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What lies beneath the surface? The hidden complexities of organizational change for sustainability in higher education

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Abstract

There is widespread recognition that higher education institutions have an important role to play in the transition towards a more sustainable global society. In this context, many universities have embarked on a journey towards 'sustainability', and there has been increasing research on related processes of organizational change. There is evidence that 'human' factors have an important role to play in change processes and numerous case studies capture *how* these occur, but there is little synthesis of qualitative research in this area. This paper presents a meta-ethnography of 13 qualitative studies from peer reviewed academic publications. Using a grounded approach, we identified nine themes which we then synthesized in order to develop an in-depth understanding of organizational change processes for sustainability. This led to the identification of a number of hidden contradictions and tensions that seem to characterize such processes. These contradictions and tensions lead to recurring barriers to change and issues that can undermine the very sustainability of change processes. These issues are also influenced by the perception of who has power to affect change, networks and institutional structures. We discuss the implications for research and practice and suggest the need to recognize existing tensions and contradictions through reflexive practice and genuine dialogue as well as developing flexible structures and moving towards 'double loop' learning within institutions. The meta-ethnography presents a look beyond the surface of what has become an increasingly important area of institutional change in higher education, helps to inform practice, and contributes to emerging research imperatives.

Keywords: sustainability, higher education, organizational change, meta-ethnography, qualitative synthesis

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1. Introduction

The terms 'sustainability' and 'sustainable development' have come to permeate discourse and practice across a wide range of arenas in contemporary society from business to policy-making, international development and education (Hugé et al., 2013; Lélé, 1991; Waas et al., 2011). The terms inhabit complex and contested meanings, but broadly speaking 'sustainability' can be seen as a response to the realization that rapid economic growth and industrialization since the mid-1800s led to rapid environmental degradation and potentially dramatic social and ecological changes for further generations (Du Pisani, 2006; Nielsen et al., 2010). Hugé et al. (2013) identify three broad discourses of sustainability: integration pillars (e.g. environment and society), working within earth's limits, and sustainability as a change process. This diversity is also apparent in the range of ways sustainability has been conceptualized and put into practice across academic disciplines and social contexts (see Kemp and Martens, 2007; Lele and Norgaard, 1996; Rametsteiner et al., 2011).

The role of education in contributing to a more sustainable society was identified nearly half a century ago at a global level, in the 1972 Stockholm Declaration. But it was not until 1990 that the first declaration specifically regarding the role of higher education (HE) in responding to pressing global environmental issues was written: the Talloires Declaration. Since then, work on sustainable development in HE institutions has continued to develop, both due to increasing collective and institutional commitments (Lozano et al., 2013) as well as the increasing global salience of 'sustainability' (Sharp, 2002).

Much of the literature on the role of education in general, and the post-secondary sector in particular, has focused on a vision of transition towards a more sustainable society, embracing – though often not explicitly – the discourse of sustainability as change. Universities are seen as having a role in training and developing future members of society and potential leaders, informing public policy, influencing histories, leading by example, contributing to regional sustainable development (Ferrer-Balas et al., 2009), innovation and research, and shaping the way in which we see and understand our world (Clugson, 2004; Escrigas, 2012; Orr, 1995).

But what would such a transition look like? There has been considerable work in this area, from practitioners, policy-makers and researchers. Evidence of this is captured in declarations on sustainable development in HE published since 1990: although there has historically been a focus on environmental sustainability, more recent documents show consideration of systemic issues and strategies for transformation (Lozano et al., 2013; Wright, 2004). There have also been a number of efforts to define the characteristics of a sustainable university (see for example Leal Filho, 1999; Sharp, 2002; Velazquez et al., 2006), and an on-going understanding that a 'more sustainable university' involves internal changes as well as its impact on society – seeing HE institutions as intimately linked to the broader social context (Ferrer-Balas et al., 2009; Sterling, 2004).

In this context, universities' transition to sustainability involves all areas of activity – learning and teaching, operations, external engagement and research. But sustainability in HE is not only *what* is done in each area, but also *how* it is done, which includes "classroom dynamics, decision-making processes, organizational structures, leadership strategies, strategic planning initiatives and collaboratively envisioning the future" (Moore, 2005a). This makes the process of transformation particularly complex, and those who have researched or engaged in sustainability initiatives or change processes often characterize these as long, progressive, challenging, multiple and characterized by resistance, barriers and contestation (Barlett and Chase, 2004; Leal Filho, 1999; Lozano, 2006).

Even though there is now an increasing amount of work on sustainability in HE, processes of organizational change are still not well understood, and developing an understanding of reflexive and cultural processes would be valuable (Stephens and Graham, 2010). Broader research on organizational change in HE also suggests that it is very difficult to generalize about such changes, as they occur in different ways across diverse organizational structures and contexts (Trowler, 2008). There are a number of publications on frameworks for change (Holmberg et al., 2012; Velazquez et

al., 2006), identification of barriers and guidance on how to overcome these (see Granados-Sánchez et al., 2012; Lozano, 2006; Moore, 2005b), but there are also calls for more work on understanding the role of individual agency, relationships, institutional cultures and power on campus (Barlett and Chase, 2004; Stephens and Graham, 2010; Wright, 2007). Such issues emerge most strongly in qualitative accounts and case studies. Case studies have become one of the most common qualitative approaches in research on sustainability in HE as it can be particularly well suited for complex situations with multiple relationships and unclear boundaries (Corcoran et al., 2004). However there is very little synthesis of studies available and reviews of current research are few and far between (Barth and Rieckmann, 2013; Velazquez et al., 2005; Wright and Pullen, 2007).

This paper presents a synthesis of peer reviewed case studies using meta-ethnography, a methodology used for synthesizing qualitative research (Noblit and Hare, 1988). The aim of the research is to develop a more systemic understanding of interpersonal and structural processes that characterize and impact organizational change towards sustainability in HE institutions. In order to contextualize the meta-ethnography, we first review relevant research in organizational change and sustainability in HE. We then move on to present the detailed results of the meta-ethnographic synthesis, before discussing new meanings and implications for the field. Throughout the study we use the shorthand 'SHE' for 'sustainability in higher education', following Wright (2004), as we feel the term more readily encompasses broader institutional elements that are not always explicit in the term Education for Sustainable Development (ESD) - which tends to be understood as sustainability in relation to curricula.

2. Organizational change, higher education and sustainability

This section seeks to critically position organizational change research relating to sustainability in universities in the context of organizational studies. It is beyond the scope of this paper to do a full review of organizational change literature; therefore we highlight key theories in organizational studies and approaches to studying organizational change for sustainability in universities.

Organizational studies in HE emerged during the second half of the 20th century, in part influenced by the rapid growth of the sector after World War II (Shattock, 1983). Academics were also increasingly concerned with the link between universities and broader pressures, asymmetries and privatization across national and international contexts (Boyce, 2003). These developments led to a growing interest in researching organizational issues such as governance, culture, structures and institutional change in universities (Becher, 1989; Shattock, 1983; Trowler, 2008).

Within research on sustainability in higher education, organizational issues – often linked to embedding sustainability in the institution's activities or a transition to be more sustainable – have become an increasing area of interest. Researchers have taken a variety of approaches, including the development of models and frameworks to guide institutional change. Drawing from literature on institutional change in HE and his experience at Tulane University in New Orleans, Aaron Allen (1999) developed a dynamic model for institutional change around advocacy, policy, resources, leadership, resources and education. More recently, Velazquez and colleagues (2006) proposed a four-phase model for developing a sustainable university, including a four-pronged strategy addressing education, research, outreach and partnership and campus sustainability. Although such frameworks and models can be useful, some have been criticized for failing to take into account the processes by which change takes place (Stephens and Graham, 2010).

Other authors have examined processes of change by drawing on research from the broader field of organizational studies. One example of this is the concept of the 'learning organization'. Initially developed by Peter Senge for private sector organizations (1992), it is a business management and development strategy which frames individuals as the source of innovation and organizational learning (Senge, 2000). In the last decade, the concept has become popular among senior university administrators (Boyce, 2003; Kezar, 2005) leading to several authors referring to the 'learning university' as a key to sustainability work (see Blake and Sterling, 2011; Orr, 2004; Sharp, 2002).

Characteristics of the 'learning organization' seem to ring many bells with broader principles of sustainability education, including a grounding in systems thinking, valuing different types of knowledge, trying to develop reflexivity in organizations and stressing the importance of dialogue (Senge, 2000). However, there has been little work critically examining the role of learning in transitions to sustainability within HE institutions, and the 'learning organization' concept is often conflated with organizational learning research. The latter is a broader field concerned with the processes by which organizations can be said to learn and tends to be more neutral and critical in its approach to learning in organizations (Kezar, 2005).

Another area of increasing interest is transition studies. Ferrer-Balas and colleagues, for instance, use a systems transition approach and the 'Framework-Level-Actor' analysis methodology to assess the transition potential of sustainability strategies (Ferrer-Balas et al., 2009). Transition management theory is another approach that was developed as an approach for dealing with complex societal transitions, namely the transition to a more sustainable society (Loorbach, 2009). It has been applied across private and public sectors at a number of different scales (organizational, regional, national) for over a decade, but only recently used in the HE context. In their recent work, Stephens and Graham (2010) explore the usefulness of a transition management approach in HE and use it to identify insights for future empirical work. Their analysis highlights the need for more research on "critical strategic level dynamics or reflexive activities that could facilitate and accelerate change" (Stephens and Graham, 2010), networks that facilitate change processes, and cross-institutional comparisons.

