The challenges of introducing sustainable development in the curriculum at a UK university

Abstract

It might seem that implementing sustainable development in the curriculum at universities is a straightforward win-win for all concerned, with access to expertise in the latest research and understanding concerning the issues and a dynamic, transient population who are open to change and embracing new ideas. Yet, this optimism can be faced with an institutional framework that is inflexible and non-compliant, almost draconian at times, to aspects that are not central to the success of research, funding and teaching. Academics, by nature, are strongly opinionated and have robust worldviews, which can be resistant to proposed changes to individual aspirations, ambitions and priorities. With this in mind, this paper presents the results of some first steps that were taken at a UK university regarding the introduction of sustainable development in the curriculum and the results, coming from various sectors across the institution, were very mixed. Some sectors, for example, were open to the introduction of a mandatory sustainability module for all students whilst others were not sure whether or not there was a place, or even a necessity, for sustainability considerations at all. The viable options for the university are discussed along with the influences and driving forces that affect such a move, including group dynamics, individual attitudes and behaviours, and resources and support – and how students can best help to nudge the process forward. This paper will be of interest to others who are implementing sustainable development in the curriculum, especially those taking the initial steps and finding more brick walls and reticence than opportunities.

Keywords: Education, sustainable development, university, behaviour change, academics, marketing

1. Introduction

Introducing sustainability in the curriculum, or ESD, would seem a no-brainer. From a moral or normative viewpoint the obligation to sustainability, defined by its economic, social and environment pillars, is unconditional irrespective of whether or not the predictions regarding our global climate long term are to be believed. Universities are where the future decision makers, leaders and innovators are being primed (Lozano, 2006; Gough and Scott, 2007) and, thus, have a responsibility to integrate ESD comprehensively (e.g. Wright, 2004; Stephens *et al.*, 2008). A recent report revealed that more than 80% of students surveyed believe that sustainable development should be actively promoted and integrated into the UK curriculum.[[1]](#footnote-1) The literature concerning ESD covers an increasing number of disciplines including science, engineering, business, management and IT, and aspects such as pedagogy design (Lockrey and Johnson, 2013), the effectiveness of changes to the curriculum (Lambrechts *et al.*, 2013) and the added value of extra-curricular activities and greening the campus (Lu and Zhang, 2013), although it is still lagging behind in the humanities and social sciences (Vaughter *et al*., 2013). The Quality Assurance Agency (QAA) and the Higher Education Academy (HEA) have demonstrated their support by producing new guidance for HE providers that focus on competences and the aim of achieving a shift in mind-set and stance that will, it is hoped, affect actual behaviour[[2]](#footnote-2) and the NUS has been working with the HEA since 2010 to assess student experiences of ESD and understand the attitudes and skills developed as a result.[[3]](#footnote-3)

Strategically, it is important that what is introduced regarding ESD succeeds in fostering a change and the literature provides many studies evaluating the course material and its applicability. Most recently, for example, using a sustainability tool assessment and perception surveys (Watson *et al*., 2013), monitoring student numbers and credit awards (Lozano and Young, 2013) and competency levels in Belgium (Lambrechts *et al*., 2013). Cotton and Alcock (2013) concluded that university attendance has a significant positive association with commitment to environmental sustainability over other adult transition pathways and Lockrey and Johnson (2013) that incorporating an industry partner into the process of SD education enhanced student engagement levels. Yuan *et al.* (2013) explored the awareness of faculty, alumni and students’ parents regarding the concept of the Green University in China whilst Davison *et al.* (2013) looked at how to overcome the fragmentation that typically impedes collaborative teaching practices. Not all interventions have been found to be effective, however; a Canadian study indicated that what students were being taught about the environment and economics actually undermined the university sustainability commitments (Green, 2013). Even though the HE sector can be conservative and resistant to innovation (Elton, 2003), the influences during these few years at university lay the foundation for the next 50 years or so of adult life and, hence, it is important that the current extensiveness of ESD research continues, to ensure that HE curricular changes worldwide are effective.

