

# Chapter 1

## Introduction: From a Single Project to a Systemic Approach to Sustainability—An Overview of Developments in Europe

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### 1.1 Introduction

It is almost inevitable to start with some general reflections on the nature of paradigm change and the role education can play in this, if we attempt to summarise and introduce the rich harvest which the following 19 chapters provide on the theory, politics, conceptual development and country and region specific implementation in Europe of what is called education for sustainable development (ESD)—even though authors do not necessarily share the same understanding of the concept.

ESD is defined by UNESCO, the United Nations (UN) body responsible for education, as an approach to learning and teaching that “allows every human being to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future” (UNESCO 2014a). The need and understanding for such an approach to education has grown out of an increasing, worldwide concern for such issues as climate change, environmental degradation, loss of biodiversity, hunger and poverty. Since the 1970s, but even more so after the so-called Rio Earth Summit in 1992, politicians, the general public and educators have realised that sustainable development (SD)—i.e. development which allows future generations to lead a meaningful life supported by a functioning biosphere—is key to the future of humankind. In addition, it became increasingly clear that “education is essential to sustainable development. Citizens of the world need to learn their way to sustainability.

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Our current knowledge base does not contain the solutions to contemporary global environmental, societal and economic problems. Today's education is crucial to the ability of present and future leaders and citizens to create solutions and find new paths to a better future" (UNESCO 2014b).

On the instigation of Japan, at the Rio+10 conference in Johannesburg in 2002, the United Nations committed to what is called the UN Decade of Education for Sustainable Development (2005–2014) (DESD). The overall goal of the DESD "is to integrate the principles, values and practices of sustainable development into all aspects of education and learning" worldwide (UNESCO 2014c). ESD and the DESD are seen as controversial by some people because of their emphasis on critical thinking, participation, democratic citizenship and equality. ESD practitioners, on the other hand, insist on the importance of ESD in the face of overwhelming scientific evidence that our societies and economies are currently unsustainable.

It therefore comes as no surprise that the authors of this volume start almost unanimously from the assumption that ESD is something bigger than just a little add-on to normal school education. If ESD practitioners, so they seem to argue, take the challenges of sustainability or sustainable development (SD) seriously—i.e. the serious imbalances humankind has brought to its life-insurance system planet earth, to justice between its people and between present and future generations—the only sensible conclusion seems a paradigm change in European societies, economies and educational systems. In schools, this does not mean adding additional SD content to existing lessons, but developing the contributions of all subjects and stages of education to SD. In other words, the authors advocate education *for* SD instead of education *about* SD.

There is also the underlying assumption that ESD is equal to a comprehensive understanding of good quality education *per se*, and that such an education can, nowadays, only be transdisciplinary both in its pedagogical approaches and its content.

## 1.2 Part I

Several chapters, particularly in part I, engage with this bigger perspective and ask some searching questions at the end of the UN Decade of ESD (DESD). If future oriented education needs to focus on the necessary competencies for learners to enable them to face the sustainability challenges ahead, asks Mathar in Chap. 2, does this not mean that the concept of sustainable development (SD) should underpin all of school education, but in a holistic way, so that all aspects of a school are guided by SD principles?

Mayer and Breiting take the quality discussion a step further in Chap. 3. They argue that what they call the empowerment perspective of ESD has a genuinely socio-political dimension: only if ESD manages to imbue the learners with real ownership of whatever change processes might be needed locally to increase sustainability, will ESD finally mature from an issue-focused campaigning tool to a real participatory learning journey. There is a need for a clear and informed

understanding of quality criteria so that progress on the journey can be critically assessed. It is important, so the authors stress, not to see such quality criteria as a given structure or check list to follow and tick slavishly. Quality criteria for ESD should be designed to encourage learners to ask reflective questions about SD and ESD and the implementation of (E)SD in concrete practice.

In Chap. 4 William Scott provides one of the conceptual centre-pieces of this book. His critical look at the promises and results of ESD, and at some of the conceptual tensions that arise between the need for real-world change towards sustainability and the necessary openness of educational processes is insightful. Any advocates of self-proclaimed ESD programmes which cannot convincingly answer questions about the contributions these make to sustainable development in the real world need to engage in critical reflection. Equally, if ESD is viewed by teachers or teacher trainers as something to be taught and disseminated, rather than as an open learning process, serious doubts should be raised. Also—since many authors state that social, political and economic change should not be delegated to schools, but be the obligation of the relevant actors in society—schools should prioritise facilitating the learning of students, rather than institutional change, even though the latter can clearly help and support the former. Scott cautions readers against too lofty or grand ideas of ESD as a force for bringing about socio-economical transformation. He argues that, in the best cases, ESD can create the conditions for transformation, but only on a small-scale and on the ground.

