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Learning networks in higher education: universities in search of making effective regional impacts

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ABSTRACT

This introductory article provides the context for the genesis of this Special Volume. It is based upon a dialogue among the authors on the topic of university outreach and the sharing of practical experiences regarding regional cooperation, as well as theoretical considerations related to facilitating the interface between science and policy as sustainability values. The strategic challenges posed by the Decade of Education for Sustainable Development (DESD) are discussed with regard to their applicability in higher education and their potential to transform knowledge generation and distribution patterns, as well as in regard to the modification of relevant processes. The DESD was designed to help university faculties to assist more effectively in meeting the needs of society make the transition to more sustainable development patterns. It was also envisioned to support internal and external relationships and interactions to ensure that they are more open, and bring about changes in teaching/learning, their hierarchies and their communication procedures. Changes were also sought with regard to perceptions of what defines an 'authority', including scientists, texts, institutions and science itself.

The overall theme of sustainability-oriented transformation at the higher educational level was addressed from the point of view of openness towards society, and its potential barriers and benefits. The introductory article explains the different aspects, such as learning processes in transdisciplinary learning environments, the assessment of these processes, associated curricula, and their holistic design and regional applicability. It summarizes these experiences with regard to the communication patterns that evolved among the partners in regional sustainability cooperation. This communication was found to be a process that established a discourse among all the actors involved.

The analysis of those interactions provided insight into the on-going changes taking place in scientific paradigms and university practices, which helped to create a solid basis to promote and extend this sustainability-oriented transformation process. The prospects for further research to enhance the impact of science and education on society and a review of the issues raised are summarized.

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1. Introduction

The quest for sustainability, in many areas, means taking a look at the same things from different viewpoints, and this 'reframing' concerns different levels of human activities: from ethical principles and intentions embedded in decision-making processes, to institutional and policy issues and a wide range of practical solutions (cf. Keulartz, 2009). When environmental concerns changed into sustainability orientation, the main differences appeared at the communication level; consequently, an open dialogue involving stakeholders from economic, social, and environmental perspectives were emphasized. Within these broad discussions, the need for a transition in different areas emerged, challenging the 'development as usual' approach for the sake of short term benefits. The status quo was defended mostly in highly competitive fields, such as economics, while the area of education, because of its humanistic orientation, was found to be more capable of establishing the cooperative and mutually supportive environment necessary for sustainability oriented societal changes. The sustainability mission of educational systems had already been stressed in the Tbilisi Declaration of 1977 and even earlier (cf. Tilbury, 2004), and a range of practical strategies were launched once Agenda 21 and its Chapter 36 'Promoting Education, Public Awareness and Training' was agreed upon in Rio, 1992, (see UN, 1992). Subsequently, the tools for implementation were provided in the Johannesburg Plan of Implementation (UN, 2002),

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which included plans for the UN Decade of Education for Sustainable Development (2005–2014). Based upon these foundations, national DESD strategies were developed and adopted. Requirements to re-orientate the educational field posed by policy makers were increasingly reflected from the bottom-up by educators. In fact many authors argue that higher education, in particular, must be changed due to its leadership responsibilities in society (Ferrer-Balas et al., 2010; Lehmann et al., 2009; Zilahy and Huisingh, 2009; and others). The essence of the transition towards sustainability in higher education was described as the need to establish a more integrative system that promotes creative, reflexive and transformative processes where the importance of social learning was often stressed (Sterling, 2004; Wals, 2007). A substantial reorientation, however, still poses a range of challenges in the worldwide educational field (UNESCO, 2002; Wals, 2009), and in spite of many efforts ESD is still difficult to incorporate into existing teaching and learning systems on all levels (Tilbury, 2004). Moreover, a comprehensive examination of progress is still lacking. 'This relatively new field is at the very earliest stages of generating the comparative and evaluative overview that can provide a picture of effective processes and approaches.' (Tilbury, 2011).

