

# **Making it personal: Developing sustainability leaders in business**

*Aoife Brophy Haney, Group for Sustainability and Technology, ETH Zurich\**

*Jenny Pope, Edith Cowan University and Integral Sustainability, Western Australia and*

*North-West University, South Africa*

*Zoë Arden, University of Cambridge Institute for Sustainability Leadership, UK*

\* Corresponding author:

ETH Zurich

Department of Management, Technology, and Economics

Weinbergstrasse 56/58, CH-8092 Zurich, Switzerland

abrophy@ethz.ch

Phone: +41 44 632 98 78

## **Abstract**

Sustainability challenges present organizations in many industries with the need to change. Leaders are critical to the process of becoming more sustainable, and yet leading change for sustainability requires new competencies. Learning at an individual level is central to developing new competencies, however there has been limited focus to date in the literature on corporate sustainability on how leaders can learn to respond to sustainability challenges. In this paper, we focus on how managers learn to become sustainability leaders in their organizations by exploring the phenomenon of experiential learning programmes. We do this by interviewing participants and organizers of four programmes about what they learned and how the programmes helped them to achieve these learning outcomes. We find that the programmes supported the development of understanding, personal connection and empowerment to act for sustainability. In particular, making sustainability personal for participants led to deep learning in each of these three areas. We contribute to conversations in the corporate sustainability literature on the potential for individuals within organizations to respond to and connect with sustainability issues in different ways. We also contribute to the literature on education for sustainability and provide practical implications for experiential learning programmes in business and business education.

Keywords: corporate sustainability; corporate social responsibility; learning; sustainability leadership; experiential learning

## Introduction

Corporate sustainability confronts business with the challenge of addressing not just commercial but also environmental and social goals (Goleman & Lueneburger, 2010). Leaders are crucial to the process of organizational change that is needed for organizations to become more sustainable (Eccles & Perkins, 2012). But there is increasingly acknowledgement that addressing complex sustainability challenges requires the development of new leadership skills and attributes (Barth, Godemann, Rieckmann, & Stoltenberg, 2007; Osagie, Wesselink, Blok, Lans, & Mulder, 2016; Ploum, Blok, Lans, & Omta, 2017; Rieckmann, 2012). Although there has been some recent research on how university programmes can be designed to develop sustainability skills (Hesselbarth & Schaltegger, 2014), there has been less focus on the attainment of skills for sustainability in business. In this article, we explore the particular phenomenon of experiential learning programmes designed for sustainability professionals from the business world, in order to understand how these programmes support managers to become effective sustainability leaders in their organizations.

The interdependence of economic, environmental and social objectives at the heart of corporate sustainability requires an expansive view of the role of business in society (Bondy, Moon, and Matten, 2012; Gitsham, 2012; Quinn and Dalton, 2009). According to this view, the financial or economic imperative of business is intertwined with the inter-related challenges of: “(1) long-term viability of natural systems and the services they provide for human existence; (2) unacceptable social conditions at home and in communities around the world; and (3) the potential for local and global economies to create a modicum of wealth and prosperity for all inhabitants of the earth” (Ferdig, 2007, p.26). These challenges have significant implications for leaders charged with setting the strategic direction of their organizations in response (Coleman, 2013). Firstly, combining these different goals is

challenging for leaders in business because there are often many tensions involved. For example, as well as tensions between competing goals (Margolis and Walsh 2003) there are tensions between the traditional short-term focus of managerial decision-making and the long-term focus that firms are increasingly expected to exhibit in order to respond to big societal challenges such as climate change (Bansal and Slawinski, 2012; Craig, 2013; Hahn et al., 2014). Secondly, sustainability challenges are often categorized as ‘wicked problems’, that is they are complex, ill-defined and do not have clear solutions (Lans, Blok, & Wesselink, 2014). Hence management approaches grounded in learning from past experiences to predict and control the future are increasingly found to be inadequate (Ferdig, 2007; Rieckmann, 2012; Sterling, 2011; Wesselink, Blok, van Leur, Lans, & Dentoni, 2015), because knowledge structures based on past experience may be too rigid to allow for innovative alternatives to be recognized (Benner and Tripsas, 2012; Tripsas and Gavetti, 2000). Thirdly, dealing with these challenges requires engagement with multiple stakeholders with different views, values and perceptions not only of the problem (Lans et al., 2014), but of the desirable goals or objectives (Goleman & Lueneburger, 2010).

In the face of these challenges, it is increasingly recognized that leadership that engages with sustainability and seeks to promote sustainability outcomes through business activities, often referred to as ‘sustainability leadership’ (Visser & Courtice, 2011), is both crucial (Eccles & Perkins 2012; Gloet, 2006), and different from traditional business leadership (Gitsham, 2012; Martin & Ernst, 2005). The role of the individual business leader in sustainability has received much less focus in the literature than institutional and organizational dimensions (Aguinis & Glavas, 2012). But there is increasing focus on individual managers and a recognition that it is important to understand the challenges they face (Allen, Marshall, & Easterby-Smith, 2015), as well as the potential they represent within their organizations to think and act differently in response to sustainability (Hahn & Aragón-

Correa, 2015). Businesses are also clearly recognizing the important role that informed, motivated and empowered business leaders can play in driving change for sustainability through sponsoring their participation in experiential learning programmes. In fact, many organizations are now turning to intensive, field-based training programmes designed to support sustainability leadership. These programmes, often described as ‘experiential learning programmes’ (ELPs) (Baden & Parkes, 2013), are based on bringing participants close to sustainability issues and providing opportunities to engage with a wide range of people with different perspectives (Gitsham, 2012). Most research on field-based learning has focused on contexts such as schools and universities or professions such as nursing and teaching (Kolb and Kolb, 2005; Quinn, 2000). Bringing business leaders into the field to develop sustainability leadership has only recently started to receive attention. There has been little research to date that has sought to understand how and to what extent ELPs support managers in developing the competencies needed for sustainability leadership (Gitsham, 2012). Developing a better understanding of ELPs can also contribute to general conversations in the literature about the potential of individual leaders to address sustainability within their organizations, and the educational means through which to support this potential (Hahn & Aragón-Correa, 2015; Sharma & Hart, 2014; Shrivastava, 2010).

In this article, we analyze the experiences of managers from a range of different organizations who have participated in ELPs for sustainability leadership, as well as the perspectives of some of the organizers of these programmes. Our research is based on a series of semi-structured interviews to explore firstly what managers learned and secondly how this learning occurred. We ask: *How do experiential learning programmes support the development of sustainability leadership?* In the following section we review the key literature on competencies for sustainability leadership, and learning and education for sustainability. We draw on this literature to articulate the characteristics of effective ELPs for

sustainability leadership. In the subsequent section we illustrate how the programmes selected for this research reflect these characteristics, and we explain our research methodology in more detail. We then show in the results section first the learning outcomes of the programmes, and secondly how learning occurred, as experienced by participants. Finally, we discuss our findings in the context of the literature on sustainability leadership and corporate sustainability more broadly.

## **Theoretical Background**

### *Competencies for Sustainability leadership*

Much of the literature on the attributes of sustainability leaders is focused on the competencies such leaders require. The term ‘competency’ has been used to mean different things in different contexts (Barth et al., 2007; Wesselink et al., 2015), and several different schools of thought can be distinguished (Osagie et al., 2016). There is broad agreement, however, that a comprehensive perspective of competency includes more than just cognitive and functional dimensions such as skills and knowledge, but also embraces attitudes, motives, values and ethics (Barth & Michelsen, 2013; Hesselbarth & Schaltegger, 2014; Osagie et al., 2016; Ploum et al., 2017; Rieckmann, 2012; Svanström, Lozano-García, & Rowe, 2008; UNESCO, 2017; Visser & Crane, 2010; Wesselink et al., 2015). In this paper we follow Wiek, Withycombe, and Redman (2011, p.204) to define a competency as “a functionally linked complex of knowledge, skills, and attitudes that enable successful task performance and problem solving”. The purpose of the competency is then clearly linked to a task or problem, in our case related to sustainability.