From the eagle-eyed perspective of a European member of the UNESCO high-level panel on ESD, a number of disturbing questions are highlighted by Lindberg in Chap. 5: decisive leadership and the political will to tackle SD issues depend on a well-educated public, but the decisions are needed now, not in the future when effective ESD programmes might have made their impact on the wider population. What needs to be done? Why, in many countries, do environmental or development ministries continue to be the main drivers and financiers behind ESD, and not education ministries? How do we get out of the double-bind underlying ESD, namely that people with the best education world-wide, i.e. in Western countries, have by far the biggest individual ecological footprints? How can education really create deep understanding of production and consumption patterns and their destructive impact on the planet? How do we merge top-down governmental and bottom-up grass-roots processes so that they reinforce each other, rather than block each other? These are all pertinent questions addressed in this book and finding answers will be an ongoing task in the post-DESD period.

Wals raises this analysis to a different level in Chap. 6. His is not primarily an inside look at the ESD community, but an outside perspective on what is happening to learning in general in our societies and how this might interact with developments in ESD. Based on a number of trends in business, society and education, he shows that relevant real-world learning increasingly happens in boundary-crossing contexts. Here it is difficult to delineate formal from non-formal and informal learning, school learning from learning in other social contexts. He argues that ESD should become hybrid social learning, where new partnerships and co-operations facilitate rich and exciting learnings which otherwise could not

happen. Wals cautions that these new forms of learning are demanding and difficult to organise.

Wals makes an important point in relation to the transformative and transdisciplinary nature of ESD which—as we have stated—is shared by most authors in this volume. If we are to take these two elements seriously, then ESD has to grow up and move out of the confined spaces of traditional schooling which is generally based on the same foundations as when it was invented as a handmaid for the Industrial Revolution. To move away from this requires new, often temporary learning environments with a whole host of different stakeholders and actors. Wals suggests that if ESD really wants to lend a helping hand to tackling sustainability issues in an integrative, critical and systemic way than it needs to grow into cooperative social learning which deserves the name: unless ESD takes in, cooperates with and reflects current learnings in many relevant fields, such as social media, technological development, power structures, economic systems, and much more, it will just remain an insignificant little bubble, mainly concerned with itself, rather than the world out there.

Wals also raises, but does not really address, two main issues of SD which are rarely ever touched upon in ESD, namely power and inequity. Without a deep understanding of how our societies work and function (and that is primarily a discourse about power), any transformation strategies ESD might come up with are severely limited in scope and impact.

The perspective taken by Dillon in Chap. 7 is important for overcoming the still ongoing trench war—manifest in some of the country chapters in Part II—between environmental education, ESD and other ‘some-issue’-educations. By using a cultural ecology frame it becomes manifestly clear that it is nonsense to separate humans from the environment, poverty, health issues or social justice. All of these SD dimensions are clearly co-created by humans, and this is true on a social, psychological, institutional, economic or environmental level. By focusing on connections and differences, Dillon manages to pinpoint where meaningful change and learning might occur, reinforcing Wals’ message. The creative space happens in boundary encounters where differences between stakeholders, disciplines, and ways of knowing merge, at a given moment and in a particular place, into something new—which equals learning. This creates relational, rather than fixed knowledge or practice. Interestingly, Dillon also concludes by suggesting that only such relational, interdisciplinary explorations in learning can adequately address the most pressing SD questions, such as the structure of power, the distribution and allocation of resources, fairness, justice and moral responsibility, and not least reconciling individual with communal needs.

### 1.3 Part II

Part II starts with Mathar’s analysis of developments in Germany, by many seen as one of the European countries where the DESD has made most progress. Yet Mathar draws a cautiously optimistic conclusion: despite all the tangible

successes, such as a cross-party politically mandated National DESD committee and action plan, structural integration of ESD in German states and a sound programme for training multipliers, many tools and an elaborate national ESD website, not to forget more than 1,700 certified individual ESD projects, there is still a lack of understanding and acceptance of ESD amongst politicians and the general public, there is insufficient structural and institutional anchoring of ESD in schools and only the beginnings of comprehensively ESD focused regional educational landscapes.

