gedeon, 2014, quoted by McGuigan, 2016, p. 42). This goes some way towards understanding the suggestion that entrepreneurship cannot be taught, as becoming an entrepreneur cannot be a guaranteed outcome for every individual. A transformational perspective on education requires teachers to challenge students to reflect on their worldview and to re-assess their values. In doing this teachers acknowledge that education is not value free, and as McGuigan (2016) and Świtala (2013) point out, this is something that many teachers find challenging.

ESD sees each individual student as being on a learning journey, with the role of the teacher as a facilitator and guide on the journey. This is in keeping with the way Powell and McGuigan see the role of the teacher in entrepreneurship education. McGuigan likens the role of the teacher to that of a coach, while Powell outlines the benefit of this approach,

*If their instructor is a guide rather than a supervisor, students are more involved in structuring their activities, develop more realistic understandings of their abilities, pursue the applied knowledge particularly useful to them, and learn to adapt rather than blindly imitate examples* (Powell, 2013, p. 110).

The ability of students to be flexible in how they respond to the world around them rather than to reproduce a prescribed response, prepares them to deal with the complexity and uncertainty that they will encounter in the world. Uncertainty and ambiguity are an inherent part of the entrepreneur experience according to Powell (2010). Lakéus (2015) has uncertainty and complexity embedded in the skills and attitudes of his competencies framework for entrepreneurship education. The need for teachers to prepare students for a complex and uncertain world is seen as an important feature of ESD (Strachan, 2012), with systems thinking as a key skill for contributing to understanding the complexity of the interconnectedness of the world. The importance of systems thinking is reflected in the sustainable entrepreneurship framework of competencies presented in Appendix A.

The entrepreneurship education literature consistently calls for an approach to learning that is multi-disciplinary, action-oriented, experiential, future oriented and promotes critical thinking (Powell, 2010; European Commission, 2014; Lakéus, 2015). These characteristics are present in the sustainable entrepreneurship framework of competencies presented in Appendix A and the ESD framework in Appendix B. Within the literature, both entrepreneurship education and ESD are calling for a re-orientation of education. While Sterling (2001) laid out the case for this in relation to ESD at the start of this century, more recently Lakéus (2015) makes a case for a paradigm shift

from ‘traditional education’ to entrepreneurship education at philosophical and educational levels, including shifts from simplicity to complexity, from content to process, and from theory to practice.

While there are many similarities in approach and in the challenges faced by both ESD and entrepreneurship education, there are also significant differences around their priorities and values, for example, the importance of economic growth or financial sustainability in juxtaposition to ecological sustainability when it comes to decision-making. If, as mentioned above, sustainable entrepreneurship can provide solutions to many of the environmental and social challenges that we face in the 21<sup>st</sup> century and contribute to achieving the Sustainable Development Goals, then there needs to be a significant difference between entrepreneurship education in general and sustainable entrepreneurship education in particular, with additional input from ESD. This would include knowledge and understanding in relation to the physical ecological limits of the planet and to its capacity to support economic and social activities. From a sustainable development perspective, entrepreneurial activities need to respect these ecological limits.

Sustainable entrepreneurship education needs to provide the competencies that enable entrepreneurs to make decisions that take account of the ecological and social impacts as well as the economic consequences. There are established frameworks that could be incorporated into education programmes that would allow entrepreneurs to do this. Two examples of these frameworks are The Natural Step and the Five Capitals model.

The Natural Step is based around four ‘*Sustainability Principles*’, the first concerns the concentration of substances from the Earth’s crust, the second concerns the concentration of substances produced by society, the third concerns physical degradation and the fourth concerns the provision of people’s basic needs in society. These four Principles could be applied to any entrepreneurial activity or enterprise in order to make a judgment about its sustainability. Details of The Natural Step and the four Sustainability Principles can be found at <http://www.thenaturalstep.org/our-approach/>.

The Five Capitals model has its roots in the work of environmental economist Herman Daly and the model has been adopted by Forum for the Future in the UK as an analytical model to assess sustainability. The concept of capital is familiar in a monetary context as financial capital, but the Five Capitals model identifies four additional forms of capital, which have a perceived value that can increase and decrease. The five different forms of capital are: natural, human, social, manufactured and financial. Daly (2007) sees natural capital as a limiting factor and the way this model is presented by Forum for the Future is in line with the concept of sustainable development that recognizes that all social and economic activity should take place within the ecological limits of the Planet. This model can be applied to specific entrepreneurial activities to assess how an activity might increase or decrease the various capitals and how it might cause one capital to be transferred into another.

