

# Education for Sustainable Development - Learning for Transformation. The Example of Germany

Sascha Dannenberg  
Free University of Berlin  
Germany

Theresa Grapentin  
Free University of Berlin  
Germany

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## Abstract

*This paper addresses education as the central element of sustainable development. In the last decades several international commissions and organizations agreed on the importance of Education for Sustainable Development (ESD), resulting in the proclamation of the Decade of Education for Sustainable Development (2005-2014) by the United Nations in 2004. Mainly based on the experiences of the UN Decade of ESD (DESD) in Germany, the paper introduces the concept ESD and especially the concept of Gestaltungskompetenz, which focuses on specific skills and capabilities needed to decide and act in situations of uncertainty and complexity. Significant achievements as well as shortcomings and challenges in implementing ESD are described and the Global Action Programme (GAP) is introduced as a significant advancement of DESD and a pivotal contribution to the 2030 Agenda for Sustainable Development.*

**Keywords:** transformation, Education for Sustainable Development, competencies, Gestaltungskompetenz

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## Introduction

The question what a sustainable and viable future might look like remains. No matter what answers we find, they will have to include competencies to successfully handle difficult and unfamiliar situations and reflect on one's own acts and central ideas to be able to create feasible, plausible and desirable visions of the future (Strunk, 2014). In this context, Education

for Sustainable Development (ESD) is creating new approaches as it marks a new culture of education and a new direction in teaching and learning of content and methods. ESD means incorporating central issues of sustainable development into education and learning and supporting the acquisition of competencies that enable people to live and act in a sustainable way. On an international level it is increasingly acknowledged that ESD represents a main element of high-quality education. This becomes especially obvious in ESD having been included in the 2030 Agenda for Sustainable Development as well as the Muscat Agreement on the occasion of the Global Education for All Meeting in the past year (United Nations, 2015 & UNESCO, 2014c).

Mainly based on the experiences of the UN Decade of ESD (DESD) in Germany, the paper focuses on the potential of ESD for a global transformation into a sustainable system by highlighting the concept of Education for Sustainable Development and Gestaltungskompetenz, as explained in below. Furthermore, the paper describes future challenges for a widespread integration of ESD in formal and non-formal education. The Global Action Programme (GAP) is introduced as a significant advancement of the DESD and a pivotal contribution to the 2030 Agenda for Sustainable Development.

## **Learning for Transformation: The Concept of Education for Sustainable Development**

### **ESD and social development**

In general, ESD aims to enable all people to acquire the values, knowledge and skills required to shape their own way of life and society in a sustainable way. The similarities between ESD and other concepts are quite obvious, such as Education for All, the United Nations Literacy Decade (2003-2012), the fight against poverty and HIV/AIDS as well as gender equality. As de Haan (2008a) points out, this is quite problematic. It seems that everything enhancing social development in a positive way could be subsumed under the term and concept of ESD. This paper therefore follows the suggestion of the UNESCO (UNESCO, 2005) and applies ESD from a national perspective, i.e. Germany. This has less to do with the sovereignty of states than with specific issues, social structures and existing expertise and professionalism. For example, it is certainly true to attribute Education for All to issues of sustainable development in countries where not even basic education is realised. But it seems to make little sense in other contexts as for instance Germany (de Haan, 2008a).

### **ESD as a prospective strategy**

In general, education can be understood as the acquisition of knowledge, attitudes and skills for future actions. Still, this process resembles more a retrospective strategy, i.e. the provision of verifiable facts and hypotheses. From that point of view, education is more about “What should be known?”, i.e. the input of knowledge.

Mainly due to sociological discourses about modernity, doubts arose about the input approach, (Giddens, 1991; Beck, 2008) and facts and knowledge seemed to be transferred to ambiguity and uncertainty. If previously accepted knowledge is transferred to ambiguity and uncertainty, the individual is demanded to shape its

own social interaction on the basis of more or less subjective attitudes and decisions. This can be seen as a positive development, as it allows the individual to (more or less) shape its own way of life free from traditional social constraints. However, this freedom is ambivalent, as the individual has to decide in a growing number of contexts under the pre-condition of uncertainty (de Haan, 2008b).