Jucker and Nuoffer, in Chap. 9, take the paradigm shift, implied by all UN documents on ESD, seriously and ask what this means for education. They raise similar questions as Lindberg in Chap. 5. They suggest that a fundamental rethink of education is needed to foster a sustainable world, given that current educational systems—particularly if successful in conventional terms—strengthen the *unsustainability* of the current state of the world. By analysing Switzerland's performance during the DESD against criteria suggested by the DESD Monitoring and Evaluation group, they conclude that despite progress on the surface, much work still needs to be done. They argue, like Wals, that the way forward lies in a broader understanding of learning, widening the types and areas of learning as well as the actors, i.e. the learners involved. These are not any more just the pupils or students, but all the participants in such a sustainability learning process, including teachers, facilitators, decision makers and leaders at all levels of the system.

Two further conclusions follow from this: the post-DESD aim should not be to mainstream ESD into the existing unsustainable education system, but to co-create a new educational system—along the lines of Wals' and Dillon's hybrid boundary-crossing social learning communities of practice—which equals ESD. Secondly, they caution, akin to Scott, against grand ideas of 'changing the world'. Meaningful and effective sustainable transformations will only happen locally and on a small scale.

Rauch and Pfaffenwimmer focus in Chap. 10 on another crucial driver for ESD, namely networks. Austria's lessons learnt from previous decades strongly indicate that networks at all educational levels can strengthen and nurture the mutual exchange of experiences (rather than one-way transfer) amongst ESD practitioners. In addition, they can build the trust necessary for success. Yet experience also shows that the main challenges for successful networks lie in finding the delicate balance between structure and process, stability and flow.

A long tradition of research and practical implementation of ESD in Catalonia leads Espinet, Junyent, Amat and Castellort, in Chap. 11, to reinforce the Austrian message that networks are key to successful ESD implementation. Yet they add a couple of distinct new elements: a number of Catalan research groups and networks focus on collaborative research models, which start from the assumption that school community networks need to be underpinned by research that takes seriously the contribution made by a diversity of agents such as pupils, school teachers, researchers and others. Apart from emphasising the importance of the collective construction of knowledge and experiences in regional, national and international school networks, the authors also focus on the vertical dimension of implementation in schools. They show that a successful participatory approach to an ESD school cannot so much be deduced from SD topics in the curriculum, but rather

from the institutionalised structures of participation. Catalonia, as other countries such as Hungary, is also a good example showing that the entire discussion around ESD cannot be separated from the wider social and economic context, especially since the recent financial crisis has drastically impacted on what is and is not possible.

The exploration of the way environmental education (EE) slowly develops into ESD is an interesting journey into systemic analysis. Réti, Horváth, Czippán and Varga show in Chap. 12 that only a multitude of combined elements brings about systemic change—including slow step-by-step changes, horizontal knowledge exchange, reward and support systems for stakeholders, empowerment of practitioners as well as institutionalisation of structures. Apart from visualising the various understandings of ESD in relation to EE, they make one more crucial point: even if there is a rather comprehensive national strategy on ESD, this does not amount to much on the ground, if support and rewards for ESD are not built into existing, regular support structures.

Chapter 13 on Finland takes a different route. By focusing on the concrete examples of two schools, Åhlberg, Aineslahti, Alppi, Houtsonen, Nuutinen and Salonen home in on what they think is the essence of ESD: a good life based on respect for a systemic, scientifically grounded, holistic world-view. What they call an ecosocial approach to education enables an understanding of the world that clarifies the interdependence of human life, including the economy, on healthy ecosystem services, sustainable use of resources and biodiversity. The perspective from the Finnish National Board of Education adds an interesting element: SD was emphasised in the most recent revision of the national core curriculum, yet if pupils are interviewed on related learnings, it transpires that they have a fairly good grasp of a very narrow set of technical ecological knowledge (such as on recycling or energy-saving), yet no real grasp of systemic understandings or biodiversity.