Entrepreneurship education emphasizes the practical application of competencies. By adopting a framework that provides the basis to make a judgment on the sustainability of an activity, similar to the two examples provided here, entrepreneurship education could enable entrepreneurs to make practical decisions on the sustainable development implications of their activities.

From a review of the literature and from existing models of both ESD and entrepreneurial education similarities emerge in terms of pedagogical approach and there



are common challenges when it comes to implementation. Nevertheless, the differences between the priorities and values that more generally drive entrepreneurship education and those that underpin ESD are significant. Incorporating frameworks that enable a sustainable development assessment of entrepreneurial activities into entrepreneurship education could shift its priorities and values closer to those that underpin ESD. This, along with integrating other aspects of ESD, could provide a basis for an educational approach that supports sustainable entrepreneurship.

### Conclusion

The European Union and the OECD see entrepreneurship as a key part of the solution to some of the economic challenges in the 21<sup>st</sup> century, in particular youth unemployment and a lack of economic growth. This requires the development of increased numbers of entrepreneurs, and central to achieving this is the implementation of entrepreneurship education in the education and training sectors. Alongside this the concept of sustainable entrepreneurship, which is significantly distinct from entrepreneurship per se, is seen by some as having the potential to respond to the environmental and social challenges such as climate change and to contribute to the delivery of the Sustainable Development Goals.

Achieving the environmental and social changes required to progress towards a sustainable future includes the need for a broader transformation in the economy as identified by commentators like Paul Hawken and organisations like the New Economics Foundation. While changes are emerging to business practices, the hegemony of neo-liberal economics has so far proved difficult to shift in Europe.

In response to the question raised in the introduction to this article, combining ESD with entrepreneurship education does have the potential to support the development of sustainable entrepreneurs. The pedagogical approach of ESD has much in common with entrepreneurship education and ESD can provide additional competencies to assess entrepreneurial activities in terms of sustainable development. By combining assessment skills with a shift to the values that underpin ESD, a sustainable entrepreneurship education can equip entrepreneurs to make appropriate decisions that will lead to more sustainable business practices. However, the extent to which a new generation of sustainable entrepreneurs in Europe can initiate changes that challenge the entrenched economic systems, and thereby contribute to a progressive transformation in the wider economy, is still to be determined.

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### Appendix A

A competence framework for sustainable entrepreneurship as proposed by Lans et al. (2014) includes 7 key competencies that are described as follows:

1. **Systems thinking competence:** The ability to identify and analyze all relevant (sub)systems across different domains (people, planet, profit) and disciplines, including their boundaries (Wiek et al., 2011).
2. **Embracing diversity and interdisciplinary competence:** The ability to structure relationships, spot issues, and recognize the legitimacy of other viewpoints in business decision-making processes; be it about environmental, social, and/or economic issues (de Haan, 2006; Ellis & Weekes, 2008).
3. **Foresighted thinking competence:** The ability to collectively analyze, evaluate, and craft “pictures” of the future in which the impact of local and/or short-term decisions on environmental, social, and economic issues is viewed on a global/cosmopolitan scale and in the long term (Wiek et al., 2011).
4. **Normative competence:** The ability to map, apply, and reconcile sustainability values, principles, and targets with internal and external stakeholders, without embracing any given norm but based on the good character of the one who is involved in sustainability issues (Blok et al., 2015; Wiek et al., 2011).
5. **Action competence:** The ability to actively involve oneself in responsible actions for the improvement of the sustainability of social–ecological systems (de Haan, 2006; Mogensen & Schnack, 2010; Schnack, 1996).
6. **Interpersonal competence:** The ability to motivate, enable, and facilitate collaborative and participatory sustainability activities and research (Schlange, 2009; Wiek et al., 2011).
7. **Strategic management competence:** The ability to collectively design projects, implement interventions, transitions, and strategies for sustainable development practices (de Haan, 2006; Wiek et al., 2011).

### Appendix B

The following statements are taken from: Strachan, G. (2012) *WWF Professional Development Framework of Teacher Competences for Learning for Sustainability*. Godalming: WWF-UK. Available at: [https://platform.ue4sd.eu/downloads/WWF\\_PD\\_Framework\\_Teacher\\_Competences\\_2012.pdf](https://platform.ue4sd.eu/downloads/WWF_PD_Framework_Teacher_Competences_2012.pdf).

Together with statements on Core Knowledge and Understanding, they provide a framework of competencies for teachers of ESD/learning for sustainability.

## Dispositions Related to the View of Education

Teachers 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.

## Personal and Professional Attitudes

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

Teachers, 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

Teachers 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 ESD;

- 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 ESD;
- advocate and provide leadership for sustainability when appropriate.