Social learning towards sustainability: Problematic, perspectives and promise

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ABSTRACT

A common thread throughout this special issue is that sustainability is not a destiny one can eventually reach, but rather a continuous learning path towards transformation that should be profound (e.g. affecting moral standards and value systems), transversal (e.g. requiring the involvement of individuals, groups and collectives) and counter-hegemonic (e.g. requiring the exposure and questioning of stubborn routines). From such a vantage point debates about sustainability likely require transdisciplinarity to transcend a singular disciplinary view-point and to allow for the consideration of different perspectives and types of knowledge. The aim of this special issue is to assess the added-value of a social learning perspective on research and action from at least three different 'disciplinary' perspectives: systems innovation, natural resource management, and environmental education. Each of these offers a particular perspective on learning, change processes and evolving understandings of sustainable practices.

1. Introduction

We begin our introduction to this special issue with a reflection on the nature of the problem at stake: the transition *towards* sustainability. 'Towards' has been written in italics to emphasize that sustainability is not a destiny one can eventually reach but rather a continuous learning path towards a state that is more desirable than the one currently in prospect. We will then introduce the five papers authored by researchers from North America, Europe and Africa and highlight the way social learning processes are understood, and approached, within the various application domains addressed. We conclude by elaborating on the reason *why* multiple-perspectives are needed and *how*, in the context of transdisciplinary engagements, future research could contribute to advancing our understanding of learning-based change processes.

2. Problematic: the transition towards sustainability

Both in science and society there is an increasing awareness that the key issues of our time, such as runaway climate change, food and nutrition security for all, loss of biodiversity and ecosystem services, accelerating inequity and mismanagement of natural resources, are highly complex and interconnected, contested and controversial, inundated with values and ethics, and, finally, marinated in uncertainty as proven causal models of the past cannot seem to tame these 'wicked' issues [1]. It is no surprise that new forms of science, new interfaces between science and society, as well as new forms of governance and interactions between multiple stakeholders are being explored and tested [2]. Sustainability science, co-creation of knowledge, new forms of learning and engagement (transformative learning, social learning, blended learning, hybrid learning, etc.) all have in common that the issues at hand cannot be solved but can only be improved and become a catalyst for deeper thinking which in itself is essential for a transition towards a world that is more sustainable.

Sustainability remains a messy concept that is appealing to some and appalling to others. Its appeal often lies in its canvassing potential to bring people from different vantage points together around a common challenge that they can jointly embed with meaning. People less enthusiastic about sustainability can roughly be divided in two camps. On the one hand, are those who express discomfort and even frustration with the opportunistic use of the term by people who claim to be concerned about the well-being of people and planet but, when it comes down to it, only seek to advance their

own economic self-interest. On the other hand, are those who are bothered by the 'ill-definedness' of the term as they long for precise definitions that can be universally applied. Bob Jickling already in 1992 referred to the search for sustainability as a treasure hunt for an infinitely illusive abstract object [3]. From a post-modern perspective sustainability requires continuous reflection on our actions, their known consequences, their possible unintended outcomes, and their underlying frames, premises and values. At the same time it demands a readiness and the capacity to let go, to re-calibrate and to re-orient. Popularly stated, sustainability is not only about doing the things we do better (i.e. more efficiently) but also about doing things differently (i.e. developing new routines) and, perhaps foremost, about doing better things (i.e. developing new principles, vantage points and values). In this special issues all contributors seem to recognize the risk of (ab)using sustainability but find that the generative learning potential of careful use of the term outweighs such risks.

Triggered by the quest for sustainability, there appears to be a holistic, or systemic, turn in science and society, accompanied by an inclination to learn to live with uncertainty, rather than to reduce uncertainty, and to accept indeterminacy and emergence as essential properties of sustainability. The idea of a need for a 'transition' towards a better way of organizing, managing and living, is gaining traction across the world. Think of the transition town movement [4] or transition management as a new field [5] but also of what we might call 'the place-based movement' [6,7] and 'hybrid sciences' such as industrial ecology, integrated natural resource management and ecological economics. All of these are emphasizing the need to change the way we think (cognition), see (framing) and value (affect/emotion) but, more importantly, that we cannot separate these three areas if we are to live more lightly on this planet. At the same time we cannot help but notice that most scholarly work associated with this trend is rather conceptual, at times even rhetorical, and hardly grounded empirically. In part this is a result of our inability to develop and accept corresponding methodological lenses and tools that emphasize meaning making over accumulating evidence. Reflexive forms of monitoring and evaluation [8] are still rare while hermeneutic interpretive and development and change-oriented methodologies are often marginalized, certainly in high impact journals that tend to be disciplinary and evidence-based.

With this special issue we hope to shed light on the role of social learning, as a particular strand of 'deep' learning that embraces diversity, dissonance, social cohesion and reflexivity, in addressing sustainability challenges, particularly in the context of natural resource management. Each of the articles addresses the three challenge area's identified above, or a sub-set thereof: 1) the anticipating the wicked nature of the issues at stake, 2) understanding, characterising and supporting the kind of learning required to respond to them, and, 3) exploring appropriate methodological lenses that can strengthen the research and help to develop a corresponding research agenda.

3. Perspectives: three viewpoints of social learning

The papers in this special issue discuss social learning from different disciplinary perspectives: systems innovation, natural resource management, and sustainability and environmental education.