The retrospective strategy of education is only effective when a fixed and verified set of facts, solutions or strategies is available for solving problems clearly described. This is particularly not the case with regard to sustainable development (de Haan, 2008a). ESD as a prospective strategy offers an alternative as it enables individuals to act strategically under conditions of uncertainty. Therefore, ESD changes the common paradigm of “What should be known?” to “What should one be able to do?”, i.e. from input to output:

*“ESD is an integrative concept: it integrates the ecological, economic and socio-cultural dimensions of a problem and takes into account the interlacing of global, regional and local structures and processes. It is based on a long-term view and considers the present from the perspective of the future.” (DUK, 2011, p. 9)*

Therefore, ESD involves all parts of education with the aim to give individuals the competence to actively shape sustainable development for a common future.

## **Gestaltungskompetenz**

As described above, ESD is fundamentally different from education that is based on the principle of additive, cumulative and archival knowledge acquisition. In contrast, ESD concentrates on the competencies needed to transform social relations, the economy and the management of natural resources under conditions of uncertainty, without these transformations always being merely a reaction to already existing problems.

Competency refers to skills and abilities to solve particular problems. However, competencies as understood in this context are not restricted to their cognitive components but include emotional, motivational and social components as well (Weinert, 2001). But as they are based on objectives, intentions and tasks, competencies can be transferred into educational settings and measured as the aspired outcomes of education (de Haan, 2008a).

The development of a corresponding but unified catalogue of skills and knowledge is a challenging task. Nevertheless, the concept of key competencies developed by the OECD can be used as a framework as these competencies proved plausible and highly capable as well as relevant for policy planning internationally (de Haan & Harenberg, 1999). In this respect and as a result of the project Transfer 21, a transnational working group (Programme Transfer 21, 2009) developed 12 sub-competencies (table 1). Every sub-competence was further subdivided and supplemented with specific learning material and opportunities (Transfer-21, 2007). The selection of the sub-competencies is legitimised by their capability to handle complex individual, local and global challenges on the one hand. On the other hand, a common normative background, i.e. justice and their general contribution to sustainable development, justifies them. In the following, we present specific decisive reasons for the selection of each sub-competency (in detail see: de Haan, 2008a; Transfer-21, 2009). The selected competencies may not seem distinct as they

are all interlinked and many touch the same issues simultaneously. Nevertheless, as a conceptual approach to education none of these can stand on its own, but only as a whole they form the concept of *Gestaltungskompetenz*.

Table 1. *Overview Gestaltungskompetenz*

key-competencies (OECD)	Gestaltungskompetenz
Interactive use of tools and media	<ul style="list-style-type: none"> <li>• Integrate new perspectives and a global view in knowledge generation</li> <li>• Interdisciplinarity</li> <li>• Anticipation in thinking and acting</li> <li>• Identify and assess risks and uncertainties</li> </ul>
Co-operate in groups marked by diversity	<ul style="list-style-type: none"> <li>• Act and plan in cooperation</li> <li>• Participate in decision-making processes</li> <li>• Motivate others to act in a sustainable way</li> </ul>
Act independently	<ul style="list-style-type: none"> <li>• Reflect one's own principles as well as those of others</li> <li>• Act and plan independently</li> <li>• Reflect different and divergent notions of justice</li> <li>• Show and feel empathy and solidarity</li> </ul>

The integration of new perspectives and a global view in knowledge generation is mainly based on the discourse of globalisation (Beck, 1996, 2008). Local or national perspectives are often not sufficient for the analysis of challenges of unsustainable development, especially as significant phenomena of unsustainable development show up globally (e.g., climate change, poverty). In effect, only a broader perspective on different societies and cultures as well as different perspectives on societal systems (economic, political and civil) is capable of perceiving conflicts of interest and different solutions, barriers and opportunities for sustainable development. In addition, a global perspective allows for the integration of non-westernised, i.e. non-rationalised scientific and traditional knowledge about different approaches to sustainable development. Closely linked to this is the sub-competency of interdisciplinarity. As widely recognised, the complexity and interdependency of issues can be hardly described and analysed adequately within the borderlines of one scientific discipline. Therefore, interdisciplinarity refers to the capability to co-operate across disciplinary borderlines and to integrate knowledge from different scientific perspectives.

Anticipation in thinking and acting refers to the time horizon of education and its general ability to teach (about) transformation. As mentioned above, current education is marked by a retrospective strategy, almost limiting changes to past experience. However, anticipation concerning possible effects of actions and the development of strategic options has not been integrated widely in formal and informal education. In this respect, anticipation in thinking and acting means the capability to think in alternative developments, anticipate different effects of actions and integrate different sources of knowledge. In its most elaborated form this refers to the capability to use methods and techniques attributed to futures studies such

as scenarios, forecasts, simulations, Delphi method etc. (Schatzmann & Schäfer & Eichelbaum, 2013). Corresponding to this is the capability to identify and assess risks and uncertainties. Students should be able to use heuristic techniques to formulate appropriate statements and identify alternative options for action under terms of uncertainty.