In their discussion of sustainability leadership, Visser and Crane (2010) also emphasize the importance of personality traits and leadership styles. Arguably these softer, more intangible dimensions are particularly important for sustainability leadership since

sustainability is essentially a values-driven concept (Barth & Michelsen, 2013; Frisk & Larson, 2011). It is noted that the development of an ethical imperative, motivation (Sinatra, Kardash, Taasoobshirazi, & Lombardi, 2012) or ‘moral emotion’ (Ferdig, 2007; Sekerka & Stimel, 2012) to act for sustainability is often associated with a particular value set (Svanström et al., 2008), reflecting “more ethical and more responsible values” (Linnenluecke and Griffiths, 2010, p.358). Gaining competence for sustainability therefore involves both cognitive and practical development in the form of ability to deal with increasing complexity, and the learning of values and ongoing reflection on these (Barth & Michelsen, 2013; Savage, Tapics, Evarts, Wilson, & Tirone, 2015).

While there have been numerous studies seeking to identify competencies for sustainability, Ploum et al. (2017) point out that many of these are conceptual in nature and specifically seek to inform the higher education sector (Barth et al., 2007; Rieckmann, 2012; Wiek et al., 2011). For example Wiek et al. (2011) identify five core competencies they believe are required to address sustainability challenges and solve complex multi-dimensional problems, namely systems thinking (“the ability to collectively analyze complex systems across different domains...and across different scales”, p.207); anticipatory (“the ability to collectively analyze, evaluate, and craft rich “pictures” of the future related to sustainability issues and sustainability problem-solving frameworks” pp.207 and 209); normative (“the ability to collectively map, specify, apply, reconcile, and negotiate sustainability values, principles, goals, and targets”, p.209); strategic (“the ability to collectively design and implement interventions, transitions, and transformative governance strategies toward sustainability”, p.210); and interpersonal (“the ability to motivate, enable, and facilitate collaborative and participatory sustainability research and problem solving”, p.211) competencies. In recent years a number of studies have been undertaken specifically within a professional context (Hesselbarth & Schaltegger, 2014; Lans et al., 2014; Osagie et al., 2016;

Wesselink et al., 2015). These studies are reviewed by Ploum et al. (2017) who find three competencies common to the four studies: strategic (management) competence, systems thinking competence, and interpersonal competence.

What is notable about these contributions, which have proliferated in recent years, is that the resulting lists of competencies are remarkably similar regardless of whether they are conceptual or empirical, or whether focused on the higher education or business sectors. They all tend to include both core competencies for sustainability and competencies related to management skills, many of which are similar to the leadership competencies articulated by Martin and Ernst (2005) for leadership in times of paradox and complexity more generally. Osagie et al. (2016) suggest that many of the competencies described in the literature are somewhat instrumental and underplay the importance of ethics. Based on their empirical study of corporate social responsibility (CSR) professionals within business they emphasize the importance of ‘personal value-driven competencies’ relating to the ability to apply personal ethics to a business situation and to “strike an appropriate balance between idealism and pragmatism” (p.243). They also emphasize the importance of motivation or “the moral transformation from a passive attitude with respect to sustainability issues into an active and engaged attitude”(p.249) . This perspective is strongly aligned with the views of Ferdig (2007), Sekerka and Stimel (2012); Linnenluecke and Griffiths (2010) and Sinatra et al. (2012) discussed previously in relation to the importance of motivation, moral emotion and ethical imperative in sustainability leadership

#### *Learning and education for sustainability leaders*

Sustainability leadership then requires not only the development of cognitive and functional competencies but also values-oriented competencies that help leaders to engage with sustainability issues. Accordingly, there have been calls for new kinds of education for

sustainability, as evidenced by the United Nations' Decade of Education for Sustainability (2005-2015) and the tertiary education sector has been the hub of research in this area (see for example Barth et al., 2007; Sipos, Battisti, & Grimm, 2008; Sterling, 2011; Svanström et al., 2008). The education for sustainability literature reports of various pedagogical approaches designed to develop the knowledge, skills and values required by sustainability leaders, including active and problem-based learning (MacVaugh & Norton, 2012); authentic problems, learning cycles, shared inquiry, transdisciplinarity, exploration and engagement (Hull, Kimmel, Robertson, & Mortimer, 2016); and encouraging critical and reflective thinking about sustainability paradigms (Stubbs & Cocklin, 2008). While these and other similar contributions emphasize the importance of personal values for sustainability, this approach has also been challenged by those who believe that universities are not the place for the 'moral agenda' (Butcher, 2007). This debate aside, the consensus in this body of work is that education for sustainability requires less of a transfer of information from educator to student, and more of a process of student-centred personal development or transformation based upon experiential learning (Savage et al., 2015). The ELPs that are the subject of our research embody similar pedagogical philosophies but are targeted at business professionals rather than students. In this section we briefly review two key bodies of work in the education for sustainability field: 'experiential learning' and 'transformative learning'. While neither of these terms has clear and commonly accepted definitions, we see key aspects of each reflected in the ELPs that are the focus of our research.

'Experiential learning' is often equated with learning that is learner-centred and based on real-life experience or practical 'learning by doing' (e.g. Barth & Michelsen, 2013; Dieleman & Huisinigh, 2006; Gitsham, 2012). Illeris (2007) provides a useful review of the concept of experiential learning, exploring how it can be distinguished from non-experiential learning. He notes that while many discussions on the topic refer back to the work of Kolb

(1984) and his experiential learning cycle of concrete experience, reflective observation, abstract conceptualization, and active experimentation, in fact Kolb himself concluded that all learning is experiential.

Illeris posits that three dimensions comprise all forms of learning on a spectrum from non-experiential to experiential: “the content dimension of knowledge, understandings, skills, abilities, attitudes and the like, the incentive dimension of emotion, feelings, motivation and volition, and the social dimension of interaction, communication and cooperation—all of which are embedded in a societally situated context” (pp.87-88), arguing that experiential learning occurs when the three dimensions are in balance. This conceptualization echoes the literature discussed in the previous section by emphasizing that incentive is as important as the development of skills and knowledge in learning. Illeris’ content and incentive also have some resonance with Dieleman and Huisinigh (2006)’s comprehension and apprehension, where the former is cognitive (right brain) and the latter involves “the tangible and felt qualities of the immediate situation” (p.838) (left brain).

‘Transformation’ through ‘transformative learning’ is similarly a common theme in the sustainability education literature, where it is argued that it is essential to shift learners from their current ways of thinking into a new way of seeing the world (Sipos et al., 2008; Sterling, 2011; Wals & Corcoran, 2006). As discussed in the previous section, particular values, attitudes, motivations, frames and ethical positions are often argued to be essential to sustainability leadership. Learning is thus understood not just as the development of competencies “within existing (mental) frameworks, norms, policies and rules” (Tosey, Visser, & Saunders, 2011, p.292) but a process that challenges and ultimately changes these mental frameworks (or frames to use the language of the previous section), norms and policies, in a process that has been called ‘conceptual change’ (Pintrich, Marx, & Boyle, 1993). For example, Argyris and Schön (1996) refer to single- and double-learning<sup>i</sup>, which is

analogous to Glasbergen's distinction between technical and conceptual learning (Glasbergen, 1996). Others go beyond this dichotomy to distinguish a broader range of learning types. For example (Sterling, 2011) presents a hierarchy of 'levels of knowing' ranging from actions at the simplest level, through ideas/theories, norms/assumptions, beliefs/values, paradigm/worldview, to metaphysics/cosmology at the most complex, with the implication that learning can occur in relation to each of these levels. Illeris (2007) argues that transformation is more likely when learning is experiential.