At an individual level, there are various models that categorize the way people behave and engage that may be relevant in the ESD context. According to Defra’s (2007) Segmentation Model, for example, people range from those who engage willingly in sustainability activities at work and home to those who are totally uninterested in such issues and inactive. The Stages of Change model (Prochaska and DiClemente, 1983) describes a series of stages that individuals go through when changing a behaviour, encompassing ignorance or indifference, premeditation regarding ways to engage, adjustments once the change has been made and the new behaviour ultimately becoming the norm. In their self-determination theory, Deci and Ryan (1985, 2000) identified different motivational states that affect whether or not an individual’s engagement will be maintained once external triggers are removed. An internalised motivation, for example, is driven by internal characteristics such as the satisfaction, or importance, of undertaking activities and does not require external incentives, such as financial rewards or recognition, for it to be maintained. Individual motivation is context specific and invariably driven by getting a tangible return, which can be difficult to quantify for many aspects of sustainable development, including ESD. Each one of us has to make a decision about how we behave in terms of sustainability, consumption, our day to day lifestyles and the impact of that on others – and realise the potential influence that we have within our personal life, social networks and at work, whether we are a CEO of a company or someone in the mailing room, and that if we are motivated to make a difference, it is possible.

2. Methods

The aim of this paper was very much a fact finding mission regarding ESD from an environmental psychology viewpoint – where is the university at? Where are the win-wins? Who is on board and why? Where are the brick walls and why? Where are the innovators, the pioneers – are there any? Who is/are the key player(s) in effecting full integration? Twenty eight people, staff and students, were selected from a cross section of the university community including students, administrative teams, academics, support service departments, sustainable societies, senior management and associate deans, and formally interviewed for around 30 minutes. The stance of each individual regarding ESD was not specifically known prior to the interviews. Once the key aspects from the data had been coded and analysed, a further 18 people were approached *ad hoc* around the campus for a 15 minute discussion on relevant points and the new data incorporated into further coding and analysis. Random samples of the texts were coded by three colleagues who were familiar with the ESD context for reliability purposes.

3. Results

The respondents (26 females and 20 males) ranged in age from 19 to 53 and the most common responses were grouped and tabulated (see Table 1). There was no obvious trend regarding attitude towards or engagement in ESD, when categorised by role, age, discipline or primary drive/focus (e.g. customer, economic viability, government policy, CSR, core business). Although a higher awareness and acceptance to ESD was apparent within sustainably related disciplines such as engineering and business, this did not necessarily translate into greater motivation to change markedly the current curriculum.

Table 1: Most common responses regarding the need for, and introduction of, ESD

|  |  |
| --- | --- |
| **Response regarding the need for, and introduction of, ESD** | **Percentage of respondents**  (n = 46; rounded up to 1dp) |
| Compulsory module for all first years – won’t happen overnight | 11% |
| ESD was not valued or supported by the university decision makers and local businesses and community need to be involved to make it more relevant…more needs to be done | 54% |
| I know I should be doing more – I believe that it is important. I just don’t feel I have the time, support or authority to introduce it and it needs doing across the whole campus and curriculum | 70% |
| Important for specific groups/departments – ACE, labs, engineering, business | 83% |
| Sounds good but… | 28% |
| Definitely needed, as long as it’s voluntary for people | 17% |
| Already people in the university taking charge of this e.g. academics heads, champions, sustainability societies, so not really my concern | 31% |
| Impact of introducing it needs to be monitored e.g. KPIs, AWLM | 17% |
| Is there a place for sustainability considerations at all…? Not core business | 20% |