Acting in groups marked by diversity forms the second framework of sub-competencies for Gestaltungskompetenz. The first two sub-competencies - act and plan in co-operation as well as participate in decision-making processes - take into account that a comprehensive sustainable development can not be based solely on strategies of business enterprises, laws, regulations and their enforcement, because (political) strategies and personal actions are quite disparate. Therefore, it is imperative to be able to analyse different points of view and to collaborate and decide in groups democratically. As recent studies in Germany show (Deutsche Shell, 2002, 2006, 2010), civic engagement, active participation in decision-making processes and solidarity are of growing concern among young people. Therefore, it seems quite reasonable to integrate skills of and knowledge about negotiation, collaborative problem solving, and the development of strategies for sustainable development into formal education, i.e. in form of simulation games and mediation or conflict resolution. Additionally, the capability to motivate others to act in a sustainable way is generally based on the insight that only widespread commitment can lead to success. As is widely accepted, especially in contexts of high uncertainty and complexity trust, expectation of success and reward are as important to trigger actions as rational arguments and knowledge (Bormann & John, 2014). To motivate and persuade others to act therefore becomes quite central for sustainable development.

The last four sub-competencies are subsumed under the term capability to act independently. A modern understanding of education focuses on the development of autonomy, individuality and communality. However, this is not to be understood as egoism, self-realisation and the exploitation of the community for individual purposes. Instead, being educated refers to the abhorrence of and defence against inhumanity, the ability to raise awareness of the historicity of our own existence and the willingness to self-reliance and responsibility in your community (von Hentig, 1996). Therefore, Gestaltungskompetenz in this context indicates the capability to reflect one's own principles as well as those of others. In contrast to the capability to plan and act with others mentioned above, the sub-competency act and plan independently emphasises individual responsibility when it comes to lifestyles, consumer habits and the rights of others. Therefore skills that are attributed to this sub-competency include the ability to design one's own life plans by articulating needs and interests without limiting the rights and general opportunities of other people and future generations. Subsequently, the capability to reflect different and divergent notions of justice is closely linked to the ability to show empathy and solidarity with disadvantaged people. Since environment and development are thought of as intertwined, sustainable development is closely linked to the efforts to create a just world from an inter- and intra-generational perspective. Therefore, students should acquire the ability to describe and assess ways of political, social and economic as well as individual responsibility for unsustainable development processes. Furthermore, they should be able to present ways of empathy and solidarity with the poor, needy and oppressed people and communities. Finally,

being able to motivate oneself to act is quite similarly legitimised as the ability to motivate others to act in a sustainable way. However, this sub-competency refers especially to the personal dealing with uncertain future developments marked by diversity and divergence (Grunwald, 2014) as being able to motivate oneself in situations of uncertainty is not only pivotal to participation in democratic decision-making processes, but for sustainable development as well.

### Ten Years of ESD in Germany – a Story of Success?

In December 2002, the United Nations General Assembly declared a Decade of Education for Sustainable Development 2005-2014 (DESD). It also designated the UNESCO as the lead agency for the promotion of this Decade. Its leading vision is a world where everyone has a right to learn values, behaviour and lifestyles required for a sustainable future and for positive societal transformation. In effect, DESD challenges all forms of educational provision to adopt practices and approaches, which foster the values of sustainable development (UNESCO, 2005; see table 2)

Table 2. *Approaches and strategies*

Four major thrusts of ESD	Seven strategies for ESD
1. Improving access and retention in quality basic education	1. Vision-building and advocacy
2. Reorienting existing educational programmes to address sustainability	2. Consultation and ownership
3. Increasing public understanding and awareness of sustainability	3. Partnership and networks
4. Providing training to advance sustainability across all sectors	4. Capacity-building and training
	5. Research and innovation
	6. Use of Information and Communication Technology (ICT)
	7. Monitoring and evaluation