Other approaches to investigating processes of change stem from institutional case studies, usually grounded in practitioner-based research. These often lead to the elaboration of strategies or recommendations for those involved in institutional change. Drawing on seven years of experience, Sharp (2002) proposes 16 different approaches to developing successful campus environmental programs in universities, which he says must be accompanied with "high competency in listening, communication, relationship building, vision development, responsiveness and continuous strategic adaptation" (2002). More recently, Holmberg and colleagues (2012) put forth a strategy for institutional transformation from on their experience at Chalmers University of Technology, based on three principles: creating a neutral arena, building on bottom-up engagement and communicating a clear commitment from senior management. Case studies on organizational change and sustainability vary widely, ranging from descriptions of historical developments and current activities (see for example Broadbent et al., 2010; Lozano-García et al., 2009; Saadatian et al., 2009) to more narrative approaches such as Barlett and Chase's collection of *Stories and Strategies for Change* (2004). Many of these lead to the identification of strategies or recommendations rather than attempting to develop models or frameworks, recognizing that ways in which HE institutions address organizational change for sustainability will necessarily vary and depend on specific contexts. For instance, Krizek and colleagues (2012) recommend tackling issues of self-reflection, developing meaningful recommendations, and stating the economic advantages of such programs. In her accounts of experience at the University of British Columbia, Janet Moore (2005a) identifies four key barriers to institutional change in sustainability projects (disciplinarity, competition, misdirected evaluation and unclear priorities) and recommends developing transdisciplinary research and teaching, collaborative and transformative learning and participatory evaluation to overcome these.

This brief review illustrates the variety of approaches taken to investigate organizational change in the context of SHE. The multiplicity of approaches perhaps reflects the complexity of the issue, and the highly subjective nature of sustainable development (Kemp and Martens, 2007). However, most focus on identifying barriers and suggesting strategies for change, perhaps because these are useful elements to draw out from individual institutional experiences. Case studies do provide in-depth insights into processes of change, but such detail remains difficult to relate to other contexts. We suggest that developing a better understanding of the processes underlying institutional change for SHE – such as the role of individual agency, relationships or power on campus – across institutional case studies may help to explore and better understand the roots of such apparent complexity.

In doing so, it may be helpful to develop a cultural understanding of SHE; Kemp and Martens (2007) highlight the importance of understanding local cultures in order to develop successful sustainability change processes. Within the context of HE, there is an established field of research on organizational cultures, starting with Becher's seminal work *Academic Tribes and Territories* (1989). Moving away from earlier static models, current research adopts more reflexive and socio-cultural approaches to understanding organizational culture (Trowler, 2008) seeing it as "a way of understanding organizational life" (Alvesson, 2002). When defined in this way, a cultural approach to investigating organizational processes (such as change for sustainability) allows us to uncover the role of power, identities, history, personal ambitions and changing environments (Trowler 2008).

In order to develop a cultural understanding of sustainability initiatives in universities, across a number of institutional contexts, we use a methodology called meta-ethnography which offers a structured and rigorous way of synthesizing qualitative information from case studies, and of developing new insights into socio-cultural dimensions of a given issue. The next section describes the approach in more detail.

3. Methods

Meta-ethnography was developed by Noblit and Hare in 1988 as a response to the perceived inadequacy of literature review and systematic analysis methodologies to meaningfully synthesize data from ethnographic research. It involves a process of 'reconceptualizing' single pieces of qualitative research by analyzing and synthesizing them in the context of other related studies; perspectives and meanings from the different studies are thus combined and interpreted to create new meanings (Doyle, 2003). In their initial work, Noblit and Hare (1988) provide guidance on the research methodology, such as the use of grounded theory for data analysis and the three types of synthesis (reciprocal translation, refutation and lines-of-argument). However, they also leave room for interpretation. Drawing on on-going debates in qualitative research methods, a number of authors have since identified clarifications and enhancements, including detailed guidance on evaluating the quality of studies included in the synthesis, developing inclusion criteria, analyzing data using a grounded approach and relevant epistemological considerations (Campbell et al., 2011; Doyle, 2003; Major and Savin-Baden, 2010).

There has been increasing interest in meta-ethnography outside the field of health research, where it originated. Authors argue its usefulness for social research, community-based practice research, organizational studies (Major and Savin-Baden, 2010), and Education for Sustainability (Barth and Thomas, 2012). As a methodology that can help to "shed light on processes and situations" (Barth and Thomas, 2012), it is well suited for developing a cultural understanding of organizational change processes. This requires an appreciation of multiple subjective meanings, human relationships and social contexts, grounded in a constructivist epistemology.

Meta-ethnography provides an opportunity to respond to the urgency of reflecting on the congruence between research questions and respective ontological, epistemological and methodological approaches (Barth and Thomas, 2012; Huckle, 2004; Wright, 2007). It calls for a reflexive research practice, recognizing our role in generating new meaning. Within this process, it is important that the studies used in the synthesis themselves show evidence of reflexive positioning, and that we demonstrate validity through comprehensibility, believability and trustworthiness (Doyle, 2003).

3.1. Data sources and selection

This synthesis includes peer reviewed papers published in academic journals between 2002 and 2013 (for online first publications). Papers were identified were in the English language and found through academic search engines including ISI Web of Knowledge, Science Direct, Elsevier online, Google Scholar, Business Source Premier, British Education Index, Australian Education Index and Educational Resources Information Center (ERIC). Search terms included 'sustainable/ility AND "higher education"' 'sustainable AND universities' 'sustainable/ility AND [university/ies OR "higher

education”] AND organizational change’. Additional papers were identified through hand searches, these included reference follow-up, using ‘related articles’ features where available and browsing through key journals in the field, including the *Journal of Cleaner Production*, *International Journal of Sustainability in Higher Education*, *Environmental Education Research* and *International Journal of Education for Sustainable Development*.

The inclusion criteria for the study were developed from guidance given by Major and Savin-Baden (2010, 2011) and Campbell and colleagues (2011). Three inclusion criteria were considered most useful and appropriate for the context of this synthesis. The first criterion – (i) relevance to the study – was used to filter articles during the initial database search process. In this process, studies were included if they dealt with change towards sustainability in HE, including structural issues or the development of specific initiatives. After this, a total of 48 articles were retained for further scrutiny. These articles were read in more detail and assessed according to the two other inclusion criteria – (ii) qualitative research including thick descriptions or quotations (qualitative strands within mixed methods studies were included), and (iii) epistemological congruence with our research question (demonstrated through some evidence of reflexive positioning). Publications had to score a ‘yes’ for all the criteria in order to be included in the synthesis. This led to thirteen publications being selected.

3.2. Studies selected

Of the thirteen publications selected for the meta-ethnography, eleven are case studies and the last two research papers. Articles authored by Peggy Barlett and Janet Moore use the same case studies, but we have chosen to include both as they present different information, data and interpretations. Most studies refer to universities in Canada or the USA, with one further case study from the UK.

Selecting studies that are consistent with the positioning of the present research project is an important aspect of the selection process (third inclusion criterion). While the majority of studies do not explicitly state their ontological position, most show some evidence of reflexivity in the research process. This required a balancing act between identifying evidence of reflexivity and the value of the insights presented by the study.

3.3. Data analysis

The studies were analyzed and synthesized in a number of phases. We describe these as a sequence, but the process involved interpreting and re-interpreting. The first phase entailed an immersion into the studies, reading them over and over again and analyzing themes using a constructivist grounded approach (see Charmaz, 2000): themes were identified and coded using NVivo 8, staying as close to the original text as possible – these are called first order themes. The second step of the meta-ethnographic process involved comparing these first order themes across studies in order to identify commonalities and develop a second thematic analysis, drawing together the different studies – these are called second order themes. The third step involved interpreting the themes that were identified across the studies in order to start developing connections, identifying relationships and contradictions, and constructing new meaning through the synthesis process (third order themes and synthesis).

Original terminology was retained as far as possible, and where new interpretations and themes were developed, the aim is that these are as comprehensible as possible. Both interpretations and original quotes were considered as data during the analysis as sometimes the descriptions held useful insights that the authors did not share with original quotes, or the descriptions included personal experiences and reflexions.

3.4. Limitations

Limitations of using meta-ethnography for this study include the very subjective nature of the synthesis. In effect, given the exact same sample, two analyses might have similarities but are

unlikely to be the same (see Campbell et al., 2011). Furthermore, the researcher is limited to published data, descriptions and analyses, and case studies are also necessarily partial (Barlett and Chase 2004: 17, Bell and Morse 2005:8). Finally, this is a new methodology in research on sustainability in higher education, therefore we seek to show transparency in the research process and findings, acknowledging that our own experience as sustainability professionals in HE has also necessarily influenced our synthesis and interpretations.

4. Findings

The following section presents the final stages of the meta-ethnography. After the first two stages of analysis, we identified third order themes (n=9), including six discrete themes and three cross-cutting themes. To ensure transparency in the research process, we include a simplified view of the link between the second and third order themes in Table 1. This shows that the process of interpreting links between themes is ongoing throughout the analysis. The findings focus on the detailed analysis of the third order themes as these provide detail for the reader (comprehensibility) and are important for establishing believability and trustworthiness. Finally, we present the synthesis of these interpretations to help explain the hidden complexities of organizational change towards sustainability in HE.

<i>Second order themes</i>	<i>Third order themes</i>	
	<i>Discrete themes</i>	<i>Cross-cutting themes</i>
Impact and construction of organizational culture and broader social context	Organizational culture(s)	
Conflict and competition	Territories, conflict and competition	
Collaboration, bringing people together	Collaboration	
How the 'expert' is constructed and understood		
Committed individuals play an important role	Importance of committed individuals	
Individual wellbeing		
Influence of individual knowledge and worldviews	Individual knowledge and worldviews	
Walking the talk		
Influence of personal characteristics	Personal characteristics	
Thinking and acting outside of the box		
Interplay between structures and people		Interplay between structures and people
Impact and nature of dialogue, networks, relationships		Dialogue, relationships and networks
Locating power and ability to effect change		Locating power and ability to effect change

Table 1: Simplified visualization of the link between second and third order themes.

4.1. Discrete third order themes

The discrete third order themes (n=6) are key issues that became apparent when analyzing and comparing the studies, that help to explain organizational change processes.

4.1.1. Organizational culture(s)

The impact of organizational cultures on change processes was mentioned in a number of studies. One of the ones described is the academic environment, characterized as promoting “professional and content oriented” forms of learning (Blake and Sterling, 2011), that permeate throughout the university. Similarly, Moore identifies the presence of a culture of criticism, emanating from the academic tradition but characteristic of the university as a whole:

It is an embedded cultural thing at the university...so is the whole idea about moving knowledge forward through criticism—that is very deeply embedded at the university—the idea of whatever you do having to stand up to criticism. And so that is where the atmosphere of competitiveness evolved. (in Moore, 2005a)

Other organizational cultural characteristics include having a “rushed work ethic [...] feeling that there is no time and a lack of resources” (in Moore et al., 2005), “an administrative attitude of ‘Can we assume one more initiative?’” (in Kurland, 2011), a tendency to keep within the ‘traditional way’ of doing things and not broaching new or ‘funny’ topics, and a desire to keep within established structures (Blake and Sterling, 2011; Krizek et al., 2012; Wright, 2010).

