TEACHING SUSTAINABLE RESOURCE GOVERNANCE IN A TRANSDISCIPLINARITY DISCOURSE: IDENTIFYING THE POTENTIAL FOR TRANSFORMATION IN HIGHER EDUCATION

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Abstract

This paper reflects upon a qualitative research project in higher education and offers suggestions for stimulating transformative agency of students in their communities of practice while crossing disciplinary boundaries, expanding epistemological horizons, and transgressing hegemonic powers. It has been acknowledged that resource extinction is a significant issue for the sustainability of global societies. Future scenarios foresee an increasing societal and environmental burden on future generations. The topicality of environmental unsustainability has been acknowledged in a number of strategic international and local documents, like, the Global Action Plan, and the UNECE Strategy of Education for Sustainable Development. The authors report on a qualitative research project which provides a viable strategy in higher education for developing interdisciplinary knowledge, values and competencies to help students become system thinkers and facilitators of transformation in their local communities. The findings show that a personal ability to understand and to integrate a broader understanding of unsustainability as a current state of being helps the students to develop their competencies to construct their own and society’s future in the context of epistemological pluralism.

Keywords: sustainable resource governance, interdisciplinarity, resilience, higher education.

1 INTRODUCTION

Sustainability issues are described by scientists as complex and ambiguous with respect to what is going on and what needs to be done. This creates new challenges for multiple stakeholders for rethinking strategies and approaches and introducing sustainable changes in the community of practice. This paper views the potential of community members for transformation as well as a potential for personal transformative changes that brings along societal changes. It places an emphasis on ontological aspects of the process of change by posing questions such as: how is one’s knowledge of transformation processes perceived as sustainable or not? Where and how does actual transformation take place? What are the factors causing societal and individual transformation? What are the conditions for transformation to take place? How can individual’s integral planetary consciousness become an ethical framework encouraged by higher education and sustainable leadership? The paper examines a qualitative research project in higher education to highlight the issues.

1.1 Legislative framework

The importance of sustainable resource governance has been voiced in the United Nations Decade in Education for Sustainable Development (DESD, 2005-2014) which contributed to transforming educational policy and practice, followed by the post-2015 legislative framework ([26], [30]; [31]). Chapter 36 of Agenda 21 puts an emphasis on communities of practice working towards sustainable development. This puts a responsibility on community members to discover unsustainable practices and to work towards adopting a more sustainable lifestyle. The United Nation’s Decade of Education for Sustainable Development places an obligation on community leaders to foster change of behavior of community members towards sustainable development ([26], [24]). Community leaders need to develop community members’ capacity and the competency to know (to make connections, to adapt to changes), to live together (collaboration), and to be (to undertake a life-long path of learning in building a sustainable community ([29], [27]),

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1.1.1 Transdisciplinary framework in tackling wicked issues

In order to tackle the issue of unsustainable resource governance more efficiently, numerous scientists suggest a transdisciplinarity approach that fosters collaboration among different stakeholders ([17], [28]). leading to the development of a shared conceptual and methodological framework across disciplinary epistemologies. Transdisciplinarity has been studied by numerous scientists, such as Gray, (2008); Repko, (2012) and Miller (2008) ([6], [21], [17]. Mobjork (2010) to deepen the understanding of transdisciplinarity by introducing the notion of ‘participatory transdisciplinarity’ that involves partnership in joint research [18]. Transdisciplinary participation leads to a development of a common ground and a more comprehensive understanding among various stakeholders, involving scientific, practical and intuitive knowledge. Bergman et al. (2005) suggests ‘the model of the reflexive transdisciplinarity research’ that leads to the development of solutions for societal problems by building bridges between the scientific knowledge and societal issues [2]. This process leads to cohesion and development of one’s commitment to participate in problem solving related to a particular contexts and locality. By working in transdisciplinary teams, actors produce epistemologically pluralistic solutions to the issue of study. Becker (2012) refers to a multidimensional and heterogeneous nature of transdisciplinary collaboration [1]. On the epistemic level, integration of knowledge of diverse disciplines helps one to realize the limits of one’s own knowledge. On the social level, the reconciliation of interests of participating actors takes place, but on the communicative level, the syntheses of different expressions help to establish a common understanding ([12]).

1.1.2 The power of societal transformation

By working in transdisciplinary teams, the participants are engaged in the transformative process of bringing forward sustainable changes.