4. Discussion

4.1. Down to the individual

There was a general perception that at this particular institution, the implementation of, and engagement with, ESD was very much down to the individual. It was felt unlikely that a uniform, cross-campus directive from the VC, Directors or HoDs for people to engage and ESD to be integrated as ‘the norm’ would be effective, even with the backing of local business, industry and the community. Social exchange theory (Homans, 1961; Blau, 1964) posits that decisions between two parties are governed by the balance of rewards and costs for actions taken. For employees to engage in new behaviours they need to feel that there is some benefit in the efforts they are being asked to make, along with adequate provision of facilities, resources and support, which outweigh the costs that will occur as a result. There is a sense of obligation to respond in kind and repay the organisation, reflecting a two-way relationship between the employer and employee (Saks, 2008). When the organisation fails in such provision, however, the employees are more likely to withdraw and disengage themselves; 70% of respondents in this present study felt that there was no time, support or authority given to enable them to engage with ESD as they might like. The need to overcome such barriers for effective engagement has previously been identified; see, for example, Ferrer-Balas *et al.* (2010). At the early stage of implementation, the messenger(s) used to promote ESD and motivate others is crucial. One commonly used method is champions,people identified as beingactively engaged and promoting a particular cause and the literature generally portrays a positive outcome from utilising champions. See, for example, Taylor *et al.* (2012) for a discussion on the different types and contexts of champions and Hargreaves (2011), who described the subtle shifts in behaviour that can occur following an intervention. The results here showed that 31% of respondents felt that there was no need to get involved as specific people had been allocated to do so, which reiterated the idea that addressing sustainability was optional and that the tipping point, whereby a sufficient number of adopters of a new behaviour (the critical mass) is reached, so that the rate of adoption becomes self-sustaining and creates further growth (see, for example, Kiron *et al.*, 2012), would require far greater collective action that presently existed.

4.2. Group dynamics

The strong sense of autonomy, self-interest and apparent lack of willingness for cohesion and team work that was evident between departments in this case study poses an interesting challenge for the introduction of ESD: *“Academics don’t talk to each other. If they were outgoing people and people-focused people, they probably wouldn’t be academics!”* (Engineering Senior Lecturer, November 2013). Patterns of individual behaviour do not simply combine to determine the behaviour of a group as a whole and emergent group patterns depend on how the agents within the group interact, the role of copying amongst peers (Kennedy, 2009) and the dynamic interactions between, for example, competition and cooperation (Goldstone and Gureckis, 2009). Even though there is a growing appreciation that although people behave selfishly, they are inherently social creatures and do care about the welfare of the groups to which they belong (Haidt, Seder, & Kesebir, 2008) and academic departments, for example, have a common focus regarding research and teaching roles, the results here showed that sustainability was geenrally considered relevant only to departments that specifically focused on subjects such as environmental management, corporate social responsibility or alternative energy sources. There were a few exceptions: *“There is definitely a place for a mandatory module* for *say first year students when they arrive”* (Associate Dean, December 2013); *“All the disciplines need to start including sustainable development compulsory modules”*  (second year Maths student, Janauary 2014). The ongoing reliance on senior management support and achievement recognition, even by departments who were evidently proactive regarding sustainability, was indicative of an externally incentivised motivation and the need for a holistic approach incorporating changes to technological operations (Koester *et al.*, 2006), institutional strategies and organisation (Ferrer-Balas *et al.*, 2009) and teaching practices (Barth and Rieckmann, 2012).

There was an even split in the responses regarding whether or not there was potential to incorporate a student voice in ESD. People associated with academic departments generally felt students had other priorities such as jobs, degrees and ensuring they had the right material for their studies, whereas people associated with support service departments felt there was value in the students being actively involved; the split may simply have reflected the differently perceived purpose of the respective departments in the student experience at university. The students, unsurprisingly, considered their voice was very influential in nudging the ESD agenda forward, especially when the interventions contained lots of fun, energy and the here and now – flashmobs, instant messaging and social media generally.

4.3. Academics

Even within academic departments that one might have expected ESD considerations to be integrated, such as engineering, science or business, there was a mix of opinions in the results regarding the importance and relevance of ESD compared to other considerations in the curriculum and a disparity in the interpretation and delivery of sustainability-related course material. Such a mix highlighted that even if ESD was added to the curriculum, the individual academics have a huge role to play in whether or not students are positively influenced concerning the importance they place on such considerations in their professional lives and decision making in the future. As Hegarty (2008) argued, effecting change in learning processes is largely dependent on the willingness of academic staff to support such actions, highlighting the value of, for example, the flexible pedagogies approach proposed by Ryan and Tilbury (2013). There is a need to train the teachers and engage them in a positive manner so that the potential that universities have to carve the way forward for students and fully integrate ESD is reached. Previous work has found that academics are often harder to recruit to the sustainability agenda than support services staff and students (Lampkin, 2014, in press), which does not necessarily imply that academics are less interested in sustainability issues, although this may be the case. It does suggest, perhaps, that in academic departments, research and teaching is still perceived as core business, whereas for other stakeholders such aspects may be considered equally with issues like ethics, equal opportunities and community inclusion.

