

DESD We Can? Some Lessons Learnt from Two Mid-DESD Reviews

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Abstract

This article presents lessons learnt from two DESD-related reviews in which the author participated: 1) a UNESCO commissioned study reviewing the Decade of Education for Sustainable Development (DESD) (UNESCO, 2009a) in which the author acted as the global report coordinator, and 2) a review commissioned by the Swedish Development agency SIDA focusing on the current state of ESD, particularly in relation to development (SIDA, 2010). The article touches on some of the findings, some of which are more universal (e.g., the necessity of understanding the historical context in which ESD is emerging and its relationship with Environmental Education) and some more region specific (e.g., the perspective on SD and ESD as it relates to the Asia-Pacific region as has been singled out for this special issue). The article then zooms in on the concepts of 'sustainability competence' and cross-boundary social learning as emerging concepts in the second half of the decade that connect formal, informal and non-formal learning.

Key words: competence, education for sustainable development, environmental education, Gestaltungskompetenz, social learning

1. Midway into the DESD

From the mid-DESD reviews (UNESCO, 2009a; SIDA, 2010) it can be concluded that around the world – although not everywhere – ESD has become an important element of environmental policy making and sustainable development strategies. It can be said that the seeds planted in the seventies at many international conferences on environmental education (EE), including the Man and Environment Conference held in Stockholm in 1972 and the UNESCO-UNEP Conference on Environmental Education held in Tbilisi in 1977 (UNESCO-UNEP, 1978), found fertile soil of broad-based mutual concern for sustainability as expressed at the UNCED Earth Summit in Rio de Janeiro in 1992 (UNESCO, 1992) and, indeed, at the World Summit on Sustainable Development in 2002 (UN, 2002) where the United Nations Decade of Education for Sustainable Development (UN-DESD 2005-2014) was proposed and accepted.

Today, many policies of a variety of governments both in the global north and south call for the integration of ESD and/or ESD-related, so-called 'adjectival' educations, such as: climate change education, development education, health education, peace education, citizenship education and environmental education both in formal and non-formal learning (SIDA, 2010). By the end of 2008, at least 78 countries had a coordinating body overseeing the development and implementation of ESD

and related educations. Members of national coordination bodies often include government representatives and representatives from formal education (e.g., educational policy-makers, administrators and, occasionally, teachers) and NGOs. In some countries, the private sector is also represented. The levels of government involved in coordinating ESD differ from country to country. In some, the responsibility lies with government ministries while in others, responsibilities have been decentralized to the regional level. There are also differences in the scope of ESD covered by a national coordinating body, varying from a narrower interpretation of ESD (e.g., coordinating ESD in formal primary and secondary education, streamlining it with existing EE programs) to a much broader interpretation. A broader interpretation usually also covers non-formal learning and professional development of teaching staff and spans the whole of formal education from early childhood to higher education. In general, there is little mention of representation of labor unions, religious groups and the mass media in national coordinating bodies (UNESCO, 2009a).

UNESCO's mid-DESD review (UNESCO, 2009a) concludes that the presence of such a body in and by itself does not mean that this is an entity that creates synergy and energy and plays a stimulating role in engaging stakeholders in contributing to the development of ESD. At the same time, the absence of such a body does not necessarily mean that ESD is non-existent or weak. There are examples of countries that lack a formal

national coordinating body but are home to a number of rich ESD activities (e.g., Brazil). Nonetheless, it appears that countries that do have a national coordinating body in place are more likely also to have the other ESD provisions.

Inevitably ESD is not interpreted in the same way all across the globe but manifests itself differently and in some instances is not used as a concept at all, as other related concepts in some instances appear more appropriate and more generative. An example from the Pacific Islands shows that the principles of, what in international policy discourse is referred to as, ESD are deeply rooted in their traditional cultures. In Tongan culture, for example, the main purpose of *ako* (learning) is to gain knowledge and understanding that is considered important for cultural survival and continuity or: *nofo fakapotopoto* which refers to 'intelligent living' (Thaman & Thaman, 2009, p.65). A perspective on ESD from Latin America comes from Gadotti (2008) who sees current education and educational institutions as barriers to moving towards sustainable development (SD) as they tend to reinforce the principles and values of an unsustainable lifestyle and economy. He argues for an economy that is not centered on a free market, profit or continuous growth. Instead he favors a 'solidarity economy' which incorporates the principles of inclusion and social emancipation and identifies sustainability and solidarity as emergent and convergent themes. Gadotti proposes that without social mobilization against the current economic model, ESD will not reach its goals. In addition, education for a *sustainable life* – not only for a sustainable development – is required. With respect to these divergences in meaning it can be observed that in comparison with the early years of the DESD there is less of a push by the DESD's governing body, UNESCO, for a uniform and agreed-upon view of ESD and much more recognition of the need for locally relevant interpretations of ESD and related forms of education. This shift is expressed in the mid-decade Bonn Declaration (UNESCO, 2009b):

The progress of ESD remains unevenly distributed and requires different approaches in different contexts. In the coming years, there is a clear need for both developed and developing countries, civil society and international organisations to make significant efforts to: Mobilize adequate resources and funding in favour of ESD, in particular through integrating ESD into national development policy and budgetary frameworks, into UN common country programming processes and other country-level policy frameworks (such as sector-wide approaches), as well as into EFA and MDG [Millennium Development Goal] initiatives. Promote and include ESD in the priorities of foundations and donors.