The notion of transformative learning is usually attributed to Jack Mezirow (e.g. Mezirow, 1990, 1997) who developed the concept over a period of thirty years or more (see Kitchenham, 2008 for a comprehensive review of Mezirow's work). While it is not always clear that the term 'transformative learning' is used consistently in the sustainability leadership literature or in line with Mezirow's conceptualization, the essential argument is that learning for sustainability needs to be considerably more profound than the simple acquisition of knowledge and skills, involving changes to attitudes, values, beliefs and frames (Wals, 2011), and that such transformation can be facilitated by experiential learning.

The learning literature suggests that transformation is often catalyzed by some form of uncomfortable experience: for example, Laws and Rein (2003) refer to 'uncertainty and doubt'; Sinclair and Diduck (2001) to a 'disorienting dilemma'; and van der Knaap (1995) to 'cognitive dissonance'. All of these allude to a process whereby learners somehow find themselves outside their comfort zone, in a position where their existing mental frameworks and beliefs cannot help in making sense of the situation, forcing a change at some level of understanding or value system. This process is the basis of learning models such as Otto Scharmer's Theory U (Scharmer & Senge, 2009), whose relevance to sustainability has been explored (van Lawick van Pabst & Visser, 2012), and is also sometimes conceptualized as 'sensemaking' (Maitlis & Christianson, 2014).

This process of learning or conceptual change is not a purely cognitive process: the seminal work of Pintrich et al. (1993) found an important role for motivation interacting with cognition in this form of learning in the classroom, which has come to be called the ‘warming trend’ within educational psychology. Other authors have explored the emotional dimension within transformative learning (Baden & Parkes, 2013; Coleman, 2013): for example, Gitsham (2012, p.300), argues “while cognitive learning approaches are valuable in raising awareness, emotional arousal through felt experience is crucial in moving from awareness to commitment to change” while Sipos et al. (2008) speak of the need to engage the heart as well as the head and hands.

### *Summary*

In summary, if we take as a starting point that sustainability leadership calls for the development of specific competencies that include not only knowledge and skills (cognitive and functional competencies), but also attitudes, motives, values and ethics, then experiential learning programmes (ELPs) for business leaders may be an appropriate way to catalyze such learning and facilitate the development of sustainability leadership. Following Illeris (2007), ELPs should have the content, incentive and social dimensions in balance in order to best achieve this goal. In the following section we introduce four programmes that aim to support the development of sustainability leaders and which demonstrate these characteristics but do not clearly articulate the learning outcomes in the form of sustainability leadership competencies. We begin by exploring the learning outcomes of the programmes from the perspectives of participants and organizers. We then explore how different aspects of the programmes encouraged the development of different learning outcomes.

## **Methods**

### *Context and data collection*

We use two main sources of data for our analysis. First, we conducted interviews with managers who participated in ELPs for sustainability leadership as well as some organizers of these ELPs. We chose two organizations that specialize in providing such programmes for companies, Leaders' Quest (LQ) and the UK charity Business in the Community (BITC), as well as two bespoke programmes designed specifically by training providers for multinational companies. The programmes run by LQ and BITC are the longest running experiential learning programmes in the UK focused on senior business leaders across multiple organizations. Including participants from both NGO-led and bespoke programmes allowed us to interview leaders across a range of different industries. It also allowed us to look for replication of our results in programmes with different types of organizers, or conversely to challenge some of our findings by comparing results across the programmes. We focused on senior managers in order to reduce the effect that hierarchy might have on our results.

LQ is a social enterprise committed to helping companies integrate social purpose with company performance. They do this primarily through the delivery of ELPs and have to date worked with over 6,000 business leaders. The quests take place over an average of 2 to 3 days but can be for as long as a week and take place all over the world. In terms of the aims of the programme, the LQ website (<https://leadersquest.org/about>) states, "We develop wise, compassionate and adept leaders – people who are capable of leading in fast-changing, disrupted environments with competing priorities and interconnected challenges".

BITC have two connected programmes with experiential components. BITC's Seeing is Believing (SIB) aims, according to their website, to close the gap between the boardroom and the community by giving senior business leaders a unique experiential learning opportunity: "The visits are designed to encourage participants to think strategically about the implications for their own business and the practical actions that can be taken in response,

leading to meaningful and sustained impact for both business and communities”

(<https://www.bitc.org.uk/programmes/princes-seeing-believing/about-programme#Works>)

Over 8,000 business leaders have participated in SIB. The programme consists of a half-day field trip to locations predominantly in the UK, for example prisons, homeless shelters and inner-city areas. The visits are led by a CEO already committed to the issue, supported by the SIB team. BITC’s Business Connectors programme was referenced several times during interviews with participants from SIB, leading us to extend interviews to participants of Business Connectors as well. The programme is aimed at mid-level managers who work on secondment full-time within local communities for 12 to 18 months.

In addition, we conducted a further seven interviews with participants and organizers of two multinationals who have developed bespoke training programmes with strong experiential elements. The Consumer Goods multinational uses extensive experiential training as a means of implementing its sustainability initiatives. The Mining multinational has a programme aimed at senior managers that aims to improve their competencies in engaging with host communities, i.e. the communities that live close to mining areas where the multinational is active.

For the LQ programme we interviewed the programme director and manager as well as four programme participants from different industries. For the BITC programmes we interviewed the director of SIB and seven programme participants (both SIB and Business Connectors) from different industries. In total, from all four programmes we conducted 20 interviews. Table 1 provides an overview of the interviewees for each programme. All of the interviewees had been on a programme in the previous 12 months, so the experience was relatively recent. The participants were chosen through snowball sampling, starting with the programme organizers and then programme participants. Some of those interviewed also

attended the programmes that one of the authors participated in which allowed for a combination of interview data and observations.

-----  
Insert Table 1 about here  
-----

The interviews were semi-structured and lasted between 45 and 90 minutes. They were conducted between October 2013 and July 2014. The questions focused on asking the participants to describe their participation in the experiential learning programme, to reflect on what they learned, and to talk about how they felt during the programme. For programme organizers, the questions focused on the programme goals and their assessment of the impacts on leaders' sustainability leadership competencies.

All of these programmes reflect the three dimensions that characterize experiential learning programmes as articulated by Illeris (2007): content, incentive and social. The approach common to all the programmes studied of taking business leaders outside their comfort zones to provide 'first hand experiences' (SIB) or 'a deep immersion in different environments and cultures' (LQ), aiming to give participants a deeper and more embodied understanding of sustainability challenges (content), while also motivating them to contribute to addressing these challenges (incentive). The opportunities for interaction with community and business leaders already working to make a difference, also contribute to inspiring participants to take action themselves (incentive) as well as connecting them to potential collaborators and partners (social).

The second main source of data is from one of the authors' participation in two experiential learning programmes. She participated in a LQ trip in May 2014 to Israel and Palestine, and in a SIB visit to Brixton Prison in March 2014. She took personal field notes of

her experiences and conducted informal interviews with participants during both programmes. We use these observations and informal interviews as a means of clarifying some of the insights from the interviews with programme participants and organizers.

### *Data analysis*

We analyzed the interview data in two stages, taking an inductive approach. Firstly, we identified the learning outcomes of the ELPs, as experienced and described by the participants themselves, with an emphasis on the non-cognitive aspects that have received limited empirical attention to date, variously described in the literature as changes in attitudes, motives, values, ethics, frames, mindsets, and paradigms. Secondly, we identified through the experiences of participants how these learning outcomes were supported by different aspects of the programmes.