Several studies also highlighted the impact that individuals can have on local cultures, leading to an understanding that cultures influence and are constructed by individuals and groups. Examples include starting to ‘say no’ in order to counteract the culture of individual champions being overburdened (Moore et al., 2005), or counteracting conservatism by ‘not being limited by our own thinking’ and being bold enough to take the initiative even if it is not the established way of doing things (Wright and Wilton, 2012). Comments from staff at the University of Southampton show that the visible attitudes of senior members of the university towards sustainability can influence broader institutional dynamics and ‘enable’ change, also leading to an impression that ‘channels’ and structures are more ‘receptive’ to sustainability (Blake and Sterling, 2011).

Most of the examples from the studies involve people telling stories about what characterizes their institution, which contributes to constructing or perpetuating said cultures. Whether temporary or historically rooted, campus ‘cultures’ can have a dramatic impact on engagement in university-wide initiatives such as sustainability and this can make generalizations about processes of change towards sustainability all the more difficult.

4.1.2. Territories, conflict and competition for sustainability

Whether considered to be linked to organizational cultures or not, territoriality, conflict and competition are an important strand in our interpretative synthesis. Bardati describes the process of implementing changes for a ‘greener campus’ as “wrought with controversy and conflict, and implemented with some difficulty” (2006). Our interpretation of this theme reveals that inherent tensions between the nature of sustainability initiatives versus structures, assumptions and practices already in place, can lead to conflict or territoriality. One example of this is the tension between cultures of competition described above and the university-wide nature of sustainability initiatives:

One recognized how sustainability had pushed the envelope of interdisciplinarity on campus in many interesting ways, to the point where people had raised concern over which department did ‘sustainability’ best! (Moore, 2005a)

This also reveals an assumption that perhaps competition is ‘ok’ if it has to do with ‘doing sustainability’ – showing the complexity of how we understand competition itself within the university (whether it is a barrier or enabler, or both).

Implementing sustainability initiatives can also create an increasing sense of territoriality as people become protective of their courses, department, structures or the general way of doing things (Gudz, 2004). Issues of territoriality also emerge in processes of change over time. For instance, new structures or initiatives might be created, leading to a sense of ownership for those people involved in each of them. But as these become either overlapping, redundant or lack co-ordination, changes can

then lead to “territoriality associated with sustainability” (Gudz, 2004) or situations where “planning stalls and conflict emerges” (Krizek et al., 2012).

These examples of how territoriality and conflict arise are also linked to the politicization of sustainability in the institution. Our analysis suggests that where sustainability becomes ‘politically popular’, tensions emerge, territoriality sets in, and “historic sustainability champions or early adopters may be squeezed out” (Krizek et al., 2012). The presence of ‘campus politics’ plays an important role in these dynamics; it appears that the more political the situation gets, the more conflict potentially arises. Conversely, perhaps the more collaboration and cross-campus dialogue, the less political the topic is likely to be, minimizing “negative internal campus politics” (Kurland, 2011).

4.1.3. Collaboration

In contrast to the conflict described above, the studies show a collective emphasis is also placed on collaboration in the processes of change. Many studies made reference to collaboration and some shared experiences of its positive impacts, but there was also a clear desire to see more of it.

We found that collaboration is seen to help break down internal boundaries, allowing people to meet new colleagues and learn about “serious intellectual and personal commitment far beyond the micro world of [my department]” (in Barlett, 2008). Our interpretation suggest that the lack of knowledge and awareness of what ‘others’ or ‘departments beyond their own’ are doing can re-enforce silos and territoriality.

Collaborative approaches were also recognized as an important alternative to selected ‘expert’ input as they enable more creativity, sharing and developing ideas that people ‘would otherwise never think of’ (Barlett, 2008). Beyond developing ideas, collaboration can also create ownership in the change process and ensure people’s views are taken into account, creating a ‘shared vision’, and ‘fuelling momentum’ (Gudz, 2004; Kurland, 2011). Such approaches thus provide alternatives to relying on ‘champions, ensuring ‘fresh’ ideas and people are involved when those who are involved in change processes lack time or energy to pursue them.

These collaborative processes tend to be supported by the creation of new groups or committees (Koester et al., 2006; Kurland, 2011), which are often reported to support further collaborative and group work –not necessarily a natural consequence. When sustainability driven changes result in the formation of a new group, those groups are often reported as supporting). However, the creation of these collective structures is not sufficient in itself, and sometimes a degree of additional co-ordination and support is needed, for instance by ‘nudging’ departments to accept more ‘campus wide’ initiatives (Krizek et al., 2012).

Reflecting back on the negotiation of policy no. 5, one interviewee explained that the policy:

... would come back to us [the consultation group] and we would think “oh God, this is terrible”, and try and rally a little support ... [B]ut there was no real central co-ordination of a strategy of how and in a way it might have been better if there was but there just wasn't the time or energy to do that... (Gudz, 2004)

There is a challenge in understanding how to ensure that newly formed groups can effectively produce collaborative action, and knowing whether or not additional kinds of support are needed. This highlights the inevitable link between structures and people, where the act of developing structures cannot be thought of in a vacuum, but rather in a complex arena of interpersonal interactions influenced by people’s personal resources and capacities, institutional priorities and the presence of support where and when needed.

Furthermore, it highlights the complexity of having individuals in support roles while still working to maintain a collective vision for an institution-wide project where the change process and the co-ordination and development of initiatives to accompany that change is “obviously larger than a single

person's part time efforts" (Krizek et al., 2012) and that "no one group owns sustainability" (Gudz, 2004). Nevertheless, the role of individuals is another important theme.

4.1.4. Importance of committed individuals

The idea of having 'committed' individuals or champions is mentioned in nearly all of the studies. These individuals are usually central to institutional changes towards sustainability, either by taking part in programs or leading change:

On each campus, administration, faculty, students, and facilities staff collectively acted as change agents for sustainability initiatives. (James and Card, 2012)

Early on in our campus greening efforts, it was recognized how important it is to maintain participation by persons throughout the university and the importance of having a champion at the administrative level who could provide, when needed, both financial resources and public statements calling for examples of leadership. [...]Of course, we realize that champions exist at all levels of the institution. (Koester et al., 2006)

The last quote shows how structures in place also provide a path through which individuals can drive organizational change. Blake and Sterling further describe how the fellowship scheme run by the Centre for Sustainable Futures (CSF) is "a powerful vehicle for achieving curriculum change (2011). However, individuals can also be influential outside of established structures, using networks and personal connections to be "well placed" to encourage support (Eisen and Barlett, 2006).

Beyond the positive actions taken by 'committed individuals', it appears that in many cases "the same names are again listed" (Gudz, 2004). While our synthesis points to very positive implications of having committed and interested individuals driving the change towards sustainability, it also highlights a more challenging aspect of having 'champions' involved. In effect, such involvement requires a large amount of 'time', 'energy', personal 'commitment' and supportive environments. Several studies show the potential negative impacts on those individuals' personal wellbeing and work-life balance, as well as on the sustainability of the programs and projects themselves:

There is little reward [...] in FM [Facilities Management] for cooperating with faculty on sustainability courses. Unless administrators value and reward such efforts [...] the incentive for continuing these efforts lies primarily in personal satisfaction – a situation that is increasingly untenable in difficult budget times when all are asked to more with less. (Krizek et al., 2012)

It should not go unsaid that though there is still a long way to go before shifting toward a learning organization, where the weight of transforming curriculum design at the university is not carried by a hand-full of over-committed people [...] (Gudz, 2004)

As the quotes above show, much of the 'championing' often relies on individual commitment and 'personal satisfaction', and is almost always in addition to established duties of the staff. The next themes look more in depth at the individuals involved in processes of change and the role of their knowledge, worldviews and personal characteristics.

4.1.5. Individual knowledge and worldviews

The theme of individual knowledge and worldviews was very strong across a number of studies. It encompasses both intellectual engagement with environmental and broader sustainability issues, as well as wider beliefs, worldviews and standpoints that individuals in different parts of the organization voice or are perceived to have; and how these influence processes of change towards sustainability in their institutions.

An aspect that came out in a number of studies was the fact that individuals who initiated or enabled change were committed to 'environmental stewardship', espoused an 'ecological' understanding of the earth and living communities or were aware of the urgency of the 'imperative for sustainability' (Bardati, 2006; Barlett, 2008; James and Card, 2012; Kurland, 2011; Wright, 2010; Wright and Wilton, 2012).

One assistant professor of Urban Studies [...] approached the provost with a manifesto for greening the campus. "The manifesto was driven by a realization that the world was rapidly changing in fundamental ways, and that the imperative for sustainability was becoming increasingly urgent." The provost was primed to hear this manifesto. He had read about urban planning and sustainability for much of his academic life [...] And he understood it was time, both in terms of the larger understanding and concern about the natural environment and the energy on campus, to support this manifesto. (Kurland, 2011)

Such knowledge and worldviews can shape the development of practices and structures within the institution, either immediately or in the longer term.

Changes can occur from individuals' own volition, as above, or can lead to others identifying certain individuals as potential agents of change because of their "personal interest in environmental issues or for having had academic responsibility for teaching in the area of environmental studies" (Koester et al., 2006). This dynamic also works in reverse, where individuals with a lack of interest or commitment to the environment can also stop initiatives taking place or limit their reach:

During 2007-2008, the incumbent A.S. president was not committed to the [recycling] program and he cut its budget \$25,000, eliminating one part-time student assistant and all awareness activities. (Kurland, 2011)

Another aspect of the theme is the focus of certain individuals, usually in more senior positions, on economic sustainability, a motivation for saving money and optimization. In some cases, these worldviews were described as being complementary to the 'environmental' agenda and essential for financial sustainability or 'convincing' senior administrators to support initiatives:

I'm a businessman, quite frankly. The things we do, and have done, that seem extraordinary to many folks are very still pragmatic and practical. They may be very innovative but I always run the numbers (Exec. Dir. of Facilities Management, 2010). (Kurland, 2011)

However, in other cases, the more economic focus was perceived as a disincentive for enabling more 'risky' environmental or social initiatives to take place (Blake and Sterling, 2011; Moore et al., 2005).