2. Education for sustainability as policy-driven change?

Educational initiatives often appear after societal ones (Lozano et al., 2011), but education for sustainable development reflects not only policy demands but also the transformation of the epistemological perspective in science and education. In recent discussions, the 'Cartesian/Laplacian perspective' typified by the development of logical disciplinary foundations, has been perceived to have been transformed into a 'Complexity/Dialogical' perspective that stresses reciprocal communication among individuals in society and which involves not only a scientific dialogue but also ethical considerations (O'Connor, 1999). A mechanistic and reductionistic approach that enables work to be carried out comfortably within a specific disciplinary methodology and apply it instrumentally to real world issues is not adequate; instead, multi-disciplinary solutions are required. ESD was designed to catalyse such changes by emphasizing the essentiality of new principles and methods, which are based upon:

a. critical approaches
b. sustainability values;
c. implementation of participative learning strategies;
d. a holistic viewpoint applied in different contexts;
e. social learning that provides an opportunity for the 'emergence' of new solutions within a given dialogue (Wals, 2009).

In general, ESD was envisioned to be a highly innovative and interdisciplinary process that requires internal systemic changes within all types, levels and settings of education where the issues and practices of sustainable development should be integrated. As pointed out in the DESD International Implementation Scheme (UNESCO, 2005): 'this means transition in such areas as policy, capacity development, knowledge enhancement and awareness-raising, and professional, curriculum and structural change' (Wals, 2009) – specifically, in higher education, which is considered to be an important player – and by UNESCO at Johannesburg which explicitly recognised its critical role in capacity building (UNESCO, 2002). Based upon that DESD foundation, changes were expected in curricula, collaboration and outreach, operations, and research, on-campus experiences, assessment and reporting, and the institutional framework, which are areas especially influenced by sustainability oriented HE policies and by university leader commitments (Lozano et al., 2011).

2.1. The role of universities

Universities produce the vast majority of the world's intellectual capital that fuels societal development processes, from global to regional. But the capacities of educated people form not only a source of 'energy' for development, they are also responsible for reflection and transformation. Development, in its full complexity, is hence being constantly re-visited in light of historical and current conditions and dynamic perceptions of risks: its 'purpose' is not only to gain optimal, sustainable societal benefits from current know-how, human resources and social capital, natural capital, and economic and political circumstances etc., but also to integrate long term, sustainable societal goals or big challenges into development thinking and bridge the local and lay knowledge with professional expertise. In order for educators and society-at-large to become more fully aware of these long-term sustainability goals, a higher level of critical self-examination is required (Bäckstrand, 2003). This includes both reflecting on the process in regard to its context and to critically examine the insights gained from this reflection, and the need to rethink the orientation and meaning of development processes and the way they are formulated and perceived (cf. 'epistemic learning' contrasted with basic- and meta-learning (Sterling, 2004)). If properly reflected upon, development could be reconsidered in light of the implementation of sustainable societal goals, which results in paradigm changes in mental and behavioural models and patterns and manifested as numerous interconnections between knowledge and sustainability (cf. Adomßent, 2013).

2.2. The academic environment 'as usual'

One of the driving forces of development in science and higher education is quality, which is underscored repeatedly in this special volume (cf. Čada and Ptáčková, 2013; Mader et al., 2013; Lozano, 2013). Such quality should be evident and evaluated by policy makers, students and staff, and the general public whose taxes are used, in part, to support ESD processes. The scientific reputation of a university is measured by indicators of quality and international benchmarking systems largely based on its input conditions and outcomes in terms of graduates, scientific publications, library sources, equipment, and expenses (see Lukman et al., 2010). Due to the search quality indicators, HEIs are often perceived as 'elite clubs' that maintain closed communication patterns and that are more or less non-responsive to the demands of the society. But the role of science, as an authority for a variety of decisions, is being questioned by stressing the need for openness to trans-disciplinary collaborations and interactivity among heterogeneous actors entering into multiple dialogues among all societal stakeholders; consequently, science is supposed to participate more in the decision-making process and is expected to produce relevant outcomes (cf. Hessels and Van Lente, 2008).

The dichotomy between academic quality and socially relevant goals is superficial, often expressed when intellectual capital is perceived as a pre-requisite only for economic wealth (or capital), but may not be sufficiently valued for societal and ecological health. The 'elite' is thus increasingly associated with economic superiority, while the prosperity and wellbeing of the individual and community, which also depend upon empowerment via shared ethical values such as cooperation, communication and mutual support may fall behind (cf. Huber, 2009). Universities have always educated the elites of society, but these elites should no longer be perceived from the point of view of individualistic exclusiveness, but rather as leaders in the broadly understood concept of societal wellbeing.

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