Clearly, to formulate global guidelines for ESD, which should be more or less independent of culture, is hardly possible. There is an inevitable tension between

these guidelines and the local context which should be addressed but may not always be resolved. The 2007 UNESCO Education Sector Report on drivers and barriers for implementing SD in schools (Björneloo & Nyberg, 2007) asks two questions: *How can we uphold cultural diversity in the age of globalization? How is it possible to strengthen minority cultures in this current wave of western culture, which is spreading around the world?* These are crucial questions since there is a struggle between global and local initiatives, also within the UN. UNESCO has a strong commitment to ESD which is locally relevant but also promotes global mandates of furthering particular educational goals 'for all' (McKenzie, 2009).

Globalization has led to exponential growth of communication possibilities and access to information of which the authority base is oftentimes unclear or dubious. Even in the poorest parts of the world people now have access to wireless networks and use cell phones as their main lifeline. Where companies and governments have failed to provide clean drinking water for all – a development goal of the last millennium one could say – they have succeeded in rolling out wireless all over the globe (Wals, 2010). Cases have been reported of people living in poverty who have come to rely on their cell phone in such a way that charging the phone receives higher priority than feeding their children. The latter illustrates the different sides of the globalization coin. As technology has in some ways provided 'access for all' to the information and communication age, and the world of consumerism, it also has disrupted the lives of many in negative ways (Ellwood, 2003; Kenway and Bullen, 2001).

For ESD the homogenizing effect of the economic liberalization that oftentimes is associated with globalization is posing a challenge (Jickling & Wals, 2008). For instance, the rise of the knowledge society and the commoditization of education in general and higher education in particular, tend to favor the creation of a global economy with a mobile, resilient and 'life-long learning' workforce who also play the role of eager consumers of universal products at the expense of local identities, critical thinking and values alternative to material ones (Raven, 2001).

The international experts' workshop on Faith-based Organizations and Education for Sustainability (organized by UNESCO-CAT, 2007) refers to an SD-divide. First there is the 20% of humanity living "overdeveloped" lifestyles (including wealthy people in privileged areas of poor countries) who must learn to *undevelop* (or develop in an alternative direction), to reduce their current overconsumption and to find fulfilling lifestyles that are not exclusively based on material values and allow for a more moderate use of natural resources. And, second, there are the masses of poor who face quite a different challenge. The not-yet-overdeveloped rest of humanity, including all the poor in the South and all indigenous and traditional peoples, must learn to fulfill their needs (including running water, food security, and

adequate health care) in a sustainable way without falling for the lure of overdevelopment and consumerism. Rather than being exposed to the subtle colonialism of advertising and materialism, they should be offered or, better perhaps, co-create alternative models of development. At the UNESCO-CAT workshop it was often noted that, ‘not only should we in the overdeveloped world not preach sustainability to indigenous peoples: we should aim to learn from those who have been practicing sustainable lifestyles over the centuries.’ (UNESCO-CAT, 2007, p.16).

2. Understanding EE and ESD and Their Interface

The inter-relationship with environmental education (EE) is emphasized in nearly all regional reports that provided input for the mid-decade review of the Decade for Education for Sustainable Development (UNESCO, 2009a). This is no surprise as in many countries around the world EE is firmly established, particularly in formal education systems. The simultaneous existence and development of EE and ESD has given rise in some countries to questions about the relationships between the two and calls for distinctions by some or for convergence by others. The resulting confusion or stale-mate in some cases can hinder policy implementation. Also, it appears that in countries with a strong EE tradition, ESD tends to build upon EE-structures and policies already in place particularly in countries that have interpreted EE broadly to include social, economic and political dimensions. The quote below illustrates this:

[...] issues of development, survival, livelihoods, improved quality of education and improved quality of life, and more sustainable living practices. It is perhaps for this reason that environmental educators in southern Africa have long been concerned with environmental education processes that are processes of social change. (Lotz-Sisitka et al., 2004, p.10)

In countries where such a tradition is absent or weak at best, ESD and DESD appear to have provided an opportunity to create new structures from scratch and a possibility of catching up with those countries that already had a strong EE-tradition. When analyzing regional synthesis reports and regional strategies, one can roughly find three different ways of viewing the relationship between EE and ESD which resemble some of the ones identified in the ESD debate held in 1999 (Hesselink et al., 2000). The way the relationship is perceived tends to be related to the historic role EE has played in a country (prominent or marginal) and the way EE itself is interpreted (broadly or narrowly). With regard to the former, there are countries that had already developed nature conservation education over one hundred years ago. This paved the way for EE in the 1960s and 1970s, whereas in other countries this was hardly the case. In some countries with a strong

EE-tradition, it is often narrowly viewed as expanded nature conservation education or a combination of environmental protection education and resource management education (e.g., several countries in Europe & North America). In other countries with a strong EE-tradition (e.g., several African and Latin American countries) it may be interpreted more broadly, in tune with the Tbilisi Declaration, to include socioeconomic and political aspects. When interpreted as such EE and ESD become almost synonymous.