In Germany, the German Commission for UNESCO (DUK) submitted the ‘Hamburg Declaration’, an important reference document, which formulated central aims for the upcoming Decade under the catchphrase ‘The Learning of Sustainability’ (DUK, 2009) in summer 2003. On July 1, 2004 the German Parliament (Bundestag) unanimously voted to initiate an Action Plan for the DESD as part of the Federal Government’s sustainability strategy (Bundestag, 2004). In 2005, the DESD was inaugurated in Germany with the objective to make ESD a priority in all areas of education. Besides others, the DESD in Germany produced two internationally important milestones. First, in co-operation with the Federal Ministry for Economic Cooperation and Development (BMZ) it facilitated the ‘Cross-Curricula Framework for Global Development Education in the context of Education for Sustainable Development’, suggesting ways that Germany’s Federal states could – in the context of ESD – especially integrate global issues and themes of sustainable development into the curricula (KMK & BMZ, 2007).<sup>1</sup> Secondly, the UNESCO and the Federal Ministry of Education and Research (BMBF) in co-operation with the DUK organized the first UNESCO World Conference on ESD, which took place in Bonn in 2009. The ‘Bonn Declaration’ prompted the UNESCO and its Member States to align education to the principles of sustainable development, and provided guidelines for further anchoring Education for



Sustainable Development in education systems worldwide (National Action Plan for Germany, 2011).

At the end of the DESD in 2014, achievements, shortcomings and challenges with respect to the implementation of ESD in all fields of education can be identified on both the national and international level. From a global perspective, a growing number of education systems integrate issues of sustainable development in their curricula and principles. Furthermore, the understanding of ESD being a life-long process is growing. Besides, sustainable development agendas and education agendas are converging (UNESCO, 2014a). Another global trend is the fortified co-operation and network formation between actors within the field of education. Moreover, the DESD has shown that there exist several possibilities and leverage points for the implementation of ESD and the respective design of a local and global future in the sense of a sustainable development, especially on a municipal level. In summary, DESD influenced learning pedagogics and methods. Technical and vocational education advanced as well (UNESCO, 2014a).

In Germany, a positive development can be seen regarding ESD since 2005. One influence of the DESD that should not be underestimated is the potential for illustrating that, and how, ESD can be integrated in all educational sectors. That is why a central element of the DESD in Germany was to award projects, initiatives and municipalities. On the one hand, this made the commitment of stakeholders of ESD visible. On the other hand, the concept of ESD could be made perceptible through the example of awarded partners, ranging from classical education institutions such as nursery schools, schools and universities via service providers and other enterprises, NGOs and local projects. The award did furthermore have a motivational character, called for imitation and facilitated the access to funds and the search for co-operation partners. In total, the National Committee honoured about 2,000 projects, 49 initiatives and 21 municipalities during the ten-years period (UNESCO, 2014a). Furthermore, the political pressure on governments to justify themselves has increased. The state parliaments and the Standing Conference of the Ministers of Education and Cultural Affairs of the Federal States in the Federal Republic of Germany (Standing Conference, KMK), too, have taken position and issued recommendations and decrees (DUK, 2014a).

# OFFICIAL PROJECTS OF THE UN DECADE SORTED BY EDUCATIONAL SECTORS CONCERNED

TOTAL: 1926

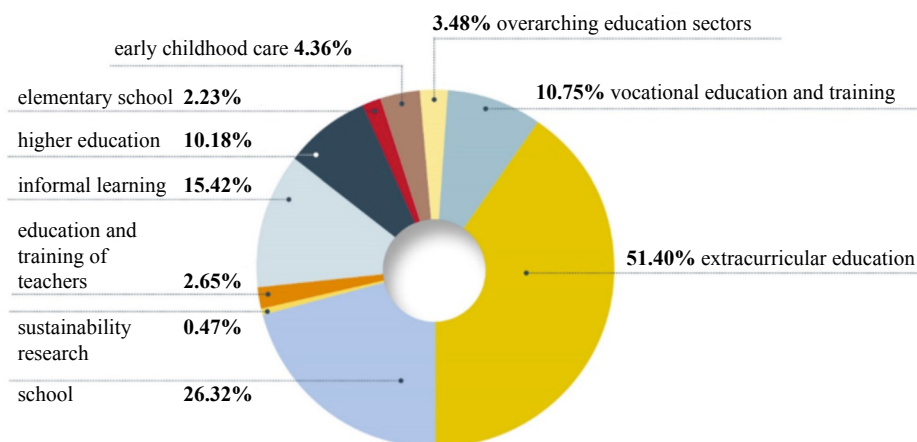


Figure 1. Official Projects of the UN Decade awarded in Germany sorted by educational sectors concerned (DUK, 2014, p. 25)