Another important dimension of the theme is the importance of people's ethical stance. Various decision-makers describe their worldviews as influential in their work at the university:

I'm a pretty—not just moral—but moralistic kind of person. I feel very deep within me that I don't want to be party to something that is stupid, bad, or wrong. What we're doing with respect to the environment is folly, and I don't want any part of it. ... I put myself out for what I believe. (Barlett, 2008)

However, one of the most recurrent aspects of people's ethical stance is the idea of integrity: several studies mentioned the importance of 'walking the talk', directly or indirectly, sometimes reflecting on the difficulties of doing so in their current work. Kurland describes how the Provost of Academic Affairs' 'belief' that he and his colleagues had an "obligation to clean up their own house first to match what facilities management was already doing" (2011) influenced the development of an institute for sustainability research. The idea of 'walking the talk' also highlighted the link between people's personal lives and their work lives, and the difficulty of separating the two once they are able to 'take a step back' and reflect on their own practices (Blake and Sterling, 2011):

This really gets to the heart of the sustainability problem. If we find ourselves unable to practice the things we know are right in theory then we will never be sustainable. (in Moore et al., 2005)

Even though the case studies capture people's perceptions of others' worldviews, which are by nature subjective, the strength and frequency of the comments, mentioned in all but two studies, clearly shows these perceptions have an impact on processes of change.

4.1.6. Personal characteristics

In addition their knowledge and worldviews, over half of the studies mention the importance of people's personal characteristics in influencing change or overcoming barriers. Such changes are often described as needing time to happen, and making 'real change happen' "take[s] skill, time, a lot of patience, and some luck" (Bardati, 2006).

Other personal characteristics were the ability to 'not take no for an answer', take a 'can do' approach and have a real desire to "make change, get involved and DO things" (Moore et al., 2005). These people were often described as those who tend to seize opportunities and drive innovation within the institution, or when opportunities are not so obvious and individuals face resistance, bring about change in a 'subtle kind of subversive' way (Moore, 2005a):

He describes his leadership strategy as a multi-nodal approach to allow pockets of interest to emerge and then grow from there, combined with a persistent dialectical approach of talking one-on-one with deans and other folks in power to get things done, and to not take "no" for an answer. (Kurland, 2011)

A final characteristic of individuals who seek to drive or instigate institutional change is a positive vision of sustainability and who 'view themselves as an optimist' (Barlett, 2008; Moore et al., 2005). The positive approach is also linked to patience and the ability to see positive change even if it is slow, or the possibility of it ever happening.

4.2. Cross-cutting third order themes

We identified cross-cutting themes as those which were identified in nearly all of the studies, but were also linked to several discrete themes and helped explain relationships and meaning (refutations and lines-of-argument).

4.2.1. Interplay between people and structures

A number of structures relevant to the success of sustainability initiatives are identified throughout the studies, including committees, centers or institutes, projects, specific roles and responsibilities including co-ordination, seminars and communication channels, courses, workload allocation, course development, reward systems and disciplines. These diverse structures can perform very different roles, enabling or blocking processes of change or focusing on individual or collective endeavors; they can also be hard to 'know about' or accessible, rigid or dynamic.

An aspect that makes structures rigid or likely to be barriers is typical reward mechanisms in universities. These are usually discipline based and do not enable staff to reasonably engage with sustainability initiatives given their often cross-departmental, trans-disciplinary nature (Eisen and Barlett, 2006; Gudz, 2004; Koester et al., 2006; Krizek et al., 2012; Moore et al., 2005).

Traditional disciplinary structures, ubiquitous in universities, tend to stifle the growth of interdisciplinary efforts required of sustainability. For example, deans of academic units often protect the strong departments within their colleges, and new, interdisciplinary programs such as sustainability fail to fit into this structure and thus must fight for resources on an unequal playing field. (Krizek et al., 2012)

Sustainability initiatives can make use of existing or new structures to bring about change. Where existing ones are used, these tend to be complex and people need 'experience' in order to navigate or make use of them (Koester et al., 2006; Moore, 2005a), excluding those who do not. Existing structures also tend to be described as 'closed' to new ideas, which may lead to slow changes (Krizek et al., 2012; Wright and Wilton, 2012).

However, new structures are also often created, which might give people without such 'experience' an opportunity to become involved (Koester et al., 2006; Krizek et al., 2012; Kurland, 2011). Across a number of the studies, change processes tended to result in the creation of new groups where people were expected to work together to elaborate policies, monitor implementation, share ideas or develop research. Nevertheless, the development of such structures often depended on the involvement of people seen to be in positions of power within the institution (e.g. directors, deans or senior managers):

The impetus for the greening of our campus began in March 1991, with the appointment of the first Green Commit-tee (Green-1) by Warren Vander Hill, Provost and Vice President for Academic Affairs. (Koester et al., 2006)

Whether existing or new, our interpretation of the studies showed that structures were seen as a vehicle for achieving change through both individual and collective processes. This can be done by supporting and recognizing activism (Bardati, 2006; James and Card, 2012), providing space for individuals to engage in change programs, sustainability-related research or related professional development (Blake and Sterling, 2011; Eisen and Barlett, 2006; Koester et al., 2006; Krizek et al., 2012), or coordinating activities (Koester et al., 2006; Krizek et al., 2012).

[...] the Centre [for Sustainable Futures] Fellowship scheme is a powerful vehicle for achieving curriculum change, an enhanced learning experience for students, new CPD opportunities for staff and for active SHE dissemination across the university and further. (Blake and Sterling, 2011)

The way in which structures work to support processes of change also depends on the way in which they are managed. This stood out in Gudz's case study, where structures were used as supportive mechanisms for a change process that was understood as also taking place outside of those formal structures (2004). In many cases the way in which structures are managed is implicit and uncontested, and an area that would warrant more investigation, and might explain some of the diverse interplays between people and structures described in the studies.

We have identified a number of aspects that characterize structures in processes of change, but these show a very diverse picture. One of the important messages from our interpretation of this cross-cutting theme is that different types of structure come into play in processes of change, and these do not always work in synergy. However, people are often expected to interact with these different structures as if they were not connected, not realizing the implications this might have; e.g. freeing someone up for sustainability-related activities cannot be done in isolation of existing rewards structures. The next theme looks at what mediates this interplay.

4.2.2. Dialogue, relationships and networks

We present dialogue, relationships and networks as processes that mediate the interplay between structures and individuals: they can simultaneously impact on individual agency (e.g. by 'being in the loop') and processes of change (e.g. by enhancing the reach of initiatives). The trio was mentioned in the majority of the studies, but with different aspects and linkages. Figure 1 highlights those emphasized.

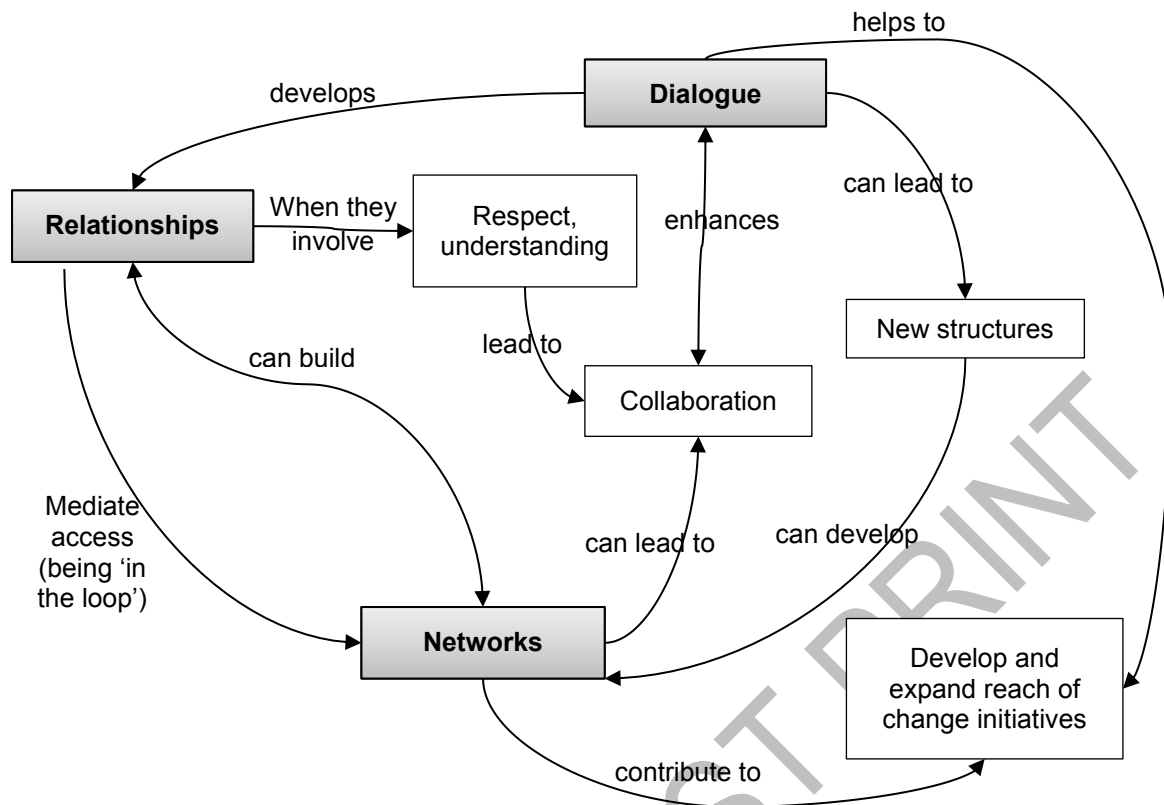


Figure 1: Simple schematic of the relationships between dialogue, networks and relationships.