Figure 1 illustrates that ESD and EE relate to one another from a ‘content’-perspective. The figure shows that when both EE and ESD are interpreted broadly to include political, social, cultural and economic aspects (EE+ and ESD+), they become almost synonymous. Interestingly enough, when interpreted narrowly (EE- and ESD-) to focus mainly on the environmental and ecological, they also become almost synonymous. EE in the Tbilisi spirit is generally considered EE+, while ESD as described in UNESCO documents is generally considered ESD+ especially when related to all the MDGs (and not just to MDG number 7 which focuses on ‘environmental sustainability’).

Whereas during the early years of ESD much attention was given to the meaning and content of the SD in ESD, recent ESD documents and discourse tend to pay much more attention to the ‘E’ in ESD. The underlying learning processes of ESD are beginning to become the subject of debate. Generally speaking there appears to be a shift from *training and instruction* (simply put: telling and training people how to live their lives) to *learning and capacity building* for SD (simply put: enabling people to contribute to sustainability in a meaningful and contextually relevant way). This shift reflects the perceived need for continuous engagement in sustainability in formal, non-formal and informal settings on the one hand and the need for capacity-building, participation and self-determination for sustainable development on

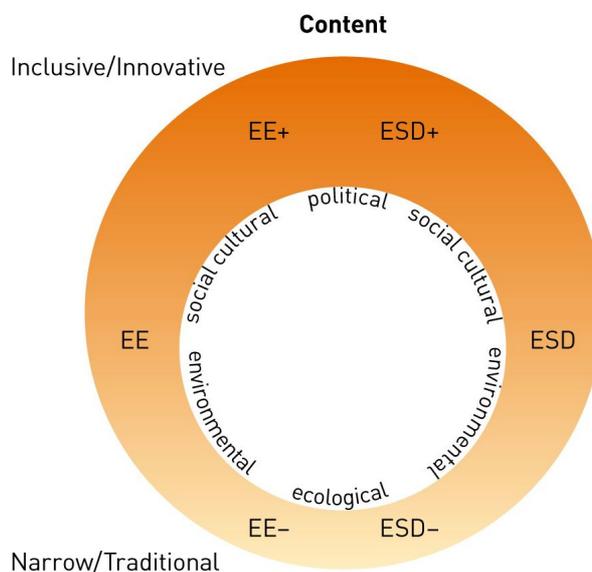


Fig. 1 Different interpretations of ESD and EE and their relationship from a content perspective.

the other. These different outlooks on ESD have important consequences and often have a social and cultural background as different societies have different boundaries for participation, autonomous thinking and self-determination, and corresponding views of democracy.

A fundamental principle of ESD is the idea that each individual has the responsibility of participating in local and global discussions about our common future. Learning is seen as a key component of innovation that leads to social change. A central aspect of ESD is that learners develop the ability to evaluate global and inter-generational issues and formulate strategies for solving the problems that arise from these issues (Almlöv & Moberg, 2008, p.174). There are differences however in the amount of space these learners are provided to work towards their own, self-determined and co-created, solutions to sustainability issues and challenges. These differences are related to a country's or region's interpretation of democracy, participation and inclusiveness.

After all, the question: "Is education about social reproduction or about enabling social transformation?" is not answered in the same way across the globe and this results in different ways in which educators imagine the educated citizen interacting within society (Jickling & Wals, 2008). This has major implications for the way ESD is interpreted and implemented as the space there is for participation, self-determination and autonomous thinking influences the kind of ESD that emerges in a country or region. When this space is narrow, a more transmissive version of ESD is likely to result with a strong emphasis on instructional forms of teaching and knowledge transfer. When this space is broad, then an ESD will emerge that is characterized by higher levels of participation, self-determination, autonomous thinking and knowledge co-creation. The latter versions of ESD require alternative teaching and learning strategies that also allow for the development of new competences. Figure 2 shows the pedagogical dimension of ESD and

EE. A country's tradition in governance might affect what a country emphasizes, a more pedagogical orientation towards ESD consequently implying (social) learning, participation and capacity-building or a more instrumental orientation that emphasizes a change in people's behaviour.