### *Limitations*

There are several limitations of our study. Firstly, our exploration of what participants on these programmes learned and how they learned is based on self-reported accounts and memories, which may not be entirely accurate. While in some cases interviewees had completed their ELP very recently, in others there was a considerable time lag between the programme and the time the interviews were undertaken. Secondly, we have not attempted to determine whether or not the perceived learnings actually translate in the business context to competencies that support action for sustainability. This would require a separate follow-up study. Thirdly, we focus only on programmes run by organizations based in the UK which may limit the applicability of our findings to other cultural contexts. Further research on ELPs in other countries would be useful as a means of comparison. Finally, the participants who agreed to be interviewed tended to have a positive view of ELPs. Not everyone who attends the programmes, however, has such a view. Our focus on those who had positive

experiences allows us to understand the learning outcomes for those who were engaged in the programme but does not allow us to assess the success of the programmes per se. We acknowledge that there are weaknesses of ELPs including for example the difficulty of translating the experience from the programmes back into day-to-day activities. We encourage future research that assesses these weaknesses and compares ELPs to other forms of learning for sustainability leaders.

## Results

Our results from the first stage of the data analysis are summarized in Table 2. In the following sections, we describe each of the three categories of learning outcomes. We then describe how features of the ELPs supported each of these three categories.

-----  
Insert Table 2 about here  
-----

### Learning outcomes

The three main categories of learning outcomes we derived inductively from our data are: understanding; personal connection; and empowerment to act.

Understanding is the most prominent of the three categories and is focused on participants making sense of sustainability. At the most general level, the programmes offered an opportunity for participants to think about the connections between different aspects of sustainability, for example the social and the environmental, reflecting the systems thinking competency that features prominently in the literature (e.g. UNESCO 2017; Wiek et al 2011; Wesselink et al 2015). Other, more profound kinds of understanding also developed. For example, several participants talked about how the programme helped them to think about the connection between their own role and leadership in their organizations, and

sustainability issues. For instance, one of the participants on the Consumer Goods programme described how “this is the first time I have made the link between sustainability and my leadership” (CG 1). Linked to this is improved understanding of the role of participants’ organizations in tackling sustainability challenges. As one of the SIB programme organizers explained, part of the learning experience is for participants to “see practically how they can help” (BITC 7). For some participants this involved going beyond thinking about philanthropy as a way for their organization to get involved in the community, or reprioritizing the community and environment in their projects. Beyond their own businesses, participants were given a chance to understand what matters to different stakeholders including the community, customers, and the environment through interaction with these groups (the social component of the ELPs).

The second category, personal connection, manifests in participants feeling connected to their sense of self, to others in their organization or to certain sustainability issues. This personal connection allows participants to engage with sustainability in a deeper way than just understanding or even seeing the issues. Two of the Leaders’ Quest participants describe their experience of reconnecting with themselves through their participation in the programme. As one of the participants describes, “you tend to put layers of skin and protection and armor on yourself because the notion of what you think is needed in business, which is profit and management...are somehow unrelated to these things” (LQ 4). The other refers to “the fragmentation between the professional person and the private person and some people are really struggling with this”. (LQ 1). Both participants describe how the programme in some way allowed them to reconsider how the person they are in private, for instance with their families, relates to the person they are in business. These reported experiences suggest a degree of profound personal transformation and reimagining of self, along the lines described by Sterling (2011). Others experienced the opportunity through the

programmes to have a safe environment to explore and discuss issues with colleagues that may not be otherwise possible. In a simulated exercise, for instance, one of the organizers of the consumer goods' experiential programme describes how the opportunity to engage in difficult conversations gave participants confidence and a feeling of safety through personal engagement with others. Finally, a theme across all programmes was the opportunity to connect in a personal way with sustainability issues, for instance by seeing and in some way relating to the impacts of business on communities and on the environment.

The third category, empowerment to act, builds on the first two categories and encompasses specific instances when participants identified their commitment and/or ability to act for sustainability having changed as a result of the programme. There are instances where the actions described are directly related to the individual's role in the business, for example re-allocating resources to communities or delisting products due to realizing and seeing their social impacts. These resulted from experiences on the programmes that were connected to the person's role or their product in the organization. One of the Leaders' Quest participants talks about how personally connecting with sustainability issues led him to use his role in his organization to influence others:

“Coming out of that I really started pushing. I felt personally passionate and because of my role I could influence. We began to focus our pro bono efforts, other things that were all passions of mine. We put in a reverse mentoring programme – I needed to translate that passion of my youngest people to my most senior people – on technology, on how they are living their lives”. (LQ 3). This is a clear example of an ethical imperative, (Sinatra et al., 2012) or ‘moral emotion’ (Ferdig, 2007; Sekerka & Stimel, 2012) to act for sustainability, which has been developed or triggered through participation in the ELP.

There are also examples of programme participants taking action or feeling enabled to take action in their personal lives. Two participants on the BITC programmes describe how

they found themselves in situations where they were able to help unemployed people, where previously they would have felt unable or unwilling to do so.

### How the ELPs promoted the learning outcomes

Each of the three learning outcomes was shaped by different elements of the ELPs. We describe these in turn before summarizing and discussing the connections between the learning outcomes.

#### Understanding

Understanding was supported by offering participants opportunities to hear real people and their personal stories, and to actually see people struggling for example with issues such as water scarcity. The experience breaks down a barrier and allows for engagement with people who may not have been accessible before. As one participant from the Consumer Goods company explains “I think the other thing we have learned is that particularly for these issues, consumers are thinking...we think this is our product shampoo. They are thinking about the shower. So, it is about elevating those things in terms of creating a different immersive experience as a consequence of this and looking differently because there are things you want to observe in the home, a Mumbai home, which is they have three taps and they are all cold but they all come from different water sources [cross talk] and at least see it. You do not understand. People will tell you they have a water problem. You go into their house and you see these things and you ask them questions and you say, “Oh right.” (CG 4).

One of the features of the programmes that differs markedly is the extent to which the sustainability issues in focus are connected to the participants’ businesses. One of the SIB organizers explicitly describes their aim of getting leaders to look “at issues more broadly” in order to develop “holistic responsible leadership”. On the other hand, however, one of the SIB participants described how “people get almost lost in all the good things they could do”

(BITC 5), and how as a result there was a need to focus on issues relevant to the business. At the same time, a participant from the mining company describes how the opportunity to engage with people in the community and to see how they live, work and set up businesses near the mine “opened up a different world. There was an openness around thinking I mean to say the bottom of the pyramid how do we generate in these different social environments...how do we generate smaller businesses...because it wasn’t mining related, it made me think differently” (M1).

### Personal connection

Showing participants how the experience related to them and to their work supported the development of a personal connection with sustainability issues. This was achieved in different ways by the ELPs we studied. Participants were given the opportunity to reflect on their own roles through seeing examples of other leaders in business and the community bringing their passions to their work. Providing participants with role models but also the space to reflect on what that means for their own life and work supported this development. One of the LQ participants describes how they visited the world’s largest supplier of orthopedic limbs. The supplier offers free custom orthopedic limbs to those who have been crippled by diseases such as polio or through landmine explosions. Programme participants were talking to the founder and as part of the discussion he was asked about what he personally gains from the initiative. The participant explains:

“He stopped, and he reflected for a while and he said – he smiled, and he said, ‘priceless because I’m doing this because this is what I want to do, and this is what’s driving me, it’s motivating me, and I’m doing it for me’. I think that for me was very much a revelation. I sort of had a glimpse of that but in some ways it’s a little selfish, but you have to do these things because they’re what you want to do for you...It’s about nourishing yourself. It sounds at one level horribly selfish, right?”