Interpersonal relationships and networks both appear to have a strong influence on the nature and development of initiatives on campus. Bardati (2006) reflects on the importance that relationships played in the development of the campus environmental audit and people's willingness to take part and build a collaborative venture:

Bishop's is blessed with a culture of familiarity, probably because of its small size, residential nature and numerous extra-curricular activities. When conducting the campus audit, this familiarity has proven to be very useful. When employees and students feel part of the university community, it becomes much easier to share data, make joint interpretations of information, identify priority problems, and come up with collaborative solutions. (2006)

Kurland (2011) also describes the importance of networks and a more historic connection in the development of collaborative campus-based sustainability projects. The fact that the director of the Physical Plant Management (PPM) department was an alumnus of the academic College of Engineering and Computer Science (CECS) meant he kept links with academic staff, knew what students and staff might be able to contribute to their projects and facilitate the links.

While interpersonal relationships and networks are tightly connected and seem to mutually enhance one another, not all networks were described in terms of interpersonal relationships. The latter can sometimes have a more structural nature, enabling people to make connections but not necessarily meaning that there is a sense of respect, understanding or strong personal interactions. In this case, dialogue, however, is still important.

Dialogue appears to be a pervasive theme across a number of studies, linked to processes of organizational change both in the descriptions and discussions. For instance, face to face interactions with individuals and groups across the institution can be central to developing networks and expanding programs:

From 1992 to the present, the Recycling Coordinator grew the program by networking and responding to stakeholder concerns [...]. She grew the program by going department by department, explaining to each department's administrative assistant how to recycle. (Kurland, 2011)

Dialogue is central to building relationships, but it also enables networks to be established without the former (Eisen and Barlett, 2006). These networks can then lead to the expansion of initiatives:

On 27 October 2008, CSUN's provost announced the creation of the Institute for Sustainability – seven months after three faculty had networked with administrators for needed change. (Kurland, 2011)

The development of new structures to support sustainability programs often appear to form through collective action and collaboration, where dialogue serves to develop more flexible and open structures and 'bridge' internal boundaries.

Dialogue does not, however, develop from nothing – it is often influenced by individuals' knowledge, worldviews and personal characteristics. It often stems for individual initiative linked to an understanding of how change should be implemented:

The Urban Studies assistant professor became the institute's first director. He describes his leadership strategy as a multi-nodal approach to allow pockets of interest to emerge and then grow from there, combined with a persistent dialectical approach of talking one-on-one with deans and other folks in power to get things done, and to not take "no" for an answer. (Kurland, 2011)

A final issue in this theme is that, if dialogue, networks and relationships are mediators in the process of change, this potentially creates an uneven playing field for individuals and groups within the institution. If dialogue, networks and relationships are so crucial, then people need to be 'in the know' - part of certain networks or in particular relationships - in order to be able to take part:

My experience has been that little is written down, little is prescribed by explicit policy, and much depends on being in the loop, part of the (informal) discussions, and connected to individual decision makers. [...]

Many of the participants agreed that power is concentrated in particular pockets (not always those you might expect on reading university policies and procedures) and one's ability to get access to these pockets depends quite a bit on the informal networks that one is able or willing to build up. (Moore et al., 2005)

This leads us to our next theme, on power.

4.2.3. Locating and 'pointing at' power

The notion of power was explicitly addressed in nearly all of the studies but emerged even when not explicit. The synthesis of the theme across the studies shows the key importance of the role of power in the process of organizational change for sustainability, and more specifically, identifying who has power to effect change. The studies highlight a number of different ways in which people establish where power is located, and how best to 'access' it.

Across the 12 studies identified for this theme, the authors and participants locate power at all levels of the university, in both individuals and groups of people, from senior university committees and administrators to students and individual staff. A summary of different terms and descriptions is in Table 2 below.

Individuals	Groups
'Senior personnel', 'top administrators', Deans, Vice President, Provost, 'high level' staff, line managers, academic staff, facilities managers, students, 'leaders'	Executive Committees, Board of Governors, Senate, the 'leadership', Faculties, grassroots, student project groups, 'middle management'

Table 2: Summary of different terms used (in the publications) to describe people who have power.

The purpose of the table 2 is to illustrate the multiple nature of where 'power' is perceived to be located in the university. The numerous references to people in 'positions of power' or senior level committees suggests that there is a perception that certain individuals have more power and are key stakeholders to engage with or have support from.

We all have different degrees of power and different ability in wielding it. All the major players must be willing to exercise their power for positive change, otherwise it won't happen. (Moore et al., 2005)

This is also evident in the research processes used some case studies: for instance, Janet Moore selected "change-agents, decision-makers and administrators and generally people who were considered powerful on the campus" (2005a) for her second round of interviews.

On the other hand, the complexity shown in Table 2 suggests that an individual or group's position within the institution is not the only element that influences where power is located, and that "the ability to effect such change differ[s] from individual to individual and according to their professional circumstances" (Blake and Sterling, 2011). Furthermore, it suggests there is not a strict hierarchical model for where power is located, and individuals at the top, bottom and middle can show agency:

The key point is that there is limited (though not negligible) ability of each level to direct the one below. So decisions made by the university administration may be significantly altered or even completely undercut at the Faculty level or at the level of individual faculty members. (Moore et al., 2005)

The emphasis on both 'people in power' and the non-vertical nature of decision-making serves to explain a central aspect of this theme: 'pointing at the power' (Moore, 2005a). In other words, people tend to perceive sustainability work as "someone else's responsibility" (Bardati, 2006). This emerges for a number of reasons in addition to the complexity mentioned above: it can be compounded by disciplinary or departmental boundaries, distinct roles within the institution, lack of energy, time, collaboration, common vision or ownership, and lack of clarity over who should take responsibility on sustainability issues:

... people define sustainability differently or do not see how it applies to their areas, experience a fractured vocabulary because they are organized around disciplines, or come up with ideas and expect other people will do the changing. (Kurland, 2011)

...with good relations between people in the various sectors of the university, more people can take ownership of the environmental conditions on campus instead of passing them off as someone else's responsibility. (Bardati, 2006).

Faculty members suggested that administrators have more power to create change and yet administrators maintained that faculty members have more power to create change in their departments and classrooms. (Moore, 2005a)

Perhaps another factor that leads to 'power pointing' is the fact that people tend to think of the 'other' as the barrier to change and tend not to reflect on their own agency (Moore et al., 2005; Wright and Wilton, 2012). This perception is also linked to organizational cultures of 'status quo' mentioned above or the fact that people are not 'in the know' or part of 'the right' networks.

A final aspect of this theme is the link between power and politics – i.e. when relationships become visible. A number of studies allude to the political nature of sustainability (also linked to territoriality and conflict);

On a broader level and as has been seen in other universities, a perhaps inevitable power play emerges as sustainability activities become politically popular. The campus' historic sustainability champions or early adopters may be squeezed out as leadership recognizes the intrinsic power of these efforts and seeks to take control of – and credit for – sustainability successes (Krizek et al., 2012).

Although the link between power and politics is not mentioned across the board, it provides some insight as to why locating power is an important aspect of change for sustainability in universities.

4.3. Synthesis of third order themes: generating new meaning

One of the purposes of meta-ethnography is to generate new meaning by looking across studies and identifying synergies as well as contradictions. When drawing together the findings outlined above, we identified a number of contradictions and tensions, more specifically between territories and cross-boundary work, competition and collaboration, individual and collective action, experts and grassroots involvement, university cultures and individual worldviews, rigid structures and dynamic roles, encouraging new ideas and needing to stay within the system (see Figure 2). These opposing statements provide systemic insights into the causes of the challenges of change processes, moving beyond a linear understanding of a set of barriers to overcome. We argue that these contradictions and tensions inherent to sustainability work in universities leads to a number of the issues that we explore below, distilled from our analysis of third order themes.

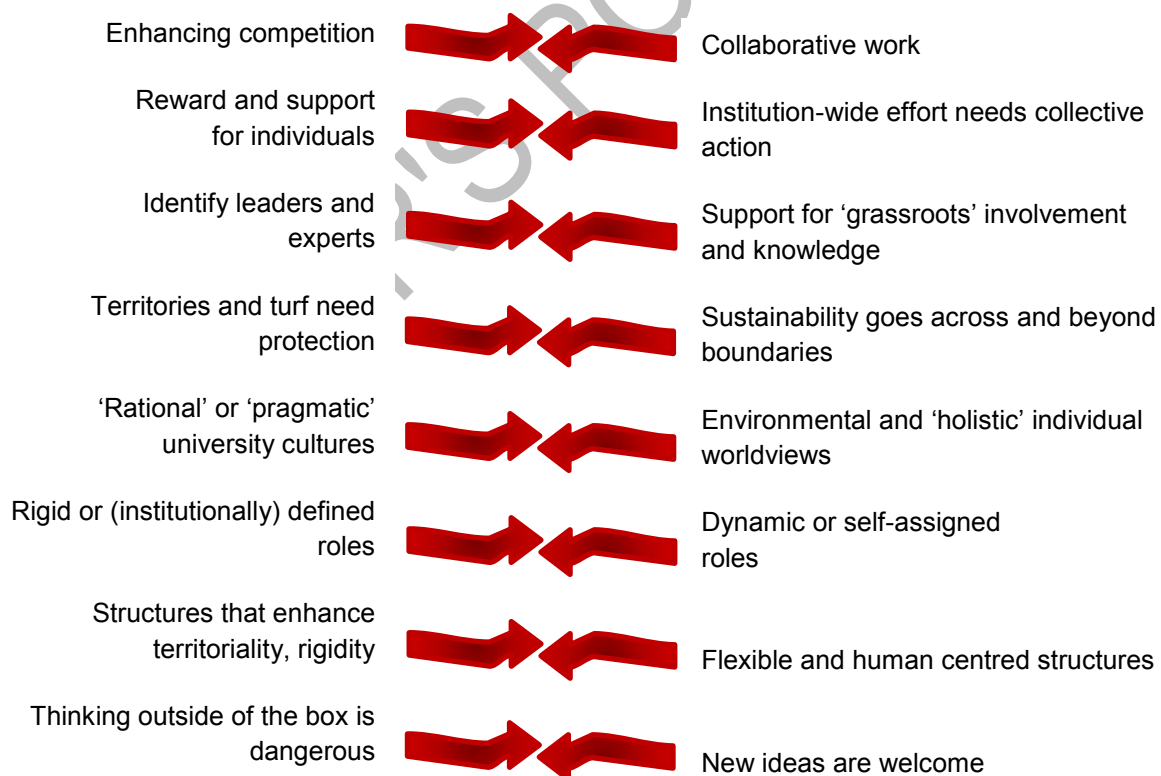


Figure 2: Opposing statements represent main contradictions and tensions identified.