3. Relation between ESD and Other Emerging Education

The framework of the DESD International Implementation Scheme suggests that full-fledged ESD requires the integration of the three dimensions referred to earlier in this review (UNESCO, 2009a):

- the socio-cultural dimension which refers to issues related to human rights, peace and human security, gender equality, cultural diversity and intercultural understanding, health, HIV & AIDS and new forms of governance;
- the environmental dimension which refers to issues related to natural resources (water, energy, agriculture, biodiversity), climate change, rural development, sustainable urbanization, disaster prevention and mitigation;
- the economic dimension which refers to issues related to poverty reduction, corporate responsibility and accountability and re-orienting the market economy.

Besides EE, there are many other kinds of education that are related to ESD, all related to one of the dimensions mentioned.

In the socio-cultural dimension for instance, there is peace education, citizenship education, development education, HIV/AIDS education, health education and human rights education. When it comes to the environmental dimension it includes, besides EE obviously, also biodiversity education, food security education and especially climate change education, which is profound at this moment. The rise of climate change education is seen by some as the next stage in the evolution of nature conservation education to environmental education to ESD as it addresses an overarching sustainability issue that can only be addressed in an integrative way from multiple angles, disciplines and perspectives (Kagawa & Selby, 2010). However, others, particularly within the context of the UNESCO DESD argue that climate change education is an important part of ESD just like some of the other 'adjectival' educations (UNESCO, 2006, p28). Economically, one could think of examples like Disaster Risk Reduction and the Programme of Education for Emergencies and Reconstruction (PEER) which might overlap with other dimensions as well.

It is clear there is a wide range of interpretations of ESD, yet there is consensus about some core components. The kind of sustainability challenges a country faces might affect the SD-components that are emphasized. A strong history in EE but also the way EE is interpreted itself is likely to affect the meaning of ESD as well. Where such a history is lacking or where EE has been

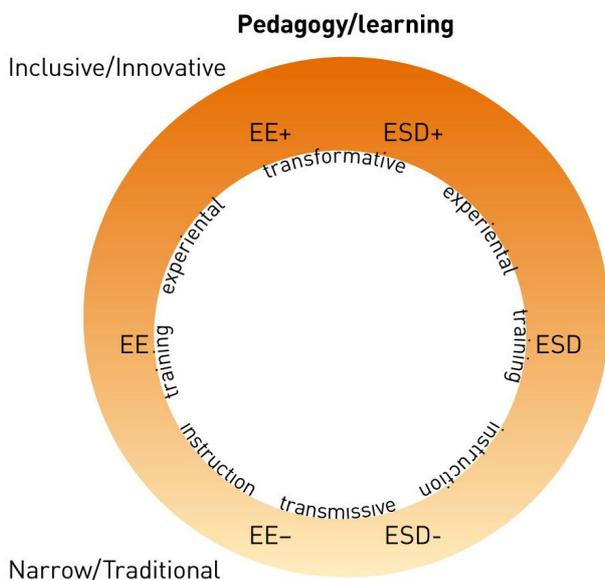


Fig. 2 Different interpretations of ESD and EE and their relationship from a pedagogical perspective.

interpreted narrowly to focus on nature conservation and environmental protection, ESD can be developed and given meaning on its own terms. At the same time an emergence of a whole range of other ‘adjectival’ educations that tend to privilege a single ESD-issue (e.g., peace, human rights, gender, HIV/AIDS) can be seen across the globe which may require some fine-tuning so that they end up reinforcing one another rather than competing with one another.

4. Key SD-challenges in the Asia-Pacific Region

As the local realities and manifestations of ‘unsustainability’ are often quite different and deeply rooted in local histories and political and cultural traditions the development of regional strategies for the development and implementation of ESD is part of UNESCO’s DES D strategy. Such strategies have been developed in each of the UN regions: (sub-Saharan) Africa, Asia-Pacific, Europe & North America and Latin America & the Caribbean. Here, given the available space, only a snap-shot of the unique challenges of the Asia-Pacific region will be provided. This snap-shot comes from the Mid-DES D review conducted by the author for which much input was provided by the UNESCO Regional Office in Bangkok (UNESCO, 2009a; UNESCO, 2009c).

The Asia-Pacific region includes five sub-regions that are all impressive in size and diversity and combined hold more than half the world’s population. Some key challenges to consider when interpreting ESD progress in the Asia-Pacific include the following issues, which vary from sub region to sub region, country to country and also within national borders:

Cultural barriers

- Ethnic, religious and linguistic barriers resulting in migration, lack of citizenship, human rights issues and conflict;
- Traditional concepts and beliefs, particularly with regard to girls’ education and life skills education; and
- Loss of indigenous and traditional knowledge.

Geography

- The geographic size of larger countries in the region, large populations and diverse languages is a big challenge for sustainable development due to difficulties in networking, transportation and communication and limited delivery of services; and
- Rural and remote areas, in particular, small island nations are often faced with marginalized populations and more expensive delivery of services.

Governance and national coordination

- Lack of interministerial coordination and cooperation can result in limited or uncoordinated political leadership on key issues. This poses a challenge as many countries require political support to implement new programmes, concepts and ideas;
- Decentralized management and decision making between the national and provincial levels in larger

countries can result in variability in the levels of development; and

- Lack of financing for key projects, corruption, security and armed conflict also pose major challenges.

