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Implementation of sustainability in universities as perceived by faculty and staff – a model from a Swedish university

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ABSTRACT

Education for sustainable development creates new challenges for universities where faculty and staff are expected to prepare students to meet complexities in society and take responsibility for sustainability, which scientists are urgently calling for today. Few studies exist on how faculty and staff perceive sustainability in their functions at the university based on long-term sustainability implementation and training within a 14001 certified environmental management system. This university case study with data collected by open-ended survey questions explores how faculty and staff express their role in sustainability work within a Swedish university.

The authors developed a model to illustrate development of sustainability competence and its institutionalization. Results show a large variation in perceptions of sustainability from waste separation to a complex understanding and integration of issues into education. Integration of sustainable development as a university core competence is difficult for a whole university to reach. Interpretational flexibility provides opportunities for discussing the sustainability concept in diverse academic traditions in different disciplines. Top management inspiration on different university levels is essential for integration. Continuous training and routines contribute to movement towards institutionalization of sustainability activities and to following up the process in universities.

1. Introduction

The need for sustainable development (SD) has become increasingly evident during the last decades, implying that universities are expected to prepare students to develop the ability to integrate social, environmental and economic considerations in future decision making (Lozano et al., 2013; Sibbel, 2009). Among the most relevant competencies for future decision makers are to understand the complexities of sustainability and to convert the knowledge of education for sustainable development (ESD) into systemic, anticipatory and critical thinking and actions (Rieckmann, 2012). This development is essential, as future professionals will be working globally with companies that increasingly have sustainability on their agenda (Kiron et al., 2012). This development puts high demands on universities to integrate SD into the functions of faculty and staff so that this intelligence permeates all activities as a university identity (Steiner et al., 2013) and is not only offered piecemeal in single course activities. The transformation towards university ESD requires three elements to function: SD orientation integrated in university activities, education *about* sustainable development and education *for* sustainable development in society (McKeown et al., 2002).

The role of universities in ESD has been encouraged in many declarations and initiatives. Many programs for ESD have according to Leicht (2013) been "good", but they commonly depend on active individuals, resulting in a lack of a more holistic approach that connects SD to other discourses in education (ibid.). That shortcoming is addressed in the latest initiatives: the Higher Education Sustainability Initiative and the Rio+20 Treaty on Higher Education ask universities, in addition to the previous declarations, to commit themselves to actions for ESD (Copernicus Alliance, 2013; Dlouhá et al., 2013; UNCSD, 2012).

Although faculty and staff in universities still perceive sustainability as peripheral to their functions (Wals, 2014) and are in the early stages of the learning process (Mulder et al., 2012), they are the change agents who can and will engage in the ESD (Barth and Rieckmann, 2012). Universities are now progressing from the "bolting-on stage" of SD (Sterling, 2004), starting to face the

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challenge and building in more systematic changes for SD (Wals, 2014). The next stage requires universities to equip leaders, faculty and staff with a perception of sustainability in the academic context they can apply to their functions at the university. For this change to become a transformation (Sterling, 2004), SD needs to be integrated in all university activities and be transformed into practical actions, which calls for innovative educational cross-disciplinary approaches (Warburton, 2003) and a thinking paradigm (McKeown et al., 2002).

Despite the great number of case studies of universities' role in SD (Karatzoglou, 2013), there is a shortage of research approaching how faculty and staff perceive their role in relation to sustainability. Most studies cover only certain departments or educational programs (e.g., Fredriksson and Persson, 2011; Segalàs et al., 2012). According to Tilbury (2013), little is known of the results of SD implementation in universities; additional empirical research on ESD, capacity building and training among teachers is needed. The aim of the study is to explore SD implementation in a university, based on how faculty and staff perceive their contribution to sustainability in their functions. This study contributes to filling this gap with a case study covering a whole university that has been training faculty and staff in SD as competence development within an environmental management system (EMS). Through the study we show that there is not a single common holistic picture of SD in a university and explain how SD competence must be disseminated across faculty, staff and functions.

2. Literature review – integration and perceptions of sustainability

The concept of sustainability has been discussed from a multitude of perspectives and given a great number of definitions, resulting in different visions of SD's issues and functions in society (McKeown, 2002). Despite several initiatives moving SD forward, it has been difficult for universities to incorporate ESD. While some welcome the move as a way to legitimize SD work, others have opposed the trend for the same reason or as already existing. Still others reject implementing SD by arguing that it is a poorly developed concept (Jickling and Wals, 2008).