We identified that both collaboration and competition (inherent in university 'cultures' and within sustainability initiatives) are important for SHE and can be used to initiate and sustain change processes. However, this simultaneous emphasis can create challenges: for instance, sustainability initiatives often involve working across existing boundaries which can lead to increasing territoriality

as people become protective over their own 'turf', or competition for who 'does sustainability best'. Competition was portrayed in the studies as both positive and negative in change processes, having potential to weaken collaborative and participatory processes as well as to enhance the impact of initiatives. Collaboration and competition can be important elements of the process of change towards sustainability, but the way in which they are emphasized can create conflict, with potential implications for the impact and credibility of sustainability initiatives.

Another tension that has important implications is the emphasis on individual as well as collaborative endeavors. Challenges then arise when 'champions' are identified while, at the same time, trying to ensure that sustainability continues to be seen as a collective endeavor, "larger than a single person's part time efforts" (Krizek et al., 2012). As a result, those who end up 'doing sustainability' are often perceived as 'the best', or the 'experts' in their institution. This idea of 'experts' can be further emphasized by formal structures and procedures as these often require people to have 'experience' in order to understand them, take part or be able to identify key individuals. The use or reliance on such experts leads to a fundamental challenge for sustainability as it opposes basic principles of breaking down the distinction between 'expert' and 'lay' knowledge, involve different stakeholders and give all involved a voice.

The tensions between 'territories' and the cross-boundary nature of sustainability initiatives is the creation of a sort of lose-lose situation or 'double jeopardy' (Gudz, 2004). This is especially the case for academic staff that are supported to do interdisciplinary and cross-boundary work while at the same time asked to adhere to individualistic reward structures which career progression and promotion often depend on. This has several impacts, including the fact that initiatives often only go forward with individuals who are committed and enthusiastic, but that at the same time are vulnerable to committing to personally 'unsustainable' or unmanageable working environments.

Institutional structures also influence and tensions and issues mentioned above. Given the systemic nature of SHE, existing university structures are often a starting point, but not sufficient for carrying out necessary work. As a result, structures related to SHE work are often developed in addition to existing ones and include rigid or formal structures – such as specific decision-making groups – and more flexible ones – such as internal networks or institutes, and they tend to span across different domains in the university. This has two main implications: (i) where initiatives take place within the context of existing structures this can lead to a lack of clarity over roles and responsibilities and tensions for individuals involved; for instance, there might be new structures to support input, ideas and cross-disciplinary work (e.g. sustainability scholarship programs) that aren't recognized in 'traditional' academic reward and promotion structures; (ii) where new approaches are developed, this can lead to disjointed structures put into place in a specific area of the university without developing a collective vision across the institution. Our analysis also suggests that existing structures and cultures are somewhat divorced from the realities of those who work within them. This is apparent in the mismatch between existing 'academic cultures' of competition and individuality and the worldviews of individual academics: Moore remarks how, through her research, SHE "came to understand that many academics share values that underlie sustainability and sustainability education" (2005a) even though they may explicitly mention them as such.

In addition to structures, we identified that the multiple places in which power is located within the institution has three main implications: (i) it can create a lack of clarity, making it difficult for people who want to engage or have an influence to identify who to address or where to go; (ii) the multiple locations of power lead to 'power pointing', which can be reinforced by 'status quo' cultures where people avoid taking new responsibilities or lack support to act 'outside of the box'; (iii) change happens from many different places, influenced or driven by individuals or groups in different departments or at different levels (top, middle, grassroots).

Networks have an additional role to play as they can enable individuals without specific interpersonal connections to get involved, and bridge boundaries within and between institutions. However, along with other structures, they also have the potential to exclude people and/or groups. The idea that one

has to be 'in the loop' to know about something or be able to have an impact suggests that structures in (and out) of the university shape who has access to power in the change process, and not necessarily in a balanced and transparent way. Where exclusion does happen, it can lead to a depersonalization of the 'institution', taking away the very 'human' dimension that appears central to the change process.

Several of the implications of contradictions and tensions identified above (see Figure 2) have also been identified as barriers to change in the literature, for example institutional cultures, reward mechanisms or 'burn-out' of committed individuals (Granados-Sánchez et al., 2012; Lozano, 2006; Sharp, 2002). However, the synthesis helps to build a more systemic understanding of what seem to be inherent contradictions and tensions in SHE. From our interpretation, it appears that the roots of these issues are often hidden by the very complexity of change processes. This is apparent, for instance, by the fact that most change initiatives rely on committed individuals, who are (implicitly) able to deal with the tensions. Furthermore, when the multiple locations of power are invisible, this leads to assumptions about who has power (e.g. phenomenon of 'pointing at the power'), which are often aligned to formal structures. We suggest that, by remaining hidden, the underlying causes for the challenges of organizational change processes for sustainability in HE perpetuate the very barriers that many of us seek to overcome – we visualize this in Figure 3 as a 'vicious circle'. In the discussion below, we explore the implications of the contradictions and tensions identified as well as issues of power in an effort to make these visible and move towards a reflexive learning process (see Figure 3).

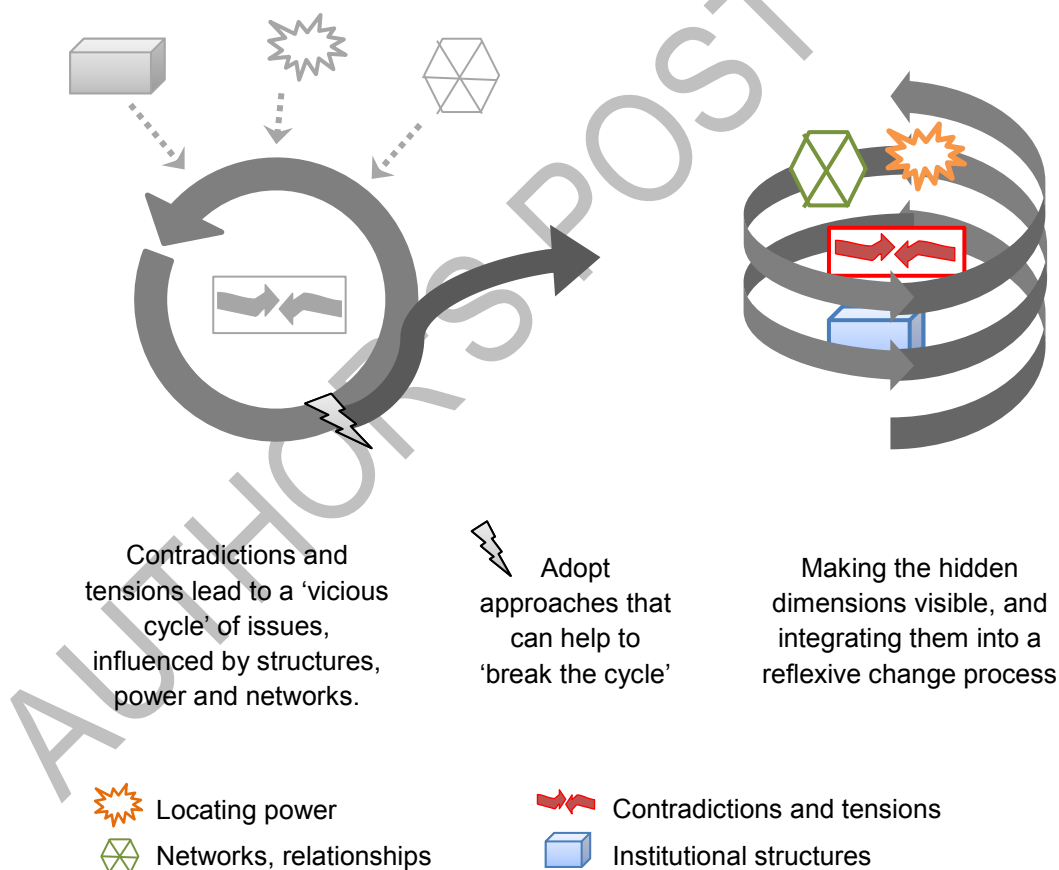


Figure 3: Diagram of the hidden complexities of organizational change for sustainability generated by contradictions and tensions and influenced by power, networks and institutional structures.

5. Discussion

A number of the issues explored in the synthesis above relate to existing work in SHE as well as the research on HE institutions and sustainability transitions. The findings from meta-ethnography lead us to discuss the main implications for researchers and practitioners: recognizing tensions and contradictions through reflexive practice, the importance of dialogue, supporting individuals and flexible structures and management approaches, and moving towards 'double loop' learning.

The contradictions and tensions mentioned above lead to a number of challenges for practitioners and researchers. The importance of collaborative and participatory approaches in SHE work is widely recognized (Brinkhurst et al., 2011; Lozano, 2006; Sharp, 2002), and competitive initiatives are also increasingly used in practice (e.g. NUS, 2013). The meta-ethnography suggests that both are important. But in order to avoid reinforcing contradictions and barriers, as researchers and practitioners, we need to be mindful of the discourses of collaboration and competition that are used in SHE initiatives and be transparent about how they relate to each other. Furthermore, the tension between emphasizing an individual's contribution and the need to encourage a broad ownership of sustainability can be challenging for practitioners. This is also apparent in the reliance on input from 'sustainability experts' when carrying out research on SHE (see for example Granados-Sánchez et al., 2012; Krizek et al., 2012; Moore, 2005b). Being open about these tensions may reveal where we are not 'walking the talk', but can also help to identify opportunities to do so.