The first paper, by Beers and his colleagues, offers a perspective on social learning from systems innovation by presenting an on-farm innovation experiment in the Netherlands. They point at short-term imperatives and institutional constraints that commonly appear in such context and establish arguments for moving beyond projects' internal matters. Beers and his colleagues observed how project partners did not learn about the values prevalent in the environment surrounding the innovation project and this had specific implications for the innovation experiment itself. As a result to this the authors advocate a need for innovation experiments to be better embedded in the context where are located, to be sensitive to the values and pressures prevalent in that environment.

The second and the third paper present research in the field of natural resource management. The second paper by Rodela offers a perspective on social learning from natural resource management. This research considers the use of multidimensional constructs for the study of social learning in natural resource management. Insights from deliberative democracy and adult learning literature are used to ground the identified dimensions (the *moral dimension* the *cognitive dimension*, the *relational dimension* and *trust*). Then, a selection of empirical cases is surveyed with the aim to develop and understanding how well the reported empirical outcomes sit against the insights borrowed from the deliberative democracy and pedagogy literature. In the third paper Medema, Wals and Adamowski situate their exploration of social learning in virtual platforms for sustainable land and water governance. Theirs is a conceptual paper focused on the role of information and communication technology (ICT)-mediated learning and promise of these collaborative technologies to facilitate multi-loop social learning for sustainable land and water governance. The hyper-connectivity that characterizes digitally mediated networks opens up possibilities for information exchange, knowledge creation, feedback, debate, learning and innovation, social networking, etc. The insights from this analysis confirm the potential of a 'learning ecology' or virtual learning platform for knowledge co-production, trust building, sense making, critical self-reflection, vertical and horizontal collaboration, and conflict resolution, while serving as a facilitating platform between different levels of governance, and across resource and knowledge systems.

The fourth paper, by Cundill and her colleagues, brings together research from environmental governance and environmental education. They draw on four examples of social learning research in the environmental and sustainability sciences from sub-Saharan Africa and reflect on reasons behind the dominance of case study methodology in the study of social learning. Cundill and her colleagues conclude that the case study methodology suits well the exploratory purpose of developing a deeper understanding of learning processes and societal change.

Finally, in the fifth and final paper Torkar, presents the result of a study where teachers' significant life experiences are considered and the extent to which these influence teachers' attitudes toward nature, and teaching practices are analysed. The study finds that the sample of teachers selected for the study emphasised the importance of four environmental education practices: direct experience of nature, discussions about environmental problems, students' active participation in environmental activities and teachers as role models. On the other hand, teachers also underemphasized active engagement of young people in pro-environmental actions taking place in the school and/or community. Results suggest that while teachers encouraged students to analyse and discuss environmental problems they rarely took this further working for an empowerment of students in the context of collective pro-environmental actions. This type of engagement, the author asserts, would provide students with experiences on how governing processes work and how they can take an active role in the society.

As editors of this special issue we like to point at a few aspects that emerge from the papers brought together. The papers reveal both similarities and differences in the ways in which social learning is approached within each of the application domains and perspectives described. We start with the observations gathered by Cundill and her colleagues who as a mixed team of researchers, two having an environmental education background and two having an

environmental governance background, came across differences in the ways they approached the empirical cases described in their paper. Cundill and her colleagues note that while environmental education is oriented towards "understanding" lived experience i.e., how social learning emerges in socio-cultural contexts, environmental governance and participatory resource management is oriented towards an "action" type of research where the focus is the pursuit of certain, ideally more measurable, outcomes i.e., collaborative management of a natural resource. This observation can be extended to the research brought together within the present special issue. Therefore, while an aspect shared across all five publications is the interest in learning-based change processes, the way in which this is approached differs. More precisely, there are differences in the way learning configurations, or interventions are understood. Within natural resource management and systems innovation there is a strong emphasis on tools and methods, designed to achieve a predefined objective, and the perceived efficacy and usefulness of these depends on the extent to which such an objective is reached. On the other hand environmental education has a less prescriptive agenda that allows more space for emergent processes, the blending of many forms of learning but also for reflection and subjectivity. These combine to become a driver of an evolving process where the focus lies not so much on realizing pre-determined set-outcomes but rather on how to work together (education as a process and not as a destiny) and on how to create generative processes. However the process-outcome distinction, as Medema, Wals and Adamowski point out in their contribution, does not tell the whole story. The *context* in which the learning takes place and in which the outcomes are generated is equally important in determining the transformative potential of (semi) designed and mediated transitions towards more sustainable practices. They describe context factors as pre-existing forces and conditions in the external and internal environment of a system that will impact the effectiveness of the system and its possibilities to change in that they can either complicate or facilitate the transition towards a new, more sustainable state.

4. Promise: some ideas for future research

The papers brought together in this Special Issue highlight the opportunities that are in place within different disciplinary domains for the study of social leaning and point to the advantages gained when looking at complex processes, as social learning is, from different vantage points. This not only allows the consideration of things that would go unnoticed if looked only from within one disciplinary lens, and thus helps for a more holistic and critical perspective, but also can facilitate a reflection process among those involved in the research enterprise. This calls for the explication of values and assumptions that are hidden behind terminology and concepts used so that they can be scrutinized and become generative in clarifying how they guide our choices. Only then can we better benefit from reflection and consider possible consequences of our choices.

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