This combination of a positive and negative feeling about the experience features in other participants' descriptions too. Some level of discomfort in combination with a sense of interest and anticipation is common and is often connected to the development of a personal connection with sustainability issues. For instance, several mention the “emotional connection” they developed, through for instance being able to see someone “the same age as their kids” in a difficult social situation. The fact that the participants can in some way relate to the situation and feel discomfort simultaneously helps them to develop a connection. One of the authors also observed this combination of discomfort and interest of participants as they went into Brixton Prison to meet offenders as part of the SIB programme. Many of the participants commented that their only experience of prison was through films and that they felt vulnerable walking in through the barbed wire-topped prison gates with nothing but a pen and a notebook. The author also felt this mixture of discomfort and interest or anticipation herself. Nearly three years on from the experience, she still has strong memories of the visit and can recount stories she heard from offenders about how difficult it is to find work. She and the other participants on the visit often compared the people they encountered to people in their own families, for instance children or other relatives of a similar age. This helped them to develop a strong connection with the issue and, as the author experienced, for the visit to have a lasting impact.

A personal connection was also found to be the result of creating a link between the experience and the person's role in their organization. One of the organizers of the Consumer Goods programme described how they were able to overcome the resistance of the Research and Development (R&D) team to the company's Fair Trade initiative by “getting the whole team out to the Dominican Republic so they also had the experience of seeing the Fair Trade

project in action”. It wasn’t just the opportunity to see the Fair Trade project but also the fact that the experience was tied to an R&D initiative, making it personal to the team in the sense that they could see the value “and the tangible output of the premium” (CG 4).

Not everyone was affected in the same way by these opportunities to engage and connect with passionate business leaders or with people in the community. One of the Leaders’ Quest participants, however, explained that the length of the programme is another important element in allowing people to connect personally with what they are experiencing. As he says, “if you have a week together, it’s easier to get worn away a bit” (LQ 3). This resonates with the metaphor used by another LQ participant of in some way stripping off the armour.

### Empowerment to act

Many of the participants referred to actions they either felt enabled and committed to carry out or actually carried out as a result of the ELPs. The importance of seeing practical solutions was emphasized by several participants as central to developing this competency. For example, seeing new, potentially more meaningful ways to contribute to society, beyond simply donating money (BITC 3) or providing sponsorships (LQ3) was helpful to participants in providing a sense that they could do something different to what they or their organizations previously had done. Whereas understanding was primarily developed through participants seeing sustainability problems in new ways, empowering action was connected to seeing the solutions or as one of the participants from the SIB programme describes knowing “how to see it through” (BITC 2).

When participants described feeling empowered to act or having been in a situation where they acted differently, they often referred to parts of the programmes that made them feel hopeful or positive through seeing something in action. For example, one of the Leaders’

Quest participants described his encounter with an organization in India run by the Hare Krishnas to deliver mid-day meals for free to children in government schools. He described the process and the mission of the project and explains what attracts him to the whole idea and approach of the monks is that: “you just look at it and as I said, simplicity – real simple business model, that’s all they do – impact, massive impact when you think about children and discipline...the only thing you can say is what can I do to help?” (LQ, 4).

Translating the solutions that participants saw into action, however, is somewhat dependent on the person’s role in their organization. So, for instance, having the “ability to influence or break some rules or access budgets” (BITC 1) when participants go back to their work was identified by organizers and participants on the programmes alike as central to enabling action. Many of the examples of actions undertaken after the programme, require participants to be at a certain level of seniority in their organizations in order to be able to authorize changes. At the Consumer Goods company, for example, one of the organizers explained how the Chief Procurement Officer decided to commit to sustainable sourcing of all materials after the experience of visiting palm oil plantations. At the same time, however, integrating sustainability within an entire function such as R&D is not something that can be achieved by only focusing on the most senior members of the team, and in the case of the Consumer Goods company the focus on the entire team was critical to motivating commitment to sustainability.

### Connections between learning outcomes

Figure 1 summarizes the learning outcomes and the elements of the experiential learning programmes that influenced their development, highlighting the connections between them. For each of the learning outcomes, we found a combination of elements focused on the individual participant and those focused on more general aspects. This interplay between an

individual actor and the organization and/or system was a recurring theme across all outcome areas. Although not all of the participants went from developing understanding to personally connecting and then feeling empowered to act, we do find evidence of this sequence in many of the participants we interviewed. Some entered with a well-developed understanding but needed the personal connection to enable or at least motivate action. Some participants went from developing understanding to personally connecting in some way but not necessarily feeling enabled to act.

## **Discussion**

Our results provide three main contributions for the literature on corporate sustainability.

First, we provide insights on the learning outcomes of experiential learning programmes for sustainability. Through our inductive approach we identified that the programmes promoted understanding, personal connection and empowerment to act for sustainability. This is interesting, because these learning outcomes, particularly ‘personal connection’ and ‘empowerment to act’ (which has a strong motivational component), align strongly with the ‘softer’ side of sustainability competencies required for sustainability leadership. The literature recognizes the importance of values, attitudes, ethics, motivations and beliefs, but these are less clearly articulated in the literature on sustainability competencies than other dimensions (Osagie et al., 2016). We contribute to the literature by building on previous conceptualizations of sustainability competencies and refining empirical understanding of the ‘softer’ side. We found very little evidence of cognitive learning (the exception being some mention of systems thinking concepts), and even less functional learning (which is not surprising because any strategic competency developed by individuals (Wiek et al 2011) is likely to only become apparent in the organizational context, which was

not the subject of our research). While we would need to conduct a follow-up study to determine the extent to which these newly developed competencies are successfully employed within an organizational context, the anecdotes shared by the interviewees relating to their time back in the workplace, would suggest that these softer dimensions may be the most important of all in driving change for sustainability. Given their role in developing this personal connection, this suggests that ELPs have an important role to play, alongside other forms of learning focused on the cognitive and functional dimensions, in developing sustainability leaders.

Second, the importance of making sustainability personal to participants is a central finding of our research. The personal is present in all learning outcomes and is a central component of personal connection which links understanding with action. Allowing individuals to see and to feel the connections between themselves and particular sustainability issues (understanding and personal connection), and between potential solutions to sustainability problems and their roles (empowerment to act) is crucial. Most of the examples in the programmes we studied where the personal was activated in all learning outcomes were related to social sustainability. The personal was present in some of the environmental examples too, such as seeing the effects of water scarcity on communities. An interesting area for future research would be to examine how effective ELPs are in developing personal connections with different types of sustainability issues, and even how combining social and environmental dimensions as in the water scarcity example might be more effective than a focus on the environment in isolation. Our results suggest that a focus on the personal may be an important mechanism in helping leaders in business to navigate some of the tensions associated with sustainability. This focus on making it personal also connects to recent calls in the management education literature to bring passion for sustainability into teaching by using a more holistic pedagogy, integrating physical, emotional and cognitive learning

(Shrivastava, 2010). It also connects with the ‘attitude-behavior gap’ that is discussed in the literature in relation to the sustainable behavior of individuals. Often applied to consumer behavior, the attitude-behavior gap reflects the fact that despite consumers having sufficient knowledge and even intentions to choose more sustainable goods and services, they often do not. Studies of this phenomenon highlight the importance of emotional involvement and moral obligation in closing the gap (Antimova, Nawijn, & Peeters, 2012; Kollmuss & Agyeman, 2002). We suggest that this is likely to also be true when applied to sustainability leadership action in a business context. The implications for ELPs and other approaches to sustainability education are to consider integrating personal approaches to learning rather than thinking about a sequence that starts with content before progressing to a personal experience. Incorporating a personal dimension could for example include allowing opportunities for personal reflection or developing simulation exercises to complement in-person experiences.

Third, we provide initial insights into how ELPs contribute to learning outcomes. Our findings confirm the importance of creating situations with a certain level of discomfort or cognitive dissonance as is discussed in the experiential and transformative learning literature (Fay, 1975; Laws and Rein, 2003; Sinclair and Diduck 2001; van der Knaap, 1995). We find that combinations of positive and negative feelings (interest and discomfort) are particularly important in developing a personal connection with sustainability. At the same time, we identify through our study that a positive, solutions-oriented focus is important in encouraging leaders to feel enabled to act. The positive focus supports the development of new thinking into action, and particularly in providing motivation for leaders to do something and to see that action is possible. Our findings support recent calls in the corporate sustainability literature for more attention to the antecedents and consequences of ambivalent interpretations of sustainability issues (Hahn, Preuss, Pinkse, and Figge, 2014), and in

particular a focus on emotions which has been lacking to date (Friedrich & Wustenhagen, 2015). In particular we identify that ambivalent feelings may be productive as a means of engaging participants personally but not so productive for encouraging action. Future research on the role of emotions, for instance the effects of positive and negative or ambivalent emotional responses on different aspects of sustainability leadership are warranted.