Education

- Shortage of donor support for formal and non-formal education to overcome issues associated with under-paid or under-qualified teachers and trainers;
- Gender disparity in education, including disparities among teachers and management levels in primary, secondary and higher education;
- Universal primary education and universal completion can only be achieved in most countries if the efficiency, quality and inclusiveness of the education system is improved;
- Early Childhood Care and Education (ECCE) will remain outside the reach of most young children unless efforts are undertaken to provide adequate financial resources for all children to participate; and
- Marginalized and disadvantaged groups continue to face obstacles that prevent quality education and learning, such as:
 - street children and working children;
 - religious, linguistic and ethnic minorities as well as indigenous peoples;
 - persons/children with disabilities or with special needs;
 - children of very poor families;
 - populations in remote areas; and
 - children in more difficult circumstances (i.e., places affected by armed conflict, disasters and calamities)

Human resource capacity

- Low adult (15 and over) literacy rates, especially among women;
- Limited training and professional development in a variety of contexts including industry, formal education and the community;
- The need for cooperation and coordination between different government departments and ministries and the private sector to synergize skills training programmes that better match the needs of trainees and labour market demand; and
- Effective initiatives for adolescents and youth, needed to develop their life and livelihood skills, including adolescent and reproductive health.

Natural disasters

- In the recent past, the Asia-Pacific region has faced an increasing number of recurring natural disasters – tsunamis, earthquakes, cyclones, floods, droughts, volcanic eruptions, etc. – which remain a challenge for sustainable development due to temporary and prolonged disruptions to infrastructure, the surrounding environment, socio-economic structures and ways of life.

Many of these challenges were re-emphasized as thematic sustainable development priorities by UNESCO Member States during 2008 Asia-Pacific Sub-regional

Table 1 Thematic SD-priorities in the Asia-Pacific Region (Source: UNESCO Bangkok Regional Office, UNESCO, 2009c)

SD Pillar	Thematic SD priorities
Social	Good Governance, Gender Equality, Health and HIV/AIDS, Reproductive Health, Peace/Conflict, Human Rights, Access to Education, Human Trafficking, Drug Addiction
Cultural	Cultural Heritage, Cultural Preservation, Indigenous Knowledge
Economic	Urbanization, Poverty, Food Security, Rural Development
Environmental	Climate Change, Fresh Water, Energy/Natural Resources, Air Pollution, Desertification, Environmental Conservation, Biodiversity, Natural Disasters

ESD Consultations, sponsored by the Japanese Funds in Trust (Table 1).

5. Region-specific ESD Issues

Regional consultation workshops show that ESD in the Asia-Pacific region is now at a point where countries are beginning to engage in clear strategies for ESD – moving from ESD in theory to practice – by identifying clear thematic national SD priorities, linking priorities to existing aims and objectives for education and learning in current policies, building inter-ministerial support, discussing financing and engaging with the right people at the national level. These recent developments are building towards a goal to incorporate or link ESD to national development plans, national sustainable development strategies and/or poverty reduction strategies in order to increase the importance of the role of ESD in addressing the growing list of recent sustainable development challenges in the Asia-Pacific region.

ESD is most developed in the region within formal education. There is little government engagement in the non-formal and informal education settings. As a result there is insufficient government funding for non-formal and informal ESD awareness raising programmes and initiatives. Furthermore there is little attention to the development of ESD-materials and tools for groups that fall under the category of non-formal and informal education. In some ESD-related areas there appears to be more activity in informal and non-formal education, e.g., the work of the Asia-Pacific Centre for International Understanding (APCEIU) based in Seoul, ACCU – the Asia-Pacific Centre for UNESCO based in Tokyo in the context of peace-building and inter-cultural dialogue but also through the Asia ESD Good Practice Project (AGEPP) supported by the Toyota Foundation which pays a lot of attention to community-based ESD.

There is an emphasis on promoting regional cooperation. For example, UNESCO Bangkok and several UN agencies have discussed the DESD in the UN DESD Interagency Steering Committee of the Asia-Pacific. The

Committee updates members on the implementation of other members' past events and promotes joint planning and alignment of activities. ESD requires the full support of the government to move forward. As ESD is a cross-sectoral initiative, many government ministries and departments, in addition to NGOs and IGOs, are involved in ESD-related activities. It is not only difficult to coordinate ESD activities among the various ministries, departments and sectors, but also challenging to identify ESD in existing initiatives and philosophies.