# OFFICIAL MEASURES OF THE UN DECADE SORTED BY EDUCATIONAL SECTORS CONCERNED

TOTAL: 49

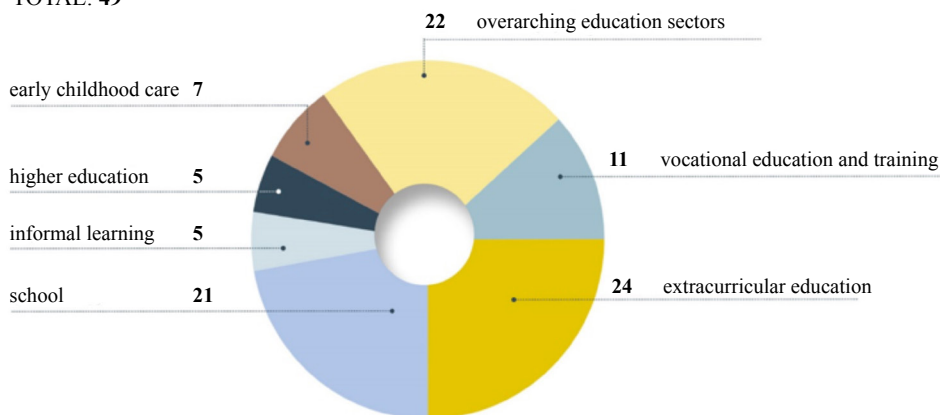


Figure 2. Official Measures of the UN Decade awarded in Germany sorted by educational sectors concerned (DUK, 2014, p. 25)

As illustrated above, there is a great variety of examples for best practice, and the anchoring within the curricula and educational plans as well as the learning and teaching materials is ever increasing. In one Federal State (Hesse), for example, there exists the *School Year for Sustainability*. In this context, several issues of sustainable development as, e.g., climate, energy, mobility, nutrition or justice, are being integrated in form of classroom visits, training workshops, projects and



excursions. The project is part of the sustainability strategy of the Federal State of Hesse and is being carried out in co-operation with schools, environmental centres and companies in order to contribute to a systematic establishment of ESD and networking of agents within the educational landscape (CoDeS Case Frankfurt Main, 2015).

In the context of the revision of educational plans in early childhood care and education since 2010, ESD has particularly been considered more extensively in the Federal States of Hamburg (2012), Berlin (2014), Saxony-Anhalt (2013), Thuringia (2010), and North Rhine-Westphalia (2010) (DUK, 2014b). For instance, ESD is integrated in the official educational program of the Federal State of Berlin, describing in detail which significance the concept has for children, professionals and institutions as a whole (Senatsverwaltung für Bildung, Jugend und Wissenschaft, 2014). In the context of schools, a survey amongst the federal states carried out in 2012 by the Standing Conference (KMK) that ESD is being considered in the revision of learning and reference frameworks to an increasing extent (Standing Conference, 2012).

Notwithstanding, in Germany, ESD is still considered as a new issue and add-on rather than a shift of perspectives in too many cases. In general, appropriate research on the implementation of ESD in the curricula is still missing. A consequent and holistic implementation of ESD in curricula, study regulations, and regulations of professional training is only proceeding slowly (DUK, 2013). However, in order to elaborate on and communicate the issues of sustainable development, the required competencies, knowledge and attitude of the educators must be strengthened as they play a central role in the support of ESD. This is also applicable to universities, professional education and the elementary sector, as well as the segment of extracurricular education. The National Committee of the UN Decade already referred to these deficits in 2013 and formulated general objectives for the time past 2014 (DUK, 2013).

### **Future Perspectives: the Global Action Programme on ESD**

Building on the outcomes and experiences of the DESD, the UNESCO decided to initiate a five-year Global Action Programme (GAP) in December 2014 (United Nations, 2014, A/C.2/69/L.16). The overarching goal of the GAP is “to generate and scale up action in all levels and areas of education and learning to accelerate progress towards sustainable development.” (UNESCO, 2014b, p. 14) This should be done on two levels:

1. “to reorient education and learning so that everyone has the opportunity to acquire the knowledge, skills, values and attitudes that empower them to contribute to sustainable development”, and
2. “to strengthen education and learning in all agendas, programmes and activities that promote sustainable development.” (UNESCO, 2014b, p. 14)