Academic buy-in and proactivity is critical to ESD, in terms of knowledge transfer, stakeholder compliance, structural reorganisation and the repositioning of the curriculum. Although there are only a few studies that use academic staff as the starting point for change (e.g. Roberts and Roberts, 2008), ESD is one key area where academics do need to take the lead. Academics have strong worldviews and it is imperative that any interventions are consistent with their ambitions, aspirations and priorities. Information that is contrary to a habitual behaviour is commonly perceived as unreliable, erroneous or unrepresentative and tends to be dismissed (Festinger, 1957; Nisbett and Ross, 1980), and a greater understanding regarding how the academic community perceive ESD will enable the goals to be more appropriately matched so academics are more likely to listen to, and engage with, what’s being said and asked of them. Hence, a key action in the initial stages of ESD introduction is to identify those individuals and pockets of academics who are advocates, especially connectors, who are well networked, known as; engaging the sceptics can also be highly productive as, once they are on board, they tend to be vocal, passionate and energised.

4.4. Marketing

How ESD is marketed is key. It requires regular promotion and updates, telling people when and why, and keeping changes clearly defined and logical with no surprises. There needs to be a mentality of ‘this is the change that is happening, how can you best help in effecting it’, so the control and focus is on the how not the if/when. We are all familiar with the need for effective communication, as one of the respondents succinctly stated: *“It’s about understanding what needs to be communicated and how the rest of the staff will best get that message”* (Accommodation Manager, November 2013). In this case study, one aspect that needed addressing initially was the benefits of introducing ESD over the perceived costs. Much like CSR, ESD has not so far been ambitious enough – the process needs to be visible and tangible to ensure people question and reflect on the rationale behind the way they behave and the choices they make (Hastings, 2013; see also Porter and Kramer, 2011; Barth and Rieckmann, 2012). In many respects, it’s not so much the means but the ends that the means are meant to serve – and developing a lifestyle that ensures materialism and consumption are put in their rightful, secondary, place behind well-being (see, for example, Schumacher, 1993). Instilling a more internalised type of motivation to engage with ESD requires competency (refer to, for example, Deci and Ryan, 1985; Barth and Rieckmann, 2012 and the QAA guidelines2) linked with an obligatory sense of responsibility to act as stewards of the planet; on top of which there is a need to market a vision of cohesion and autonomy, belonging and freedom, similar to the concept of individuation (Kagitcibasi,2005), underpinned by value and respect in all aspects. Successful marketing of ESD requires central co-ordination to gel the process together and maintain the overall direction and group/departmental coordination to ensure specific local issues are addressed; along with adequate resources, time allocation and support so people feel secure in the process and gain motivation from that security, authority and raised awareness, until there is sufficient internal momentum and new information is validated to prevent people reverting to their habitual behaviours. Table 2 provides the Top Ten Tips regarding the marketing of ESD.

Table 2: the Top Ten Tips regarding marketing ESD

|  |
| --- |
| **Top Ten tips:**  1) Listen – put yourself in their shoes  2) Play to strengths – easy wins; people on board  3) Drip feed – added value with simple messages; guide forward  4) Allow creativity – fun, energy,framing & flexibility  5) Make bridges – like-minded people; connectors; sceptics  6) Coordination – central/departmental; communications; demand & supply  7) Nurture & celebrate all efforts  8) Set tangible and achievable goals - Aim small: miss small  9) Patient, focused and determined - Begin with the end in mind  10) Be nosy! Find examples of good practice - keep asking questions |

5. Concluding remarks

The academic community needs to embrace ESD – see it as an opportunity, a niche where it can make a difference, a USP almost, as the source of teaching and learning of people maturing into responsible adults and active contributors to society and in the workplace. The influences at university will carve their path and direction for the rest of their lives. It can be perceived that ESD is being driven by business having to deal with the increased rate of change in markets, economies and globalisation or by a need to reduce injustice and inequality - whatever the reason, academics have an opportunity to make a difference and reposition the curriculum so SD is integral in a role that is greater than having a responsibility to their students and the wider community. Sure, academics need supporting roles and direction from other stakeholders and two-way communication with students. For once, perhaps though, the strong worldviews of academics will be an advantage, as each one will invariably have an opinion on ESD. With a cautionary note due to the limited unrepresentative sample used in this case study, this work adds to the current understanding regarding engagement in ESD and offers opportunities for future research including longitudinal studies of sustainable lifestyles and a greater understanding of individual motivation in this context alongside the collective social dynamics.