6. SD Competence

As the 'E' in ESD is increasingly being emphasized there is more attention to the kinds of capacities or qualities people need to develop in order to be able to contribute to sustainable development. The concept of 'sustainability competence' refers to those qualities people need to have to be able to act when confronted with a sustainability challenge. SD competence is not necessarily the same as ESD competence as the latter has much more to do with one's capacity to engage people meaningfully in SD matters. Nonetheless, SD competence can help inform ESD competence as well. Recently some research has been done with respect to the meaning of sustainability competence which may inform the coming years in the DESD. The point of departure is the question: What are the kinds of outcomes of an ESD process that focuses on capacity building for SD? The Swedish contribution to a report on ESD in higher education in some European countries states the following in this regard (Wals, 2007):

The competency required for SD is manifold, but the basis of it is relevant knowledge and an ability to think, act and take responsibility out of a holistic understanding of the preconditions of life on earth in a global perspective. It includes the ability to engage in continuous learning from others and the ability to cooperate over disciplinary and professional borders, to think and analyse critically and to solve problems seeing possibilities and limitations in ones professional role. An important ability is also that of complex thinking and using specialists for different areas. Leaders need to have the ability to create enthusiasm and to think in new creative ways.

In the same report the Dutch contribution states that components of sustainability competence include: understanding sustainable development, systems thinking, adopting an integral view, personal leadership and entrepreneurship, unlocking creativity, appreciating chaos and complexity, and fostering collective change. The German contribution to the same report introduces the notion of Gestaltungskompetenz (De Haan 2006). Gestaltungskompetenz describes pupils' abilities to apply knowledge on sustainable development and to identify problems of non-sustainable development. This means, they are able to draw conclusions from studies into the

present or future in the areas of ecological, economic and social development in their varying relations of interdependence, make decisions on the basis of these conclusions, understand these decisions and apply them individually, as part of a community and politically in order to further sustainable development processes (Wals & Blewitt, 2010).

Thus Gestaltungskompetenz aims to fashion a historical, systems orientated and largely holistic framework for understanding and action. There are elements of similarity with both deep ecology and critical cultural theory in their design and application with specific acknowledgement of the importance of mediation, dialogue and social participation but it also seems that a more incisive recognition of, and engagement with, the dangers and negative consequences of societal power relationships, conflict, inequality and ideology is required. Table 2 lists some elements of Gestaltungskompetenz in the context of sustainability. One could say that Gestaltungskompetenz with a planetary consciousness constitutes sustainability competence.

Gestalt switching (Wals & Blewitt, 2010) refers to the switching back and forth between different mind-sets. In the context of sustainability there is a multitude of “gestalts” in play. Figure 3 identifies four of them: the temporal gestalt (past, present, future and intergenerational mind-sets), the disciplinary gestalt (a range of social science and natural science mind-sets), the spatial gestalt (local, regional, global and beyond global mind-sets) and the cultural gestalt (multiple cultural mind-sets whereby culture is broadly understood). Sustainability competence then refers to one’s ability to respond to a sustainability challenge with all these gestalts in mind and to consider the challenge from a range of vantage points. The switching back and forth between different positions requires an awareness of ones own predominant gestalts and willingness to, at least temporarily, put oneself in another gestalt on all four dimensions identified in Fig. 3. It can be argued that one gestalt needs to be added still which might be called the

“trans-human” Gestalt which suggests we also need to be able to imagine the world from the perspective on the non- or more than human world, allowing more eco-centric and bio-centric mind-sets to enter our thinking and acting as well. Transformative social learning towards sustainability requires the integrative switching back and forth between the various Gestalts, mind-sets or lenses identified here.

An important task of ESD is to help learners appreciate and utilize differences. The development of knowledge and understanding has both personal and shared elements to it. Social interaction allows one to relate or mirror his or her ideas, insights, experiences and feelings to those of others (see also the transcultural dimension in Fig. 3). In this process of ‘relating to’ or ‘mirroring’ these personal ideas, insights, experiences and feelings are likely to change as a result. This mirroring may lead the learner to rethink his or her ideas in light of alternative, possibly contesting, viewpoints or ways of thinking and feeling. At the same time (learning) experiences, which are shared with others, are likely to gain importance. This is not to say that personal experiences, which are kept to oneself, are insignificant. But shared viewpoints or ways of thinking and feeling give the learner a sense of competence and belonging to the community of learners.

Another component of sustainability competence, related to these gestalts and the ability to switch between them, is the ability to cope with uncertainty. This is a major challenge for higher education as traditionally many scientists consider minimizing uncertainty and maximizing predictability one of their key quests. The emergent uncertainty paradigm however holds that it is an illusion to think that we will ever be able to achieve zero uncertainty or even get close to that. Instead this uncertainty paradigm suggests that more science, information, knowledge might not necessarily lead to less uncertainty, it may actually lead to more as new complexities and questions arise. Instead of putting our academic minds towards minimizing uncertainty and maximizing predictability it might be more fruitful to put

Table 2 Elements of Sustainability-oriented Gestaltungskompetenz (Free after: Michelsen and Adomssent (2007) and de Haan (2010).