Andresen, Høgmo and Sandås refine and complement a number of findings from previous chapters through an analysis of ESD in Norway (Chap. 14). Norway has been comparatively fortunate to have a strong national strategy on ESD, some exemplary national programmes on EE and ESD such as the projects SUPPORT and Extreme Weather as well as the Environmental Toolbox. Yet in summarising the lessons learnt during the DESD, the authors identify a number of obstacles to good ESD implementation which also exist in other countries: the pressure to focus on literacy, numeracy and ICT diverts necessary energies from transdisciplinary ESD projects; teachers and schools are often overstretched to adapt the national core curricula into a truly local ESD curriculum; the kind of boundary-crossing collaborations mentioned above are very demanding for all involved, with the result that they do not happen as often as they should; there is a strong correlation between pupil's learning outcomes and the level of collaboration with outside stakeholders, reinforcing Wals' and Dillon's messages for cross-stakeholder engagements: it actually increases the quality of learnings; many ESD projects have not been able yet to break out of specific boxes, such as a natural science orientation; and lastly there is, in Norway at least, no vertical integration or feedback loop from local experiences into national educational policy making.

What transpires from Norway is also true for other countries, such as Switzerland, Germany, or the UK: even if there are national policy documents or support structures for ESD, this does not, on the whole, translate directly into meaningful ESD in individual schools, particularly if the national guidance documents are not localised and not backed up by an enforced system of reporting and evaluation.

This view is also enforced in Chap. 15 on Denmark. Rolls, Dahl Madsen, Roug and Larsen present three very diverse and interesting individual examples of successful ESD implementation in their country. Yet, paradoxically, these promising examples also show how unfamiliar the concept of ESD is amongst Danish teachers and how uneasily it sits with current teacher's practices and organisational structures which are firmly rooted in strict traditional disciplinary approaches. The richest mutual learnings in all three case studies can be attributed, again, at cross-boundary stakeholder engagement: collaboration does challenge all involved and allows participants to move forward into new, more nuanced understandings. In Denmark, again, there is a tension between the relative autonomy of teachers (which allows ESD, but might leave it in the margins with a few enthusiasts) and the tendency of the national educational system to focus on literacy, numeracy and ICT. Whether reform or paradigm shift will be on the agenda, the authors suggest that collaborative, cross-curricular and cross-stakeholder solutions will be an important element either way.

Van Poeck, Loones and Claus present a unique perspective in Chap. 16, with their reading of the situation of ESD in Flanders. They provide an important piece of self-reflective soul-searching that would benefit ESD practitioners in most other countries as well. It is an analysis focused on Flanders, but very good arguments could be made to place the chapter also in Part I amongst the more generally conceptual analyses. The main insight they provide is that what we often perceive as an autonomous discourse framed by ESD theorists and practitioners is, in fact, framed by broader developments in society and the environment, such as the impact of the ESD discourse on EE, the framing of social and political problems as learning problems and what they refer to as ecological modernisation. Their discourse analysis makes clear that by defining ESD in certain ways, by enshrining it in policy documents and demanding certain practices we not only enable or encourage certain practices but always also disable and discourage other practices, which, in fact, might be far more sensible or locally adequate in view of sustainable solutions. In other words, they highlight the tension between managerial policy processes and open-ended learning experiments, embedded in a specific local practice based on voluntarism and commitment. Implicitly, they pose the question whether a managerial problem-solving approach, based on strategies, national policy documents and implementation guidelines, is actually compatible with an educational, i.e. learning approach. This echoes Scott's as well as Mayer and Breiting's concern that a focus on institutional change or issue campaigning might undermine education's prime concern, namely to foster learning and growth in understanding.



In Chap. 17, Ricard and Dussaux trace developments in France where, perhaps not surprisingly given France's centralist history, there is a successful example of a top-down approach to ESD implementation. There have been numerous efforts, government decrees and programmes which have led to good progress also on the ground. Yet it seems that even here, there are similar problems as elsewhere. There seems to be no clear roadmap with regard to teacher education and training, and there seem to be many open questions with regard to the vertical, in-depth dimension of ESD implementation. To phrase the question with previous observations in mind: is France's success a managerial one only, or have the policies and programmes led, as Scott demands, to a real world contribution to SD? It also seems an open question whether the trench war mentioned above between ESD and EE has been fought or abandoned.

Cyprus is an interesting case of a small country on the periphery of Europe. Zachariou and Kadji-Beltran argue in Chap. 18 that this country has come relatively late to EE and ESD, but has managed to make fast progress with a number of important national policy documents, such as a national action plan on ESD and the integration of ESD into the national core curriculum. Yet similar tensions operate in Cyprus as elsewhere: the centralised system, with an emphasis on a managerial, instrumental approach, to be implemented by schools, stands in stark contrast to the situation on the ground where a whole school approach demands a dynamic transformational process in individual schools, focusing on key aspects of SD, such as participation, cooperation, quality of life, equity and justice. An additional problem—to be overcome in the post-DESD years—is the very vague understanding by key actors in schools (headteachers and teachers) of what ESD means. In Cyprus the question posed by Sterling (2001) comes to the fore again: what kind of schools do we want, reproducing the current order of society and economy (i.e. at the very most tinkering at the edges with first order change), or schools which co-create and construct a sustainable community (i.e. third order change or transformation)?