REFERENCES

Barth, M. and Rieckmann, M. (2012) Academic staff development as a catalyst for curriculum change

towards education for sustainable development: an output perspective. *Journal of Cleaner*

*Production* 26: 28-36.

Blau, P.M. (1964) *Exchange & Power in Social Life*. Transaction.

Cotton, D.R.E. and Alcock, I. (2013) Commitment to environmental sustainability in the UK student

Population. *Studies in Higher Education* 38(10): 1457-1471.

Deci, E.L. and Ryan, R.M. (1985) *Intrinsic motivation and self-determination in*

*human behaviour,* New York: Plenum Press.

Deci, E.L. and Ryan, R.M. (2000) The “what” and the “why” of goal pursuits: Human

needs and the self-determination of behavior, *Psychological Inquiry,* *11,* 227-268.

Defra (2007) A framework for pro-environmental behaviours. A report by the Behaviours Unit,

London: Defra.

Ferrer-Balas, D., Buckland, H. and de Mingo, M. (2009) Explorations on the University’s role in

society for sustainable development through a systems transition approach. *Journal of Cleaner*

*Production* 17: 1075-1085.

Ferrer-Balas, D., Lozano, R., Huisingh, D., Buckland, H., Ysern, P. and Zilahy, G. (2010) Going beyond

the rhetoric: system-wide changes in universities for sustainable societies. *Journal of Cleaner*

*Production* 18: 607-610.

Festinger, L. (1957) *A theory of cognitive dissonance,* Evanston, Illinois: Row Peterson.

Gough, S. and Scott, W. (2007) *Higher Education and Sustainable Development. Paradox and*

*Possibility.* London: Routledge Falmer.

Goldstone, R.L. and Gureckis, T.M. (2009) Collective Behavior. *Topics in Cognitive Science 1: 412-438.*

Green, T. (2013) Teaching (un)sustainability? University sustainability commitments and student

experiences of introductory economics *Ecological Economics* 94: 135-142

Haidt, J., Seder, P. and Kesebir, S. (2008) Hive psychology, happiness and public policy. *Journal of*

*Legal Studies* 37: S133-S156.

Hargreaves, T. (2011) Practice-ing behaviour change: Applying social practice theory to pro-

environmental behaviour change. *Journal of Consumer Culture* 11(1): 79-99.

Hastings, G. (2013) *The Marketing Matrix.* London: Routledge.

Hegarty, K. (2008) Shaping the self to sustain the other. Mapping impacts of academic identity in

education for sustainability. *Environmental Education Research* 14: 681-692.

Homans, George (1961). *Social Behavior: Its Elementary Forms*. New York: Harcourt Brace

Jovanovich.

Kagiticibasi, C. (2005) Autonomy and relatedness in cultural context: Implications for self and family.

*Journal of Cross-Cultural Psychology* 36(4): 403-422.

Kennedy, J. (2009) Social optimization in the presence of cognitive local optima: Effects of

social network topology. *Topics in Cognitive Science*, 1(3): 498–522.

Kiron, D., Kruschwitz, N. Haanaes, K. and von Steng Velken, I. (2012) Sustainability nears a

tipping point. *MIT Sloan Management Review* 53(2):69-74.

Koester, R.J., Eflin, J. and Vann, J. (2006) Greening of the campus: a whole systems approach.

*Journal of Cleaner Production* 14(9-11): 769-779.

Lambrechts, W., Mulà, I., Ceulemans, K., Molderez, I. and Baeremynck, V. (2013) The intregation of

competences for sustainable development in higher education: an analysis of bachelor programs

in management. *Journal of Cleaner Production* 48:65-73.