- Competence to think in a forward-looking manner, to deal with uncertainty, and with predictions,
- expectations and plans for the future
- Competence to work in an interdisciplinary manner
- Competence of being open-minded and willing to engage with different perspectives and world-views
- Competence to achieve open-minded perception, trans-cultural understanding and cooperation
- Participatory competence
- Planning and implementation competence
- Ability to feel empathy, sympathy and solidarity
- Competence to motivate oneself and others
- Competence to reflect in a distanced manner on individual and cultural concepts
- Competence to deal with paradoxes and contradictions
- Competence to reflect upon’ s own values and principles and to mirror them with those of others

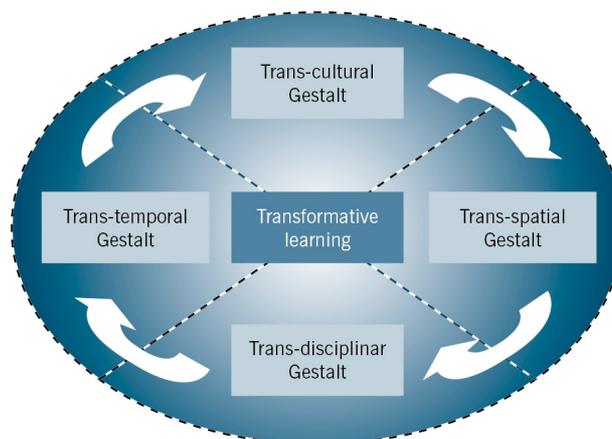


Fig. 3 Four key Gestalts in play in transformative learning towards a more sustainable world.

our energy towards living with uncertainty: seeing it as a given, something that cannot be conquered. In light of sustainability this also implies that we need to develop a 'precautionary reflexivity' that can steer us clear of the inaction, paralysis and apathy that often results from the prevailing 'wait and see' attitude among many citizens, including scientists, which suggests that while we are not sure, and while there is disagreement among scientist and policy-makers about what is happening to the planet, we have no reason to break with our existing routines and can return to business as usual. In their edited volume on education and climate change, Kagawa and Selby write: "*As a fundamental contribution to climate change [prevention and adaptation], it seems that educational spaces should build a culture of learning awash with uncertainty and in which uncertainty provokes transformative yet precautionary commitment rather than paralysis*" (Kagawa and Selby 2010, p243).

Finally, there are a number of what could be called 'generic competencies' that are not specific to sustainability but may turn to be crucial nonetheless. Of those 'leadership' may be one that stands out. One organisation, LEAD – which was born from the Rio Earth Summit in 1992 – has made sustainability leadership the core of its mission. LEAD does so by identifying outstanding people across sectors and cultures, developing their leadership potential and understanding of sustainable development, and mobilising and supporting them as a network to achieve the change required (www.lead.org).

Currently both the United Nations Economic Commission for Europe (UNECE) and UNESCO are emphasizing themes like capacity building, competence development and learning in the second part of the DESD. UNECE has an expert group working on identifying competences for ESD (www.unece.org/env/esd/SC.EGC.htm), while UNESCO focuses Phase 2 of the DESD monitoring effort on the actual learning taking place in the name of ESD (www.unesco.org/en/esd/monitoring-evaluation-process/expert-group/).

7. Cross-boundary Social Learning

Perhaps most ESD activity around the world is generated not by formal government organisations but rather by NGOs, which sometimes work with formal education systems but more often work in non-formal and informal learning settings (UNESCO, 2009a). Informal and non-formal education tends to refer to the collective learning that takes place outside of formal educational systems in everyday life for instance in the context of families, work places, clubs, web-based communities and so on. Non-formal learning can be more or less structured and range from the learning occurring in study groups, non-governmental organizations, social movements, youth clubs, churches, folk high schools and the like. Informal and non-formal education in all their forms are characterized by being voluntary, by having active participation and by encouraging reciprocal ex-

change of ideas, as well as by the increasingly important influence and role of Information and Communications Technologies (ICTs). They are an important part of the concept of life long learning and occur everywhere, even at times within formal education and school systems. Much of this learning takes place at the crossroads between formal, non-formal and informal learning between multiple stakeholders. Social learning is often used to refer to learning that contributes to and occurs in a 'learning system' in which people learn from, as a result of and with one another and collectively become more capable of withstanding setbacks, of dealing with insecurity, complexity and risks. Such a system needs people who not only accept one another's differences but are also able to put these differences to use. More and more often, 'social learning' is introduced in organisations and companies as a means to actively involve people in far-reaching processes of change (Bradbury, 2007; Cramer & Loeber, 2007; Lund-Thomsen, 2007). There are various ways to describe social learning, but it is essentially about bringing together people of various backgrounds and with different values, perspectives, knowledge and experiences, both from inside and outside the group or organisation, in order to come to a creative quest for answers to questions for which no ready-made solutions are available. Social learning is a process in which people are stimulated to reflect upon implicit assumptions and common frames of reference, this in order to create room for new perspectives and actions. The most important characteristics of social learning are:

- it is about learning from one another together,
- it is assumed that we can learn more from one another if we do not all think alike or act alike, in other words: we learn more in heterogeneous groups than we do in homogenous groups,
- it is about creating trust and social cohesion, precisely in order to become more accepting and to make use of the different ways in which people view the world,
- it is about creating 'ownership' with respect to both the learning process as well as the solutions that are found, which increases the chance that things will actually take place, and
- it is about collective meaning and sense making.