There is a vast body of research on the potential of transformative societal and individual practices, though there is still uncertainty about why and how transformation is taking place, whose interests it serves, and what the results are. Most of the theories emphasize that transformation is a complex process that involves change at either personal, institutional or system levels. According to O’Brien and Sygna, (2014), there are four approaches to transformation in the process of sustainable resource management, such as adaptation, transformation as sustainability, transforming behaviors, and social transformations [19]. Transformations may occur, caused by either external pressures or taking place as a result of inner convictions, values, and belief systems. The key figure of transformative learning theories, Mezirow (1995), places the main emphases on cognitive aspects of transformative processes while leaving behind societal action and behavioral aspects [15]. He suggests that individual’s capacity-building process develops through the following stages: understanding the unsustainability of current state of being, critical reflection, sharing with others of one’s vision, building competence of new ways of living and being, and, finally, developing a new perspective in one’s life ([16]). Several authors such as Sterling (2004) emphasize that learning and transformative leadership is essential to developing one’s maturity to transform one’s way of thinking and living [23]. Sterling points to societal changes and reactions towards the processes of changes for a more sustainable resource management, such as a denial, greening, whole system changes, and paradigm shift. Transformation requires developing ‘community resilience’ which in this article is viewed in the context of social-ecological systems and is defined as ‘a complex, multi-layered process through which communities demonstrate a capacity to respond positively to stress or change’ ([11], p.62). Handmer and Dovers (2009) define resilience as a societal ability to deal with risks, uncertainty, and unpredictability [8]. Social resilience is seen as community’s ability to meet external pressures and disturbances. Some scholars also warn about the danger of one-sidedness in understanding resilience ([13]). Berkes (2007) emphasizes that the resilience may also become a form of conservatism when applied uncritically ([3]). This way unhealthy systems and orthodox ally minded individuals develop resilience to sustainable changes and challenges and keep maintaining unsustainable ways of thinking and acting ([22]).
1.1.3 From narrow to planetary consciousness

As O'Sullivan (1999) asserts, the starting point in developing one's integral planetary consciousness is knowledge of unsustainability in one's locality as well as how an integrated vision differs from a vision of a planet as a global marketplace [20]. Transformative experience results in developing one's ecological self that has personal, ontological and cosmological identification ([4]). Wilber (2006) refers to the ecological self by pointing to its integral planetary consciousness as a result of growth and a transformative experience [34]. This is a change to integral ecologically spiritual orientation opposite to a materialist and consumptive orientation and a recognition of oneself as a spiritual being that lies at the center of transformational experience. As Mayer et.al. (2010) assert, the transformative process begins with an awareness or a need for change, or a cognitive dissonance that one needs to overcome, or a healthy skepticism and attention to one’s lifestyle and habitual ways of thinking [14]. This means moving away from culturally and socially constructed subjectivities and taking up agentic positions.

Transformation is possible by critically reevaluating dogmatic concepts and axiomatic theories offered by a traditional science that leads to a formation of a closed system of knowledge that does not provide space for critical reflectivity and questioning. According to Habermas (1981), dogmatic knowledge and worldviews lack reflexivity and does not lead to a transformative experience ([9]) As Street (1992) argues, it brings ‘the unconscious, taken-for-granted, habitual ways of thinking and reasoning to the surface for reconstruction’ ([4] p. 96). In line with Mezirow (2009), critical reflection helps ‘to transform acquired frames of reference or a mind set and one’s assumptions involving values, beliefs’ (p.124). Transformative learning is used for developing students’ more expanded consciousness and reevaluating their frames of reference. Higher education should open the space for the learners to explore their experience, alternative visions (‘eco-centric‘ perspective) to be able to construct a new framework. They will be able to develop a more expanded framework if they overcome psychological, emotional and socio-cultural frameworks. This will lead to fundamental changes in their worldview. The central ambition is to help overcoming unconscious anthropocentrism and expand it to a planetary scale (Berry, 1999), towards the vision of a living evolving ecological universe ([5], [34], [7]).

2 METHODOLOGY

For the purpose of the study, the authors employed a purely qualitative research methodology, namely, individual interviews with the students and the analysis of their essays. The authors tried to trace the transformative journey of the students while undertaking this course on cognitive, emotional and value level. The leader of the course traced individual and institutional challenges for a transition to a sustainability oriented framework in addressing sustainability by focusing on developing students’ eco-centric worldviews. Essays served as a means to uncover a metacognitive self-awareness of students in their transformative journeys in overcoming unconscious anthropocentrism and an attempt to overcome easy ways of knowing for developing understanding.