Lampkin, S. R. (2014) The impact of withdrawing a structured initiative aimed at engaging

departments in sustainable activities, at a UK university. In: Leal, W., ed. *Integrative Approaches to*

*Sustainable Development at University Level: making the links.* Springer Verlag. [In Press]

Lockrey, S. and Johnson, K.B. (2013) Designing pedagogy with emerging sustainable technologies.

*Journal of Cleaner Production* 61: 70-79.

Lozano, R. (2006) Incorporation and institutionalization of SD into universities: breaking through

barriers to change. *Journal of Cleaner Production* 14(9-11): 787-796.

Lozano, R. and Young, W. (2013) Assessing sustainability in university curricula: exploring the

influence of student numbers and course credits. *Journal of Cleaner Production* 49: 134-141

Lu, S. and Zhang, H. (2013) A comparative study of education for sustainable development in one

British university and one Chinese university. *International Journal of Sustainability in Higher*

*Education* 15(1): 48-62.

Nisbett, R. and Ross, L. (1980) *Human Inference: Strategies and Shortcomings of Social Judgment.*

Englewood Cliffs, NJ: Prentice-Hall.

Porter, M.E. and Kramer, M.R. (2011) Creating Shared Value. *Harvard Business Review* 89(1/2):

62-77.

Prochaska, J.O. and DiClemente, C.C. (1983) Stages and processes of self-change of smoking:

toward an integrative model of change. *Journal of Consulting and Clinical Psychology*

51(3):390-395.

Ryan, A. and Tilbury, D. (2013) *Flexible Pedagogies: new pedagogical ideas.* York: The Higher

Education Academy.

Saks, A.M. (2008) The meaning and bleeding of employee engagement: How muddy is the

water? *Industrial and organizational psychology - Perspectives on science and practice*

1(1): 40-43.

Schumacher, E.F. (1993) *Small is Beautiful: A study of economics as if people mattered*. London:

Vintage.

Stephens, J.C., Hernandez, M.E., Roman, M., Graham, A.C. and Scholz, R.W. (2008) Higher

education as a change agent for sustainability in different cultures and contexts. *International*

*Journal of Sustainability in Higher Education* 9(3): 317-338.

Taylor, A., Cocklin, C. and Brown, R. (2012) Fostering environmental champions: A process to

build their capacity to drive change. *Journal of Environmental Management*, 98(1): 84-97.

Vaughter, P., Wright, T., McKenzie, M. and Lidstone, L. (2013) Greening the ivory tower: A review of

educational research on sustainability in post-secondary education. *Sustainability 5:* 2252-2271.

Watson, M.K., Lozano, R., Noyes, C. and Rodgers, M. (2013) Assessing curricula contribution to

sustainability more holistically: Experiences from the integration of curricula assessment and

students’ perceptions at the Georgia Institute of Technology. *Journal of Cleaner Production*

61: 106-116

Wright, T.S.A. (2004) Definitions and frameworks for environmental sustainability in higher

education. *International Journal of Sustainability in Higher Education* 3(3): 203-220.

Yuan, X., Zuo, J. and Huisingh, D. (2013) Green Universities in China – what matters? *Journal of*

*Cleaner Production* 61: 36-45.

**Biographical note**

Dr Sally Lampkin has spent over 20 years in the health and sustainability sectors in the UK and overseas, as a clinician, a manager and, most recently, an academic. These activities have involved individuals, communities and strategic planning, based on many of the principles that underpin psychology, behaviour change and social influence. She received her doctorate in environmental psychology from the University of East Anglia in 2010 where she researched the individual motivation to mitigate climate change. Her current interests focus on sustainability in the HE curriculum, engaging people in the sustainability agenda in the workplace and the impact of digital technology at home on sustainable lifestyles. She wishes to thank all the people who contributed to making this paper possible.

1. <http://www.heacademy.ac.uk/resources/detail/sustainability/2013_student_skills_final_report> [↑](#footnote-ref-1)
2. <http://www.qaa.ac.uk/ImprovingHigherEducation/Pages/Leading-Curriculum-Change.aspx> [↑](#footnote-ref-2)
3. <http://www.nus.org.uk/en/greener-projects/greener-curriculum/greener-curriculum/> [↑](#footnote-ref-3)