We also find that the choice of issues in focus during the ELPs and the fit of these issues with a participant's role in their organization affect the development of competencies for understanding and enabling action. These factors highlight several tensions facing organizations and ELP providers. On the one hand, there is a tendency to encourage leaders in business to think more broadly about sustainability in order to encourage more holistic forms of sustainability leadership (Hahn et al. 2015; Hahn and Figge 2011). On the other hand, action is more likely if the issues are in some way related to the participant's organization and even more specifically to their role within the organization. In fact, this is very much in keeping with recent advances in corporate sustainability where sustainability is integrated with strategy and with the organization's processes (Amini & Bienstock, 2014; Eccles, Ioannou, & Serafeim, 2014). Further research that explores these tensions and the effects on various aspects of sustainability leadership would be worthwhile. For instance, when can a broad understanding of sustainability be helpful? How can broad and narrow understandings support each other? For programmes, our results suggest that the role of participants in their organizations should be carefully considered. For example, some programme elements could be tailored for different functions or positions. Finally, although most of the ELPs focus exclusively on senior managers, our findings particularly from bespoke programmes suggest they may be a powerful way to engage with entire teams and thereby integrate sustainability within an entire function. Further research could support the

design of ELPs in different ways to support senior versus middle managers versus front-line employees.

## **Conclusion**

Developing sustainability leaders requires not just new knowledge and skills, but also new ways of thinking and ultimately an underlying motivation to act. Our study of the phenomenon of experiential learning provides a window into better understanding how individuals can be supported in learning to become sustainability leaders. We find that the main learning outcomes of ELPs are associated with the softer, more personal dimensions of sustainability competencies, such as values, motivation, and ethical imperative to act for sustainability. Making sustainability personal for individual leaders is a thread that runs through all of the learning outcomes we observed and creates a foundation for individual leaders to feel committed to, and empowered to act for, sustainability in their organizations.

We provide three main contributions for the literature on corporate sustainability. First, we build on previous literature highlighting the importance of the soft side of sustainability competencies as a complement to cognitive and functional dimensions. We do this by providing an empirically grounded study that operationalizes the learning outcomes associated with sustainability competencies. Second, we identify the importance of personal connection as a link between leaders understanding sustainability and then feeling empowered to act, reminiscent of the attitude-behaviour gap in research on sustainable behaviour. Importantly, we also find the personal dimension to be important in all learning outcomes rather than something that can be compartmentalized. Third, we highlight several factors that are important in supporting leaders to learn and are worthy of future research and consideration for programme design. These include the role of emotions (both positive and

negative), the choice of issues covered in the programmes, and the fit of these issues with the participant's role in their organization.

## Tables and Figures

*Table 1: Overview of interviewees*

PROGRAMME	INDUSTRY	POSITION	ABBREVIATION
<b>BITC</b>	Retail	Operations Director	BITC 1
	ICT	HR Manager	BITC 2*
	Retail	Manager	BITC 3*
	Utilities/Finance	Non-executive Director	BITC 4
	Construction	CSO	BITC 5
	Retail	CSR Director	BITC 6
	Organizer	Programme manager	BITC 7
<b>LQ</b>	Automotive	Director of Leadership Programmes	LQ 1
	Consumer goods	CSO	LQ 2
	Consulting	Director of Global Operations	LQ 3
	Media	Global CEO	LQ 4
<b>Consumer Goods</b>		Leadership Development Manager	CG 1
		Global VP, HR	CG 2
		Global Director, Communications	CG 3
		Global Director, Sustainability	CG, 4
<b>Mining</b>	NGO	Country Director	M, 1
	Mining	General Manager	M, 2
	Mining	Head of Government and Social Affairs	M, 3

\*Participants were part of the business connectors programme

Table 2: Overview of results – Learning outcomes

<i>Illustrative quotes</i>	<i>Subcategories</i>	<i>Learning outcomes</i>	<i>Description</i>
“This is the first time I have made the link between sustainability and my leadership.” (CG 1)	<i>Understanding my role</i>	Understanding	At levels of individual, organization and sustainability issues –making connections between these
“What was phenomenal was the shift in 24 hours. It wasn’t we donate money to opera companies, it was we could redesign our branches so that they become community centres, we could make pcs available for community training. A complete shift about their role.” (LQ 3)	<i>Understanding the role of business</i>		
“I feel that now that I have been in control I’ve got the firsthand experience of what, of what matters to people and what’s important.” (BITC 2)	<i>Understanding what matters to different stakeholders</i>		
“I had a good attitude but my views were you had social and enviro and they were 2 distinct environments that need to be managed differently....I’m more sensitive now to what I do and how I do it and thinking about my impact” (M 2)	<i>Understanding integrated nature of sustainability</i>		
“one of the things I’ve been seeking to do is to remove the gap between personal and professional and for me consistently, not on every single case but consistently what the Quest have been able to do for me is give me a fantastic perch into seeing situations where other leaders have successfully removed that boundary between the two. They are one and the same. They are living their passion, their ideals in a way that’s sustainable.” (LQ 4)	<i>Integrating personal and professional</i>	Personal connection	At levels of individual, organization and issue – feeling connected personally in some way
“So, it is really about airing some of those conversations that people are reluctant to have or not yet feeling the confidence to have it in a simulated environment which is obviously a much safer place to do it.” (CG 1)	<i>Feeling safe to explore</i>		
“So that was really brilliant because I think what we did then was made it personal to them, the R and D guys, saw what the value was and the tangible output of the premium [00:10:14] Fair Trade. I think it made them more committed. (CG 4)	<i>Feeling connected</i>		
“I know one project that the project manager completed and then came back and rewrote his project budget for next year because of it. He realized he was putting resources in the wrong place.” (M	<i>Action</i>	Empowerment to act	Individual action and action within the organization

3)

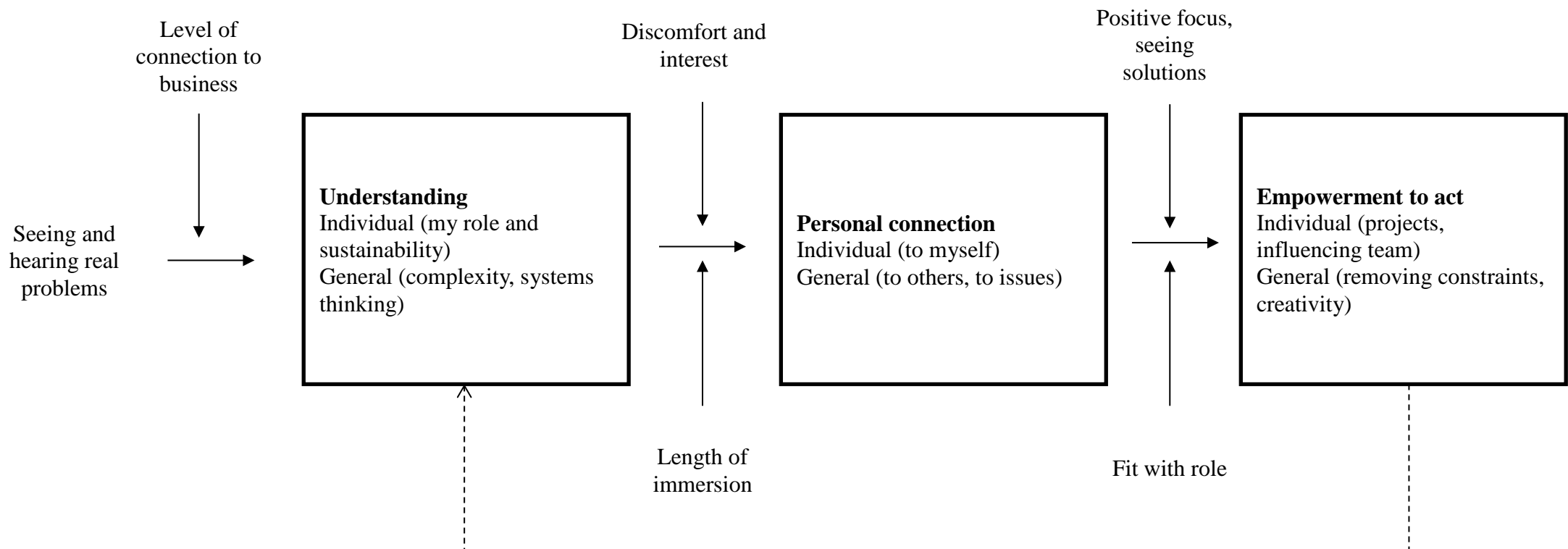
“My beliefs didn’t particularly change much. What did change was it was a real call to action for me to get off my backside and do something about, seeing the impact with individuals caused me to go back, look at my budgets, talk to my board colleagues and find the money for the business connectors”. (BITC 1)