3 RESULTS

As a result of this study, the participants increased their knowledge about the environmental issues from a system perspective and developed sensitivity to environmental challenges and sustainable resource governance. They were engaged in the process of identifying environmental issues and envisioning sustainable solutions in the team of multiple stakeholders. The main vision of the course leaders was to educate students who are knowledgeable about environmental issues, sustainable resource management and are aware how to solve them and work towards possible solutions. The intension of the course was to educate lifelong learners who are responsive to challenges in a rapidly changing world as well as who are able to adopt an active position towards protecting environment according to ethical values. The quotes from the interviews with the students illustrate changes in understanding on cognitive, affective, value, and transcendenal level.
Table 1. Quotes from interviews with the students and from their essays

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<th>Categories</th>
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| Cognitive aspect    | “I tried to pick up a complex environmental problem and tried to envision ways of solving it with the involvement of multiple actors that was quite challenging and engaging”  
                      | “In a team of a supportive classmate we were engaged in the process of envisioning solutions by taking responsible and informed decision concerning environmental issues.” |
| Affective aspect    | “Being passionate about the beauty of the surrounding world makes me believe that if each of us does a little to save a planet we can succeed in making the Earth a better place” |
| Values              | “I have learned that tensions about different interpretations of an issue of my study is more about values and interests that are grounded in different rationalities.” |
| Behavioral aspect   | “It was engaging to bring into a class the opinion of multiple stakeholders on my issue of study”  
                      | “I have realized that environmental education is about making ethical choices in regards of a wellbeing of each of is within the limited resources” |
| Transcendental      | “By learning new stuff, I put scientific knowledge in relation to other forms of knowledge, such as experiential, practical” |

Interviews with the course participants have indicated that those students who begin learning with an anthropocentric view of the world were capable to see the world in eco-centric terms. The focus of the course was to develop one’s understanding of a socio-ecological living definition of sustainability as a long-term equilibrium maintained dynamically within any individual system by being in a diversity of relationships with other systems.

My focus as a sustainability educator was on engaging students in sustainability praxis, in teams of multiple stakeholders’ who are eager to find viable solutions to wicked environmental issues and resource management issues. Being a small group in size, the students engaged in a transformative journey in envisioning and building a workable sustainability solution in the surrounding community. This integrated problem- and project- based approach ([33]) of study of real cases was aimed at enhancing participants’ learning experience by creating a positive effect on the issue of study and developing a sense of ownership.

A focus group interview with the students allowed to document the achievements of the students during the process of investigation of the issue. The students described the process of engagement in issue of study. “First, we chose a real-world issue, we framed it, and were searching for solution collaboratively with other players and identified possible solutions. The strength of the process was on reflection as an ongoing practice. While doing so, I believed that I am a part of a venture, that I cannot satay apart, and that I am a part of a Universe.”

Another participant remarked: “I do hear alarming information about our Planet’s state of being on a regular bases from media but while working on a chosen wicked issue, I started to pay more attention to how my everyday actions may influence the Earth.”

The design and the content of the course stimulated students’ individual transformation and tangible progress towards addressing major issues. The course contributed to individual transformation, but lasting impact can be achieved only by creating synergies with other projects and activities in local communities and in the professional field of the learners. The process needs to be led by being in the world towards engaging with the world in order to envision and to generate sustainable changes. Building a case study of a solution-oriented sustainability (Wiek & Kay, 2015) enhances students’ competencies to frame the problem and look for viable solution by engaging in collaborative discussion.

Transdiciplinarity discourse was encouraged by integrating knowledge from the diverse fields of study to approach the chosen issue deeply and with creativity. To get a holistic and systemic picture of the study, existing knowledge was enhanced by drawing it from the other disciplines and beyond. The students were encouraged to go beyond scientific knowledge and to engage with the community.
matters. The students reported about the difficulty to address real-world problems by having experience to work within mono-disciplinary discourse. Instead, the coursework was focused on active, experiential, inquiry-based learning and solving real-world issues in one's community by active, experiential, inquiry-based learning and real-world problem solving on the campus and in the larger community. The process was oriented towards educating citizens who are able to work on complex problems as future managers and leaders.

4 CONCLUSIONS

To deal more efficiently with the problems related to resource governance, the teams of multiple stakeholders have to work towards a shared vision of a sustainable community by engaging community members in defining mutually agreed goals and empowering them to take ownership for controlling community resources. This will cause changes both on personal and community level, thus leading to a development of more sustainable ways of living. This builds a ‘civic participation’ and community’s resilience in responding to the external pressures positively ([10]). This leads to sustainable management of energy resources available in the community. It is quite difficult to transform deeply settled routines, habits of mind, structures and practiced towards sustainability frame.

Solving problems requires a transdisciplinary framework with a critical and reflective research approach that brings together various stakeholders to discuss the problematic of real life issues.

The course did not change anthropocentrism as a dominant mindset but allowed one to build a more holistic and transdisciplinary view on dealing with issues in transdisciplinary teams and planted some seeds for change. Real transformation needs to touch the whole person and needs to go beyond the formal university setting. This involves not only cognition, but also feelings and imagination.

Still, the course allowed participants to overcome the destructive tendencies that were present in ecologically detached worldviews and to develop a new ontology of knowledge relevant to sustainability. The course encouraged the students to develop adaptive thinking as ‘the goal of trajectory for a lifelong learning’ ([25], p.72).

REFERENCES