The synthesis also highlights the importance of having committed individuals who are able to deal with conflicting priorities – at least for a period of time. This issue is not new in the literature: Walter Leal Filho commented in 1999 that education and spreading the word about sustainability in HE "is usually left to one or two enthusiastic members of staff" (1999). Furthermore, such 'champions' or 'committed individuals' often lead change and are essential to developing sustainability within their institutions (Barlett and Chase, 2004). More widely, having 'front runners' and people who think 'out of the box' is also deemed essential for any transition to sustainability (Loorbach and Rotmans, 2010). While recognizing their importance, our analysis of the underlying complexities in change processes leads us to suggest that those 'committed' people may not be the only ones interested in taking part: pressures and tensions mean that only those who are willing to take risks, not take no for an answer, or are very passionate and extrovert about related issues will carry on while 'the others' (who are invisible in most accounts of organizational change for SHE) give up or hold back their engagement. Furthermore, the self-selecting involvement of 'champions' shapes our vision of 'who does sustainability' and how change processes are supported. If the visible 'champions' take action successfully, then those tensions and pressures that apply to all individuals in the institution could end up being overlooked, leading to a fundamentally unsustainable model for change. This not only suggests the need to support committed individuals who can overcome tensions, but to think about more systemic approaches to addressing these in order to develop more inclusive and resilient processes.

The importance of perception was also a central theme in the meta-ethnography, specifically linked to how people perceive power to affect change. Alvesson suggest that power can often be 'invisible' in organizations, leading to issues of power being ignored (2002). Issues of power and politics are rarely addressed in stories about institutional change for SHE, perhaps in an effort to construct more positive accounts. But our synthesis suggests that the presence and perception of power has an important role in constructing how change takes place, and who gets involved: even though individuals and groups in all parts of the institution can have 'power', much of the explicit references to 'powerful people' tend to be aligned with existing power structures in universities. Where the two meet, and power in sustainability arenas gains a public profile, sustainability initiatives can become political, leading to enhanced competition and territoriality. This was also identified in Rodrigo Lozano's work on institutionalizing sustainability in universities, where visible power struggles become a drain on resources that could otherwise be spent on implement initiatives (Lozano, 2006). But our analysis highlights the fact that we need to examine both the visible and invisible aspects of power, as there seems to be a mismatch between how people talk about their or others' involvement in change

process and the visible discourse of power. This could help to make such processes less 'politically naïve' (Alvesson, 2002), and move away from the idea that power is 'held' by certain people towards understanding that it is a "characteristic of human relating" (Shaw, 2002).

The way in which people see and tell stories about the institution and their place within it mediates their ability to act or take part in sustainability programs: Barlett and Chase suggest that "opportunities for leadership and possibilities for change have more to do with how one sees oneself within an institution and in relation to others there than the position one holds" (2004: 5). Within HE, there is a recognition that organizational 'histories' are central to the construction of organizational cultures, and if we consider the process of change for sustainability to be a social movement (Uhl, 2004) or a process of cultural change, then we should consider the importance of such accounts more closely, and be reflexive, as a field, about the power of stories to help achieve change. This would also enable us to be more transparent about the different and potentially contradictory discourses of sustainability that are used in change processes (Hugé et al., 2013). Thus, we suggest that individuals and groups should be encouraged to reflect on their own place within the institution, where power is located and what it means, through meaningful dialogue, allowing them to engage more meaningfully with sustainability initiatives. However, it is unlikely that reflexive practices alone will be able to address issues related to power and how where it is perceived to be: networks and institutional structures also mediate people's access and engagement with sustainability initiatives.

The synthesis highlights that structures can be useful and tend to be necessary in transition phases, but that there are also tensions between the different types of structures used (rigid and flexible, formal or informal). In many cases, formal structures lack the flexibility needed for cross-boundary and collaborative work, and it can be difficult for informal structures to be seen as important. This points to a systemic issue in SHE work; the problem of 'unsustainable structures' was also identified by a group of 200 SHE researcher-practitioners as a priority barrier to address in universities' transformation towards sustainability – one that they could not identify any solutions for (Granados-Sánchez et al., 2012). Based on our synthesis, we suggest that structures need to be multiple, and developed and managed in ways that allow flexibility, where they support (not govern) processes of change and value different types of leadership. In terms of organizational learning, this points to a need to move beyond reactive (single-loop) solutions – creating new committees to address an issue – towards questioning assumptions about boundaries, values and competencies (double-loop learning) – such as questioning the usefulness of existing types of structures (Boyce, 2003). Transition management scholars also advocate for flexibility and context-specific approaches, that may allow us to be better prepared for the unexpected (Loorbach and Rotmans, 2010). An example of this could be what Holmberg and colleagues (2012) refer to as a 'neutral arena' to support transformation towards sustainability.

Finally, the meta-ethnographic approach allows us to develop a cultural understanding of SHE by exploring the detail of organizational change processes across a number of case studies. It suggests that many of the contradictions and tensions found stem from organizational cultures as well as characteristics and worldviews of individuals within the organization. Drawing on work on organizational culture in HE, it may be worth exploring how institutional cultures relating to sustainability are shaped within institutions through collective processes that interact with and potentially influence individuals' values and worldviews (Trowler, 2008).

6. Conclusions and recommendations

This meta-ethnography draws together experiences from different universities to help shape our understanding of how processes of change for SHE emerge and take place. We identified nine themes that weave a complex web of interlinking issues. When taken together, the themes highlight a number of contradictions and tensions between different structures, cultures and behaviors, usually emerging due to the multi-level and cross-boundary nature of sustainability initiatives. These contradictions and tensions often lead to a number of issues such as a lack of clarity in roles and responsibilities, 'burn-out' from committed individuals, 'double jeopardy' situations, lack of

engagement, potentially dissonant discourses of collaboration and competition, enhanced territoriality and disjointed structures. These issues are further influenced by structures, networks and relationships, and power in the institution. For instance, the multiple locations of power may enhance lack of clarity, and the phenomenon of 'pointing at power' can undermine efforts for developing a sense of collective responsibility. Furthermore, networks and relationships can include, as well as exclude individuals or groups who are not 'in the loop', influencing and emphasizing where power is located within the institution. Our synthesis shows that perceptions of where power is located have an important role in constructing cultures, discourses and action within our institutions, adding to current work in the field that alludes to the role of power in change processes for sustainability by bringing it above the surface.

This synthesis also brings to light those who are not mentioned in stories of change; the silent ones who may be interested but cannot or will not jeopardize their position under existing merit systems. We suggest that socially unsustainable contexts might have deeper roots, and that tensions are such that only 'committed individuals' end up taking part. This means that less people may take part overall, and a discourse of 'experts' often emerges, which can lead to complacency and lack of collective responsibility.

If we want to move towards real transformation for sustainability and practicing what we preach, then we have to bring such challenges to light and address them more openly. Being more transparent also helps us to be less politically naïve about change processes, which are imbued with power and politics. The synthesis of the themes leads us to suggest a number of implications for research and practice in SHE. First, we need for more individual and collective reflexivity in our institutions and research – through genuine dialogue – reflecting on who is engaged with change processes and why, and acknowledging the multiple sustainability 'cultures' within a university. In addition to supporting individuals, it would be useful to start to address hidden contradictions and tensions that impact on individual and collective involvement. The 'human' dimensions of organizational change processes must also be accompanied by flexible and human-centered structures and management approaches, and a move towards 'double loop' organizational learning.

This paper provides the first example of a meta-ethnographic synthesis of case studies in the field, and we would invite further research to build on the themes and issues identified in this meta-ethnography, developing a critical understanding of the discourses that are encouraged, supported and developed within our institutions: who takes part in them, why, and how. We would also like to continue to develop theoretical links with current work in organizational learning and socio-cultural approach to organizational culture, as these might also help to develop more nuanced understandings of organizational change processes. Finally, there is a clear need for telling positive stories of change as these help drive such processes. We invite practitioners and researchers to continue to share stories – but ones that are positive *as well as* challenging, situated and that account for issues of politics, power, interpersonal relationships and conflicting structures. Sometimes it is only when things are drawn above the surface, contested and debated that they can be truly addressed.

7. References

- Allen, A., 1999. Institutional change and leadership in greening the campus, in: Leal Filho, W. (Ed.), Sustainability and university life. Peter Lang, Frankfurt, pp. 105-127.
- Alvesson, M., 2002. Understanding Organizational Culture. Sage, London.
- Bardati, D.R., 2006. The integrative role of the campus environmental audit: experiences at Bishop's University, Canada. International Journal of Sustainability in Higher Education 7, 57-68.
- Barlett, P., Chase, W., 2004. Sustainability on campus: stories and strategies for change. MIT Press, Massachusetts.
- Barlett, P.F., 2008. Reason and reenchantment in cultural change: sustainability in higher education. Current Anthropology 49, 1077-1098.