Our definition of SD follows the one used as guidance in the course classifications of the case university based on two quotes. A starting point for the university SD work is found in Swedish Environmental Code 1§, 1ch (Government Offices of Sweden. (2000)); SD's aim is defined by Agenda 21 (World Commission on Environment and Development, 1987, p. 16.) The definition is rather wide to allow “interpretative flexibility”, i.e. various views and interpretations of sustainability to co-exist (Waas et al., 2011, p. 1646) in the different disciplinary contexts of teaching and research. According to Waas et al. (2011), the definition is simultaneously limited by the normativity principle (what kind of world we want to live in), the equity principle (inter- and intra-generational, geographical, procedural, interspecies), the integration principle (holistic system perspective) and the dynamism principle (no final destination but continuous flow of change).

The question of how universities respond to the ESD challenge has been discussed from various perspectives. For example, Læssøe et al. (2009) and Stephens et al. (2008) list the challenges to overcome as insufficient teacher competence, existing disciplinary boundaries and an overcrowded curriculum. They agree with Leal Filho (2011) that ESD needs to be interpreted and communicated more widely. Lozano (2006) presented several suggestions to overcome the resistance to institutionalization of ESD. According to Holm et al. (2012), management systems can be used to support SD implementation. For institutionalization SD needs to be included in university management and all activities, which implies that management, faculty and staff need the perception of what sustainability means for their function and a willingness to apply it. Orr (1992, cited by Wright and Horst, 2013) states that a university is a reflection of the thoughts and work that the faculty disseminate in their activities. Active student, staff and community participation in sustainability initiatives is one of the key principles of institutional change (Tilbury et al., 2005). In addition, SD issues are an important part of the university identity (Steiner et al., 2013), representing “who we are” as a university.

2.1. Need for sustainability competence

According to Warburton (2003), students' motivation to engage in SD depends on the learning environment (teaching context), course content (key concepts) and individual factors (knowledge factors). It is crucial that university faculty and staff have the necessary conditions and competences to provide key SD skills to the students. They must ensure that students get the opportunity to develop integrated SD competencies in study programs (Lambrechts et al., 2010) and generate knowledge in a future-oriented manner (Barth et al., 2007).

To manage integrating SD in different functions, faculty and staff need SD knowledge. Previous studies confirm that faculty are quite willing to introduce sustainability into curricula but experience to be poorly trained (Aznar Minguet et al., 2011) and need capacity building (Lozano-Garcia et al., 2009). Yuan et al. (2013) found that faculty and staff in China have relatively low environmental awareness and perceive their role as not so important. This contradicts European studies showing that faculty and staff are perceived to have a critical role (e.g., Barth and Rieckmann, 2012). Studies in Malaysian universities show that university staff have limited knowledge of SD but a strong positive attitude towards sustainability, and they understand their major role in ESD (Derahim et al., 2012). Saadatian et al. (2013) found that 96% of the respondents believed they had a clear understanding of SD and 82% had a clear understanding of sustainable higher education campuses. A Swedish study showed that training and communication within an EMS implementation increased both the awareness of environmental issues and the understanding of faculty and staff's personal role in environmental work (Sammalisto and Brorson, 2008). Fifty-four per cent of teachers, 29% of researchers and 62% of staff could at least partly contribute to sustainable development in their work, while 28% of teachers, 44% of researchers and 10% of staff perceived SD irrelevant for their work (ibid.).

The critical role faculty has in SD transformation of university is highlighted by their role as the change agents responsible for implementing ESD (Barth and Rieckmann, 2012). Still, many of them perceive sustainability as not central for their function (Wals, 2014) and have not advanced far in learning about it (Mulder et al., 2012; Saadatian et al., 2009). Academic thinking traditionally focuses on single core subjects without connection to sustainability, although it may be included due to political correctness (Reid and Petocz, 2006). More recently universities have started to work more systematically with SD. Yet there are large variations in SD integration between different departments in one university and between individuals in one department (Lozano, 2006; Shephard and Furnari, 2013).

The university management has a key role in leading, supporting (Lozano-Garcia et al., 2009) and inspiring or engaging change agents in SD activities, so their perceptions of SD are essential for the work. Although university leaders are well-versed in the concept of SD but unclear about what a sustainable university is, their role is vital for universities to be seen as role models in society for incorporating SD in education, research and daily operations (Wright, 2009; Wright and Horst, 2013; Wright and Wilton, 2012). In an Australian

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