The very specifically grounded but converging observations by Martin, Dillon, Higgins, Strachan and Vare in Chap. 19 on the situation of ESD in the United Kingdom adds more weight and conviction to many of the findings presented by previous chapters. Highlighting the three most important ones is sufficient here: firstly, ensure that regional reality is examined before judgement is passed on any country. Implementation on the ground manifests itself in a complex mix of policy, culture, socio-economic situation and resilience of individual key actors. Secondly, all of the UK's devolved administrations in Wales, Northern Ireland, Scotland and England, have to varying degrees impressive national policy documents, even ESD checks in school inspections, with some good evidence that ESD implementation in schools increases educational quality. Yet, as elsewhere we are very far from a changed educational landscape, as originally implied by the UN's DESD implementation documents. Thirdly, the inverse of what we stated above, that much of the true picture of ESD implementation depends on local initiatives on the ground, is also true: the national policy context has a clear impact on what happens on the ground. While previously England and especially Wales have been at the



forefront of ESD implementation worldwide, changes in government have altered the picture, so much so, that it now seems that Scotland has leapfrogged these countries.

Finally, in Chap. 20, de Wolf and de Hamer describe developments in the Netherlands, highlighting a specific feature of the Dutch educational system, namely that it is very easy to run private or independent schools. This gives a large degree of freedom to headteachers and teachers with regard to ESD. Yet at the same time the fact that national standards do not systematically integrate ESD, this freedom is clearly limited and shifts ESD again into the corner of ‘nice to have’, so that only enthusiastic teachers tend to engage in it. The authors also note, based on the expressed preferences of Dutch schools, that the willingness to engage in transformative approaches to learning is very limited. As in other countries, there is a strong tendency to stick with the traditional approaches, focusing on reproduction of knowledge and application of rules. Despite the fact that there have been a number of successful ESD programmes which the authors detail in the chapter, the impact of these programmes has been limited since they have been focused only on one educational level (here primary education). Additionally, such central programmes have a tendency not to be demand-oriented, since they are not established with intimate integration of the end-users, i.e. schools, right from the start of the design phase. A final point the authors make is again one which is reflected in many other chapters, i.e. that a distinct focus on teacher training is necessary if a shift in pedagogical approaches is to be achieved any time soon.

## 1.4 Conclusions

If we summarise the findings of the volume and also add the editors’ perspectives we would like to highlight the following points:

- There is a very good understanding that meaningful ESD needs to go beyond both managerial approaches, ticking policy boxes or tokenistic, issue-campaign based waste management actions. In the best of cases, ESD is boundary-crossing, multiple-stakeholder, communal social learning in a specific place and focused on a real-world problem which needs solving. It is a learning process which involves all participants and is open-ended, i.e. it enables a deepened understanding through the educational activity. It needs to be a multidisciplinary exploration of social, psychological, economic, political, technological and environmental dimensions. Yet, given that this would really place any ESD endeavour in the midst of where our state-of-the-art understanding of these issues are, we see a distinct lack of the ESD discourse to engage in such truly boundary-crossing explorations of knowledge. Most ESD practitioners still seem to be content in their educational corners (see more extensively Jucker 2014). For example, there is a notable lack in the ESD literature of explorations of the implications of the new power structures established by

new control technologies embedded in social media and what this means with regard to our generally shared hype of using ICT tools and social media in ESD (see Baumann and Lyon 2013).