- Barth, M., Rieckmann, M., 2013. Current Trends and Approaches in Research in Higher Education for Sustainable Development – an International Literature Review from 1992-2012, ERSCP - EMSU Conference, Istanbul.
- Barth, M., Thomas, L., 2012. Synthesising case-study research – ready for the next step? . *Environmental Education Research* 18, 751-764.
- Becher, T., 1989. *Academic tribes and territories: intellectual enquiry and the cultures of disciplines*. The Society for Research into Higher Education and Open University Press, Buckingham.
- Blake, J., Sterling, S., 2011. Tensions and transitions: effecting change towards sustainability at a mainstream university through staff living and learning at an alternative, civil society college. *Environmental Education Research* 17, 125-144.
- Boyce, M.E., 2003. Organizational learning is essential to achieving and sustaining change in higher education. *Innovative Higher Education* 28, 119-136.
- Brinkhurst, M., Rose, P., Maurice, G., Ackerman, J.D., 2011. Achieving campus sustainability: top-down, bottom-up, or neither? *International Journal of Sustainability in Higher Education* 12, 338-345.
- Broadbent, J., Laughlin, R., Alwani-Starr, G., 2010. Steering for Sustainability. *Public Management Review* 12, 461-473.
- Campbell, R., Pound, P., Morgan, M., Daker-White, G., Britten, N., Pill, R., Yardley, L., Pope, C., Donovan, J., 2011. Evaluating meta-ethnography: systematic analysis and synthesis of qualitative research, *Health Technology Assessment* p. 43.
- Charmaz, K., 2000. Grounded theory: objectivist and constructivist methods, in: Denzin, N.K., Lincoln, Y.S. (Eds.), *Handbook of qualitative research*, 3rd ed. Sage Publications, Thousand Oaks, CA, pp. 509-536.
- Clugson, R.M., 2004. Foreword, in: Corcoran, P.B., Wals, A.E.J. (Eds.), *Higher education and the challenge of sustainability: problematics, promise, and practice*. Kluwer Academic Publishers, Dordrecht, pp. ix-xi.
- Corcoran, P.B., Walker, K.E., Wals, A.E.J., 2004. Case studies, make-your-case studies, and case stories: a critique of case-study methodology in sustainability in higher education. *Environmental Education Research* 10, 7-21.
- Doyle, L.H., 2003. Synthesis through meta-ethnography: paradoxes, enhancements, and possibilities. *Qualitative Research* 3, 321-344.
- Du Pisani, J.A., 2006. Sustainable development – historical roots of the concept. *Environmental Sciences* 3, 83-96.
- Eisen, A., Barlett, P., 2006. The Piedmont Project: fostering faculty development toward sustainability. *Journal of Environmental Education* 38, 25-36.
- Escrigas, C., 2012. Foreword: sustainability and knowledge in contemporary society, in: GUNi, G.U.N.f.l. (Ed.), *Higher Education in the World 4: Higher Education's Commitment to Sustainability: from Understanding to Action*. Palgrave Macmillan, Basingstoke, pp. xxv-xix.
- Ferrer-Balas, D., Buckland, H., de Mingo, M., 2009. Explorations on the University's role in society for sustainable development through a systems transition approach. Case-study of the Technical University of Catalonia (UPC). *Journal of Cleaner Production* 17, 1075-1085.
- Granados-Sánchez, J., Wals, A., Ferrer-Balas, D., Waas, T., Imaz, M., Nortier, S., Svanström, M., Van't Land, H., Arriaga, G., 2012. Sustainability in higher education: moving from understanding to action, breaking barriers for transformation, in: (GUNi), G.U.N.f.l. (Ed.), *Higher Education in the World 4: Higher Education's Commitment to Sustainability: from Understanding to Action*. Palgrave Macmillan, Basingstoke, pp. 193-207.
- Gudz, N.A., 2004. Implementing the sustainable development policy at the University of British Columbia: An analysis of the implications for organisational learning. *International Journal of Sustainability in Higher Education* 5, 156-158.
- Holmberg, J., Lundqvist, U., Svanström, M., Arehag, M., 2012. The university and transformation towards sustainability: The strategy used at Chalmers University of Technology. *International Journal of Sustainability in Higher Education* 13, 219-231.
- Huckle, J., 2004. Critical realism: a philosophical framework for higher education for sustainability, in: Corcoran, P.B., Wals, A.E.J. (Eds.), *Higher Education and the Challenge of Sustainability: Problematics, Promise, and Practice*. Kluwer Academic Publishers, Dordrecht pp. 33-46.
- Hugé, J., Waas, T., Dahdouh-Guebas, F., Koedam, N., Block, T., 2013. A discourse-analytical perspective on sustainability assessment: interpreting sustainable development in practice. *Sustain Sci* 8, 187-198.
- James, M., Card, K., 2012. Factors contributing to institutions achieving environmental sustainability. *International Journal of Sustainability in Higher Education* 13, 166-176.
- Kemp, R., Martens, P., 2007. Sustainable development: how to manage something that is subjective and never can be achieved? . *Sustainability: Science, Practice, & Policy* 3, 5-14.

- Kezar, A., 2005. What campuses need to know about organizational learning and the learning organization. *New Directions for Higher Education* 131, 7-22.
- Koester, R.J., Eflin, J., Vann, J., 2006. Greening of the campus: a whole-systems approach. *Journal of Cleaner Production* 14, 769-779.
- Krizek, K.J., Newport, D., White, J., Townsend, A.R., 2012. Higher education's sustainability imperative: how to practically respond? *International Journal of Sustainability in Higher Education* 13, 19-33.
- Kurland, N.B., 2011. Evolution of a campus sustainability network: a case study in organizational change. *International Journal of Sustainability in Higher Education* 12, 395-429.
- Leal Filho, W., 1999. Sustainability and university life. Peter Lang, Frankfurt.
- Lele, S., Norgaard, R.B., 1996. Sustainability and the scientist's burden. *Conservation Biology* 10, 354-365.
- Lélé, S.M., 1991. Sustainable development: A critical review. *World Development* 19, 607-621.
- Loorbach, D., 2009. Transition management for sustainable development: a prescriptive, complexity-based governance framework. *Governance* 23, 161-183.
- Loorbach, D., Rotmans, J., 2010. The practice of transition management: Examples and lessons from four distinct cases. *Futures* 42, 237-246.
- Lozano-García, F.J., Huisingh, D., Delgado-Fabián, M., 2009. An interconnected approach to incorporate sustainable development at Tecnológico de Monterrey. *International Journal of Sustainability in Higher Education* 10, 318-333.
- Lozano, R., 2006. Incorporation and institutionalization of SD into universities: breaking through barriers to change. *Journal of Cleaner Production* 14, 787-796.
- Lozano, R., Lukman, R., Lozano, F.J., Huisingh, D., Lambrechts, W., 2013. Declarations for sustainability in higher education: becoming better leaders, through addressing the university system. *Journal of Cleaner Production* 48, 10-19.
- Major, C.H., Savin-Baden, M., 2010. An introduction to qualitative research synthesis: managing the information explosion in social science research. Routledge, Oxon.
- Moore, J., 2005a. Barriers and pathways to creating sustainability education programs: policy, rhetoric and reality. *Environmental Education Research* 11, 537-555.
- Moore, J., 2005b. Seven recommendations for creating sustainability education at the university level: A guide for change agents. *International Journal of Sustainability in Higher Education* 6, 326-339.
- Moore, J., Pagani, F., Quayle, M., Robinson, J., Sawada, B., Spiegelman, G., Van Wynsberghe, R., 2005. Recreating the university from within: Collaborative reflections on the University of British Columbia's engagement with sustainability. *International Journal of Sustainability in Higher Education* 6, 65-80.
- Nielsen, K.A., Elling, B., Figueroa, M., Jelsoe, E., 2010. A new agenda for sustainability. Ashgate Publishing Ltd, Farnham.
- Noblit, G.W., Hare, R.D., 1988. *Meta-ethnography: synthesising qualitative studies*. Sage, Newbury Park, CA.
- NUS, 2013. *Green Impact*.
- Orr, D.W., 1995. Educating for the environment: higher education's challenge of the next century. *Change* 27, 43-46.
- Orr, D.W., 2004. Can educational institutions learn? The creation of the Adam Joseph Lewis Centre at Oberlin College, in: Barlett, P., Chase, W. (Eds.), *Sustainability on campus: stories and strategies for change*. MIT Press, Massachusetts, pp. 159-175.
- Rametsteiner, E., Puelzl, H., Alkan-Olsson, J., Frederiksen, P., 2011. Sustainability indicator development: Science or political negotiation? *Ecological Indicators* 11, 61-70.
- Saadatian, O., Salleh, E.I., Tahir, O.M., Dola, K., 2009. Observations of Sustainability Practices in Malaysian Research Universities: Highlighting Particular Strengths. *Pertanika Journal of Social Science and Humanities* 17, 293-312.
- Senge, P.M., 1992. *The fifth discipline*. Century Business, London.
- Senge, P.M., 2000. The academy as a learning community: contradiction in terms of realizable future?, in: Lucas, A. (Ed.), *Leading academic change: essential roles for department chairs*. Jossey-Bass, San Francisco.
- Sharp, L., 2002. Green campuses: the road from little victories to systemic transformation. *International Journal of Sustainability in Higher Education* 3, 128-145.
- Shattock, M., 1983. *The structure and governance of higher education*. Society for Research into Higher Education, Surrey, UK.
- Shaw, P., 2002. *Changing Conversations in Organizations*. Routledge, Abingdon.

- Stephens, J.C., Graham, A.C., 2010. Toward an empirical research agenda for sustainability in higher education: exploring the transition management framework. *Journal of Cleaner Production* 18, 611-618.
- Sterling, S., 2004. Higher education, sustainability and the role of systemic learning, in: Corcoran, P.B., Wals, A.E.J. (Eds.), *Higher education and the challenge of sustainability: problematics, promise, and practice*. Kluwer Academic Publishers, Dordrecht.
- Trowler, P., 2008. *Cultures and change in higher education: theories and practice*. Palgrave Macmillan, Basingstoke.
- Uhl, C., 2004. Process and practice: creating the sustainable university, in: Barlett, P., Chase, W. (Eds.), *Sustainability on Campus: Stories and Strategies for Change*. MIT Press, Massachusetts, pp. 29-47.
- Velazquez, L., Mungia, N., Sanchez, M., 2005. Deterring sustainability in higher education institutions: An appraisal of the factors which influence sustainability in higher education institutions. *International Journal of Sustainability in Higher Education* 6, 383-391.
- Velazquez, L., Mungia, N., Platt, A., Taddei, J., 2006. Sustainable university: what can be the matter? *Journal of Cleaner Production* 14, 810-819.
- Waas, T., Hugé, J., Verbruggen, A., Wright, T., 2011. Sustainable Development: A Bird's Eye View. *Sustainability* 3, 1637-1661.
- Wright, T., 2004. The evolution of sustainability declarations in higher education, in: Corcoran, P.B., Wals, A.E.J. (Eds.), *Higher education and the challenge of sustainability: problematics, promise, and practice*. Kluwer Academic Publishers, Dordrecht, pp. 7-20.
- Wright, T., 2007. Developing research priorities with a cohort of higher education for sustainability experts. *International Journal of Sustainability in Higher Education* 11, 61-73.
- Wright, T., 2010. University presidents' conceptualizations of sustainability in higher education. *International Journal of Sustainability in Higher Education* 11, 61-73.
- Wright, T., Pullen, S., 2007. Examining the Literature: A Bibliometric Study of ESD Journal Articles in the Education Resources Information Center Database. *Journal of Education for Sustainable Development* 1, 77-90.
- Wright, T., Wilton, H., 2012. Facilities management directors' conceptualizations of sustainability in higher education. *Journal of Cleaner Production* 31, 118-125.