In some parts of the world, in both Western and Non-Western contexts, we see multi-stakeholder partnerships emerge that use social learning to co-create their own pathways towards sustainability. The recent rise of Regional Centres of Expertise (RCEs) across the globe are seen by some as testimony to the potential of cross-boundary social learning (UNESCO, 2009a; Mochizuki & Fadeeva, 2008).

8. Conclusion

Midway through the DESD, ESD is on the agenda in most countries around the world. In many countries there is coordinated effort to develop and support ESD. There is an increased recognition and acceptance that there is no

'one size fits all' version ESD and that historically grown and current political and socio-cultural realities and specific environmental and ecological challenges make a contextual grounding of ESD essential. Such grounding sometimes means strengthening ESD-related education and forms of learning without using the concept of ESD itself. Whereas there may at one point have been an attempt from the international policy arena to convert the much earlier established EE into ESD there is now recognition, also within UNESCO, that this is not necessary and can sometimes even have adverse effects (UNESCO 2009a). The mid-DESD review reveals that the relationship between Environmental Education (EE) and ESD is a crucial one to understand. Blindness to the various manifestations of EE and ESD, their histories and the ways in which they relate, can lead to misunderstandings and negative effects on the implementation of both. There are important differences to be observed in terms of both the contents of EE and ESD and the underlying pedagogical and didactic dimensions which are deeply connected to a country's or region's perspectives of citizen participation and democracy. The often forgotten 'E' in ESD can be conceptualized in different ways, depending on the amount of space there is for participation, self-determination and autonomous thinking. When this space is narrow, a more transmissive version of ESD is likely to result with a strong emphasis on instructional forms of teaching and knowledge transfer. When this space is broad, then an ESD will emerge that is characterized by higher levels of participation, self-determination, autonomous thinking and knowledge co-creation. The latter, more transformative, versions of ESD require alternative teaching and learning strategies that also allow for the development of new competences. A country's tradition in governance might affect whether a country emphasizes a more pedagogical orientation towards ESD, consequently implying (social) learning, participation and capacity-building or a more instrumental orientation that emphasizes a change in people's behaviour. It should be acknowledged that in many parts of the world EE is broadly interpreted in ways that very much mimic broad interpretations of ESD.

Paying attention to the 'E' in ESD requires a closer look at both the kind of learning outcomes ESD seeks to develop and the kind of learning processes and conditions are most conducive to making the realization of such outcomes more likely. In this contribution not much attention has been paid to the learning processes and learning environments that are needed. Rather the focus has been on the capacities or qualities people need to develop in order to be able to contribute to more sustainable development. Thinking about 'sustainability competence' and *Gestaltungscompetenz* helps in getting a better understanding of those qualities people need to have in order to be able to act when confronted with a sustainability challenge. Some elements of such competence have been presented but much more research will have to be done on these competences and how they can be developed and strengthened. The question will also

need to be raised whether these competences transcend localities and are universally appropriate or whether they are bound to context.

Although both the challenge of sustainable development and the call for ESD are worldwide, there is a general understanding that the local realities and manifestations of 'unsustainability' are often quite different and deeply rooted in local histories and political and cultural traditions: each region has its own pressing issues and hurdles to overcome when trying to address them. At the same time we see an undercurrent of common themes and systemic patterns that appear to transcend regions. The contextual differences that do exist from region to region but within these hugely diverse regions themselves as well, will lead to different meanings, priorities and strategies for ESD. These differences are often rooted in governance traditions but also in the key existential challenges a region is presently facing. Traditions in governance are likely to affect whether a country adopts a more pedagogical orientation towards ESD emphasizing (social) learning, democracy and participation or a more instrumental one emphasizing changing people's behaviour in a pre- and expert determined direction.

It appears increasingly clear that the search for sustainability cannot be limited to classrooms, the corporate boardroom, a local environmental education center, a regional government authority, etc. Instead, learning in the context of sustainability requires 'hybridity' and synergy between multiple actors in society and the blurring of formal, non-formal and informal education. Opportunities for this type of cross-boundary learning expand with increased permeability between units, disciplines, generations, cultures, institutions, sectors and so on.

Currently we are witnessing an avalanche of interactive methods and new forms of knowledge co-creation involving a wide range of societal actors with different interests, perspectives and values but with similar challenges. In the remainder of the DESD we will need to get a better sense of how these processes take place in practice, how they are mediated and facilitated and whether they indeed are leading to capacity-building and competence development that ultimately will lead to a world that is more sustainable than the one currently in prospect.

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