- Several authors in this book highlight this, amongst them Scott, Wals and Espinet *et al.*: In ESD, despite all the efforts during the DESD, advocates are keeping their fingers crossed and hope that their programmes, activities, learning endeavours, projects and lessons will yield their desired results. However, there is little evidence-based research to convincingly show that ESD works or that the reasons for any success are understood.
- There is considerable agreement amongst the chapter authors that sustainable change and transformation has to be local and small-scale. Maybe—rather than, once again, dreaming up big schemes like the DESD or self-contradictory claims of main-streaming ESD (How do you want to mainstream something into a system whose ideology, construction principles, guiding values and understanding of education are diametrically opposed to sustainability?)—small steps are more likely to be successful: face-to-face, hands-on learning as a committed local community exploiting to the fullest respective spheres of influence.
- There is a really big tension between ESD1 and ESD2, as Scott and Vare (2007) call it, or, to phrase it even more paradoxically: how do we reconcile the fact that any ESD which does not contribute, palpably in the real-world, to more sustainability cannot consider itself ESD, *and* any ESD which forgets that it is primarily a learning process and not social transformation is also hardly ESD? The question is on the table whether theory, policy and practice of ESD have found meaningful and sufficiently rich and complex answers to this paradox yet.
- The chapter on Flanders, particularly, highlighted the question of whether ESD practitioners are sufficiently aware of the paradox of modernity that every so-called step towards progress has its drawback. So, any gain in visibility, importance and compulsory embedding of ESD in national policy documents or curricula is also always legitimising certain actors to claim to be the true voices of these discourses, thereby de-legitimising, even silencing other discourses. This can be seen in many countries where the ascendancy of the ESD discourse has silenced or sidelined EE approaches with arguably at least as much credibility and validity.
- Given the emphasis on social learning, collaboration, communal learning and involvement of (external) stakeholders shared by most chapter authors it is almost self-explanatory that networks—not just of schools but also of practitioners, community actors and professions—are seen as crucial elements in any ESD implementation. They not just enable the integration of a diversity of perspectives, but also of different systemic levels of educational systems whose members often do not talk to each other. It is wise, though, to head the experiences of Austria in this regard: networks are hard work and demand skilled balancing between flow and openness versus stability and structure.
- There is value in exploring approaches like cultural ecology in order to move beyond the trench wars mentioned above. In too many countries there are still territorial and hegemonial fights going on over who has the right to the ‘correct’ history and to define ESD. This is often fuelled by funding streams coming

from specific government departments, e.g. health, environment or development ministries. So, health education, global education, political education or environmental education challenge each other not to be the 'right' ESD. But advocates of these different types of 'hyphen'-educations often forget that they should be seen and accepted as different doorways to ESD, realizing that all of them have a specific history and background (DCSF 2008: 41–45). Such positionings and posturings can only be overcome if the transdisciplinarity of ESD and its embeddedness in the complexity of real-world issues is taken seriously. Such issues can never be reduced to any one of these limited perspectives. The open and solution-oriented frames of cultural ecology or hybrid social learning could help transgress these counterproductive and resource-gobbling in-fights.

- There has been no real progress in the sense of the necessary paradigm change. There is a need to step outside the world-view and mental models (including the mental model of education) of the Industrial Revolution and advanced capitalism, if we are to move towards a sustainable society. Bateson has neatly summarised this: "The raw materials of the world are finite. If I am right, the whole of our thinking about what we are and what other people are has got to be restructured." (Bateson 2000: 468) But the fact that the paradigm change has not occurred is, as Welzer states, no surprise: the discourse of ESD has, until now, been an integral part of the narrative of modernity, couched in terms of 'progress' ('lifelong learning'), 'competition' ('student achievement') and 'growth' ('personal development') (Welzer 2013: 65–66). Only if we manage to create a new political, social and economic paradigm in the real world, will the education system, and therein ESD, follow as veritable learning processes.
- There is no real high-level policy commitment to ESD. This again is not surprising, since the decision makers of all parties still function in the unsustainable 'industrial growth model'. So the economic growth model still determines overall governmental, social and educational policies. Only a political movement to change these priorities in society could achieve such a change.
- We need to remember how resilient mental models are and how susceptible professionals generally are to 'old ways of thinking'. So there is a need to think outside the box and this often means working with outsiders, as elaborated above when referring to boundary-crossing approaches. We need solutions (new or old) that work and they are often found outside the education system. Engaging experts, wisdom and experiences from outside can help this process. Whether this is called transformative education (WBGU 2011: 351–357) or design thinking (Design Thinking 2013) does not matter, as long there is respect for the principle that a wealth of perspectives, experiences and personal involvement and relevance generate better results.
- Most importantly there is a need to agree on, and routinely reconfirm the common aim: transition towards sustainability, i.e. one-planet living. There is a need to always reconnect to the overall picture, the holistic overall aim, in order to ensure continued travel in the desired direction. Day-to-day activities and especially highly motivated work can easily disconnect from—or turn into something contradictory to—the overall aim.

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