Recognizing the shortcomings of the DESD, the GAP offers a detailed implementation roadmap explaining the aim and objectives in order to enable strategic focus and stakeholder commitment. In general, the GAP prioritizes five areas of action:

### *1. Advancing policy*

The focus in this area lies on integrating the concept of ESD into politics within the field of education and sustainable development in order to further anchor ESD in curricula and quality standards and cause systemic changes (UNESCO, 2014b, p. 15). Policy makers are called upon to co-operate on an inter-ministerial level, force co-operation between stakeholders and acting as a bridge between policy and practice (UNESCO, 2014b). This includes, on the one hand, the consideration of ESD in the fields of climate change, consumption, biodiversity etc. and, on the other hand, the integration of both national and international framework agreements, programmes and processes.

### *2. Transforming learning and training environments*

The holistic consideration of ESD is the basis for this priority. Thus, it is not simply about a content-related focus on ESD but rather about setting an example and practicing sustainability in order to facilitate the transfer into everyday life. The central elements in this context are therefore sustainable administration and the profile of all formal and informal education institutes. Furthermore, this objective includes politics, management and private organisations (UNESCO, 2014b).

### *3. Building capacities of educators and trainers*

The aim of this priority lies in qualifying teachers, educators, trainers and further actors in ESD in order to strengthen their role as change agents. In this context, building competencies is the primary focus. In order to elaborate issues of sustainable development and motivate others to act, knowledge, attitude and values are essential. The integration of ESD in the qualification as well as education and further training is therefore of high relevance. Universities, trade schools, and vocational training centres are important actors in this field of action (UNESCO, 2014b).

### *4. Empowering and mobilizing youth*

Strengthening youth in their role as change agents is proclaimed in priority 4. The roadmap of the GAP mainly refers to information and communication technologies (social media, e-learning, online platforms) “where young people can share their own ideas and actions on sustainable consumption and sustainable lifestyles” (UNESCO 2014b, p. 22). This does not only refer to education but mainly to networking and exchanging ideas with one another. Furthermore, learner-centred and informal opportunities of learning are relevant. Additionally, the focus is on the provision and transparency of information, reflecting and generating the potential for creative problem solving. Moreover, participation processes, civil engagement and the possibility to gain appropriate competencies, as well as more youth-led ESD activities are important (UNESCO, 2014b).

### *5. Accelerating sustainable solutions at local level*

“Accelerate the search for sustainable development solutions at the local level through ESD” (UNESCO, 2014b, p. 36) is being put in the focus of activities in this priority. The objective of this priority of the GAP is therefore the consideration of ESD in planning and decision processes, strengthening or expanding existing ESD networks, and establishing new networks. In addition, the priority comprises the objective to provide training on all levels of education “for all members of the community” (UNESCO, 2014b).

## Conclusion

The competence-based concept of *Gestaltungskompetenz* focuses on personality development and the prospective way of life. Therefore, ESD must not be seen as an add-on but rather as a crosscutting issue affecting all areas of life. Chances of an improved implementation are especially given through the core themes 2, 3 and 5 of the GAP. On an international level, ESD is increasingly being taken into consideration in institutions as a whole (Jucker & Mathar, 2015). In this context, the whole reorganisation of educational institutions, and therefore the support of commitment within the institution must be prioritized.

Furthermore, intended transformation depends on education and research. Universities therefore play a central role as they promote both research and education. Moreover, there is no doubt that social and technological innovations need to be developed and disseminated, requiring broad-based scientific support (WBGU, 2011). Higher Education plays a critical role in developing tomorrow's decision-makers, problem solvers and change agents. It is therefore necessary to ensure a continuous training and development of teachers, lecturer and administrative staff as started in projects such as *University Educators for Sustainable Development* (UE4SD, 2014). However, even though there exist many positive examples and experiences, there is a need for systematic research and validation, for example in the context of what effectiveness and impact ESD has in reality and how the implementation and transfer of ESD can succeed.

## Notes

1. Basically, in Germany, education is regulated by each federal state itself (federalism reform in 2006).

## Correspondence

Sascha Dannenberg  
Free University of Berlin (Germany),  
Department for Educational Futures Studies  
Fabeckstraße 37, 14195 Berlin, Germany  
E-Mail: dannenberg@institutfutur.de

Theresa Grapentin  
Free University of Berlin (Germany),  
Department for Educational Futures Studies  
Mailing address: Fabeckstraße 37, 14195 Berlin, Germany  
E-Mail: grapentin@institutfutur.de

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