*Call to action*

“So, it’s quite liberating. I think previously perhaps it was because of my role or perhaps it was the block that I’d put the place in I don’t know. I felt so constrained and actually you know anything is possible”. (BITC 2)

*Enabled to act*

Figure 1: Experiential learning and sustainability leadership





## References

- Aguinis, H, and Glavas, A (2012). What We Know and Don't Know About Corporate Social Responsibility: A Review and Research Agenda. *Journal of Management*, 38(4): 932-968.
- Allen, S., Marshall, J., & Easterby-Smith, M. (2015). Living With Contradictions. *Organization & Environment*, 28(3): 328–348.
- Amini, M., & Bienstock, C. C. (2014). Corporate sustainability: an integrative definition and framework to evaluate corporate practice and guide academic research. *Journal of Cleaner Production*, 76: 12–19.
- Antimova, R., Nawijn, J., & Peeters, P. (2012). The awareness/attitude-gap in sustainable tourism: A theoretical perspective. *Tourism Review*, 67(3): 7-16.
- Argyris, C, and Schön, D (1996). *Organizational Learning II: Theory, Method, and Practice*. Reading: Addison-Wesley Publishing Company, Inc.
- Baden, D, and Parkes, C (2013). Experiential learning: inspiring the business leaders of tomorrow. *Journal of Management Development*, 32(3): 295-308.
- Bansal, P (2002). The corporate challenges of sustainable development. *The Academy of Management Executive*, 16(2): 122-131.
- Barth, M., Godemann, J., Rieckmann, M., & Stoltenberg, U. (2007). Developing key competencies for sustainable development in higher education. *International Journal of Sustainability in Higher Education*, 8(4), 416-430.
- Barth, M., & Michelsen, G. (2013). Learning for change: an educational contribution to sustainability science. *Sustainability science*, 8(1), 103-119.
- Benner, MJ, and Tripsas, M 2012. The influence of prior industry affiliation on framing in nascent industries: the evolution of digital cameras. *Strategic Management Journal*, 33(3): 277–302.

- Bevan, D, Kipka, C, and Gitsham, M (2012). Experiential learning for leadership and sustainability at IBM and HSBC. *Journal of Management Development*, 31(3): 298-307.
- Bondy, K, Moon, J, and Matten, D (2012). An Institution of Corporate Social Responsibility (CSR) in Multi-National Corporations (MNCs): Form and Implications. *Journal of Business Ethics*, 111(2): 281-299.
- Burns, TR (2012). The Sustainability Revolution: A Societal Paradigm Shift. *Sustainability*, 4(6): 1118-1134.
- Butcher, J. (2007). Keep the green moral agenda off campus. *Times Higher Education*.  
<http://www.timeshighereducation.co.uk/story.asp>.
- Coleman, G (2013). Sustainability as a learning challenge. *Journal of Management Development*, 32(3): 258-267.
- de Haan, G. (2010). The development of ESD-related competencies in supportive institutional frameworks. *International Review of Education / Internationale Zeitschrift fuer Erziehungswissenschaft / Revue Internationale de l'Education*, 56(2/3), 315-328.
- Dieleman, H, and Huisinigh, D (2006). Games by which to learn and teach about sustainable development: exploring the relevance of games and experiential learning for sustainability. *Journal of Cleaner Production*, 14(9–11): 837-847.
- Eccles, R and Perkins, K (2012). How to become a sustainable company. *MIT Sloan Management Review*, 53(4): 43-50.
- Eccles, R. G., Ioannou, I., & Serafeim, G. 2014. The Impact of Corporate Sustainability on Organizational Processes and Performance. *Management Science*, 60(11): 2835–2857.
- Fay, B (1975). *Social theory and political practice*. London: Allen and Unwin.

- Ferdig, MA (2007). Sustainability leadership: Co-creating a sustainable future. *Journal of Change Management*, 7(1): 25-35.
- Friedrich, E, and Wustenhagen, R (2017). Leading Organizations Through the Stages of Grief: The Development of Negative Emotions Over Environmental Change. *Business and Society*, 56(2): 186-213.
- Frisk, E., & Larson, K. L. (2011). Educating for sustainability: Competencies & practices for transformative action. *Journal of Sustainability Education*, 2(1), 1-20.
- Gilley, KM, Worrell, DL, Davidson III, WN, and El-Jelly, A (2000). Corporate Environmental Initiatives and Anticipated Firm Performance: The Differential Effects of Process-Driven Versus Product-Driven Greening Initiatives. *Journal of Management*, 26(6): 1199-1216.
- Gitsham, M (2012). Experiential learning for leadership and sustainability at IBM and HSBC. (D. Bevan, Ed.) *Journal of Management Development*, 31(3): 298–307.
- Glasbergen, P (1996). Learning to manage the environment. In W. M. Lafferty and J. Meadowcroft (Eds.), *Democracy and the environment: Problems and prospects* (pp. 175-193). Cheltenham, UK: Edward Elgar.
- Gloet, M. (2006). Knowledge management and the links to HRM: Developing leadership and management capabilities to support sustainability. *Management Research News*, 29(7), 402-413.
- Goleman, D., & Lueneburger, C. (2010). The change leadership sustainability demands. *MIT Sloan Management Review*, 51(4), 49.
- Hahn, T, Preuss, L, Pinkse, J, and Figge, F (2014). Cognitive Frames in Corporate Sustainability: Managerial Sensemaking with Paradoxical and Business Case Frames. *Academy of Management Review*, 39(4): 463–487.
- Hahn, T., & Aragón-Correa, J. A. 2015. Toward Cognitive Plurality on Corporate

- Sustainability in Organizations. *Organization & Environment*, 28(3): 255–263.
- Hesselbarth, C., & Schaltegger, S. (2014). Educating change agents for sustainability—learnings from the first sustainability management master of business administration. *Journal of Cleaner Production*, 62: 24-36.
- Hull, R. B., Kimmel, C., Robertson, D. P., & Mortimer, M. (2016). International field experiences promote professional development for sustainability leaders. *International Journal of Sustainability in Higher Education*, 17(1): 86-104.
- Illeris, K (2007). What do we actually mean by experiential learning? *Human Resource Development Review*, 6(1): 84-95.
- Kitchenham, A (2008). The evolution of John Mezirow's transformative learning theory. *Journal of transformative education*, 6(2): 104-123.
- Kolb, DA (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Claiiffs, NJ: Prentice-Hall.
- Kolb, AY, and Kolb, DA (2005). Learning styles and learning spaces : enhancing experiential learning in higher education. *Management Learning*, 4(2): 193–212.
- Kollmuss, A., & Agyeman, J. (2002). Mind the gap: why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental education research*, 8(3): 239-260.
- Lans, T., Blok, V., & Wesselink, R. (2014). Learning apart and together: towards an integrated competence framework for sustainable entrepreneurship in higher education. *Journal of Cleaner Production*, 62, 37-47.
- Laws, D, and Rein, M (2003). Reframing practice. In MA Hajer and H Wagenaar (Eds.), *Deliberative policy analysis: Understanding governance in the network society* (pp. 172-206). Cambridge: Cambridge University Press.

- Linnenluecke, MK, and Griffiths, A (2010). Corporate sustainability and organizational culture. *Journal of world business*, 45(4): 357-366.
- Lozano, R (2012). Towards better embedding sustainability into companies' systems: an analysis of voluntary corporate initiatives. *Journal of Cleaner Production*, 25: 14–26.
- MacVaugh, J., & Norton, M. (2012). Introducing sustainability into business education contexts using active learning. *International Journal of Sustainability in Higher Education*, 13(1): 72-87.
- Maitlis, S, and Christianson, M (2014). Sensemaking in Organizations: Taking Stock and Moving Forward. *The Academy of Management Annals*, 8(1): 57-125.
- Margolis, JD, and Walsh, JP (2003). Misery Loves Companies: Rethinking Social Initiatives by Business. *Administrative Science Quarterly*, 48(2): 268–305.
- Martin, A, and Ernst, C (2005). Exploring leadership in times of paradox and complexity. *Corporate Governance: The international journal of business in society*, 5(3): 82-94.
- Mezirow, J (1990). How critical reflection triggers transformative learning in J. Mezirow and Associates (Eds.) *Fostering critical reflection in adulthood: A Guide to Transformative and Emancipatory Learning*, pp.1-20. San Francisco: Jossey-Bass.
- Mezirow, J (1997). Transformative Learning: Theory to Practice. *New Directions for Adult and Continuing Education*, 1997(74): 5-12.
- Osagie, E. R., Wesselink, R., Blok, V., Lans, T., & Mulder, M. (2016). Individual Competencies for Corporate Social Responsibility: A Literature and Practice Perspective. *Journal of Business Ethics*, 135(2), 233-252.
- Pearce, CL, Manz, CC, and Akanno, S (2013). Searching for the holy grail of management development and sustainability: Is shared leadership development the answer? *Journal of Management Development*, 32(3): 247-257.

- Pintrich, PR, Marx, RW, and Boyle, RA (1993). Beyond Cold Conceptual Change: The Role of Motivational Beliefs and Classroom Contextual Factors in the Process of Conceptual Change. *Review of Educational Research*, 63(2): 167-199.
- Ploum, L., Blok, V., Lans, T., & Omta, O. (forthcoming). Toward a Validated Competence Framework for Sustainable Entrepreneurship. *Organization & Environment*
- Quinn, F (2000). *The principles and practice of nurse education*. Cheltenham: Nelson Thornes.
- Quinn, L, and Dalton, M (2009). Leading for sustainability: implementing the tasks of leadership. (E. Van Velsor, Ed.) *Corporate Governance: The International Journal of Business in Society*, 9(1): 21–38.
- Rieckmann, M. (2012). Future-oriented higher education: Which key competencies should be fostered through university teaching and learning? *Futures*, 44(2), 127-135.
- Savage, E., Tapics, T., Evarts, J., Wilson, J., & Tirone, S. (2015). Experiential learning for sustainability leadership in higher education. *International Journal of Sustainability in Higher Education*, 16(5): 692-705.
- Scharmer, CO, and Senge, PM (2009). *Theory U: Leading from the future as it emerges*. San Francisco: Berrett-Koehler Publishers, Inc.
- Sekerka, LE, and Stimel, D (2012). Environmental sustainability decision - making: clearing a path to change. *Journal of Public Affairs*, 12(3): 195-205.
- Senge, P (1990). *The fifth discipline: The art and practice of the learning organization*: London: Centry Business.
- Sharma, S., & Hart, S. L. 2014. Beyond “Saddle Bag” Sustainability for Business Education. *Organization & Environment*, 27(1): 10–15.
- Shrivastava, P. 2010. Pedagogy of Passion for Sustainability. *Academy of Management Learning & Education*, 9(3): 443–455.

- Sinatra, GM, Kardash, CM, Taasobshirazi, G, and Lombardi, D (2012). Promoting attitude change and expressed willingness to take action toward climate change in college students. *Instructional Science*, 40(1): 1-17.
- Sinclair, AJ, and Diduck, AP (2001). Public involvement in EA in Canada: a transformative learning perspective. *Environmental Impact Assessment Review*, 21(2): 113-136.
- Sipos, Y, Battisti, B, and Grimm, K (2008). Achieving transformative sustainability learning: engaging head, hands and heart. *International Journal of Sustainability in Higher Education*, 9(1): 68-86.
- Sterling, S (2011). Transformative learning and sustainability: sketching the conceptual ground. *Learning and Teaching in Higher Education*, 5(11): 17-33.
- Stubbs, W., & Cocklin, C. (2008). Teaching sustainability to business students: shifting mindsets. *International Journal of Sustainability in Higher Education*, 9(3): 206-221.
- Svanström, M, Lozano-García, FJ, and Rowe, D (2008). Learning outcomes for sustainable development in higher education. *International Journal of Sustainability in Higher Education*, 9(3): 339-351.
- Tosey, P, Visser, M, and Saunders, MN (2012). The origins and conceptualizations of ‘triple-loop’ learning: A critical review. *Management Learning*, 43(3): 291-307.
- Tripsas, M, and Gavetti, G 2000. Capabilities, Cognition and Inertia: Evidence from Digital Imaging. *Strategic Management Journal*, 21: 1147–1161.
- UNESCO. (2017). Education for Sustainable Development Goals: Learning objectives. Paris, France: United Nations Educational, Scientific and Cultural Organization.
- van der Knaap, P. (1995). Policy evaluation and learning. *Evaluation*, 1(2): 189-216.
- van Lawick van Pabst, J. A., & Visser, W. (2012). Theory U and CSR 2.0: Alignment of Two Conceptual Approaches to Create Profound Innovation and Transformative Change in Corporate Sustainability and Responsibility.

- Visser, W., & Courtice, P. (2011). Sustainability leadership: Linking theory and practice.
- Visser, W., & Crane, A. (2010). Corporate sustainability and the individual: Understanding what drives sustainability professionals as change agents.
- Wals, A. E. (2011). Learning our way to sustainability. *Journal of Education for Sustainable Development*, 5(2): 177-186.
- Wals, A. E., & Corcoran, P. B. (2006). Chapter 14. Sustainability as an Outcome of Transformative Learning In Holmberg, J. and Samuelsson, B. E. (Eds) *Drivers and barriers for implementing sustainable development in higher education* (pp. 103 - 125). UNESCO
- Wesselink, R., Blok, V., van Leur, S., Lans, T., & Dentoni, D. (2015). Individual competencies for managers engaged in corporate sustainable management practices. *Journal of Cleaner Production*, 106(Supplement C), 497-506. doi: <https://doi.org/10.1016/j.jclepro.2014.10.093>
- Wiek, A., Withycombe, L., & Redman, C. L. (2011). Key competencies in sustainability: a reference framework for academic program development. *Sustainability science*, 6(2): 203-218. doi: 10.1007/s11625-011-0132-6

---

<sup>i</sup> Numerous subsequent authors have built on this seminal work to attempt to distinguish a third level of triple-loop learning. However, as explained in detail by Tosey et al. (2012), this term was never used by Argyris and Schön and is lacking in a clear conceptual foundation.