Revolutions and Second-Best Solutions: Education for Sustainable Development in Higher Education

Cotton, D.R.E., Bailey, I., Warren, M.F. and Bissell, S.*

Debby Cotton has a DPhil in Education from Oxford University and works as a Research Advisor at the University of Plymouth. Her research interests include environmental education, education for sustainable development and e-learning.

Ian Bailey is a senior lecturer in Human Geography at the University of Plymouth, and specialises in environmental policy, sustainable development, and personal environmental behaviour.

Martyn Warren is Director of the Rural Futures Unit in the University of Plymouth. He has thirty years' experience in Higher Education, and has a particular interest in online social science research techniques.

Susie Bissell is research assistant in the School of Geography at the University of Plymouth. She has undertaken research on a variety of topics including rural issues and employability of geography graduates.

*Corresponding author:

Educational Development and Learning Technologies (EDaLT),

University of Plymouth, Drake Circus,

Plymouth,

Devon, PL4 8AA, UK.

Email: dcotton@plymouth.ac.uk

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University of Plymouth

Abstract

Despite widespread policy support for Education for Sustainable Development (ESD) in higher education (HE) and a strong academic literature arguing for a radical rethink of curriculum, pedagogy and institutional culture, progress towards the educational reforms envisaged for ESD remains limited. Based on in-depth interviews with lecturers at a case-study university, this paper explores reasons for the slow pace of change, in particular how constraining variables (such as class size, patchy managerial support, perceived irrelevance of ESD to some disciplines and conflict with prevalent higher education pedagogies) inhibit the widespread use of the holistic, interdisciplinary, transformative learning approaches advocated by ESD theorists. Coping strategies employed by lecturers to bring ESD issues into their teaching practices are investigated and reviewed in the context of the 'theory of the second best'. We conclude with a plea for greater recognition in the literature of the merits of such 'second-best' approaches to ESD in HE.

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Introduction

Reflecting international political commitments to sustainable development (SD) since the Rio Earth Summit in 1992, Education for Sustainable Development (ESD) has gained an increasingly high profile within higher education over the past two decades. The first major step in this direction came in 1990, when university leaders from over 320 Higher Education Institutions in 47 countries signed the Talloires Declaration, committing to environmental sustainability in higher education (University Leaders for a Sustainable Future, 2005). Moreover, the UN Decade for ESD (2005 to 2014) provides a major opportunity for educational institutions worldwide to engage with ESD (see ARIES, 2005).

A similar chain of commitments to ESD can be observed in the UK, where in 1993 the Toyne Report emphasised the need to improve environmental responsibility in the higher education (HE) sector. In 2005, coinciding with the UK government report, *Securing the Future: delivering the UK sustainable development strategy* (HM Government, 2005), the Higher Education Funding Council for England produced an ESD strategy and action plan, *Sustainable Development in Higher Education* (HEFCE, 2005). This was followed in 2006 by the Department for Education and Skills' *Sustainable Schools Strategy* (DfES, 2006).

The potential impact of these initiatives on the HE sector is highly significant both in terms of curriculum content and pedagogical approaches. The HEFCE strategy provides a vision of higher education as 'a major contributor to society's efforts to achieve sustainability – through the skills and knowledge that its graduates learn and put into practice, and through its own strategies and operations' (HEFCE, 2005, 1). Amongst other things, the strategy

seeks to encourage the sector to, '… develop curricula, pedagogy and extra-curricular activities that enable students to develop the values, skills and knowledge to contribute to sustainable development' (HEFCE 2005, 2). According to Sterling (2004a), SD is 'not just another issue to be added to an overcrowded curriculum, but a gateway to a different view of curriculum, of pedagogy, of organisational change, of policy and particularly of ethos' (50). Bosselmann (2001, 176) refers more specifically to the challenges ESD presents for university pedagogies:

> *'Traditional methods of 'one-way' lecturing are of little use with a subject of such complexity. Learning and teaching in the context of sustainability should be based on a more holistic experience: Discovery learning rather than reproductive learning; Investigative learning rather than linear transport of material; Exploring reality rather than reading books; Active learning rather than passive reception of information; Productive action rather than reproduction of facts; Gaining experience rather than acquiring knowledge.'*

This view has not been accepted uncritically, however, as the following response indicates:

> *'[The HEFCE SD Strategy] is one of the most pernicious and dangerous circulars ever to be issued. It represents the final assault on the last remaining freedom of universities ... It is not the job of Universities to promote a particular political orthodoxy.'* (Knight, 2005)

Even without such an explicit rejection of the notion of embedding SD in the HE curriculum, the challenges of ESD to learning and teaching in an era of mass higher education and decreasing unit of resource remain very significant.

Recent research investigating the response of Higher Education Institutions (HEIs) to the ESD agenda illustrates a clear mismatch between ideals and reality at the current time. A recent UK study commissioned by the Higher Education Academy (HEA) reported: 'substantial work in progress, a range of good practice, but overall a patchy picture with SD being marginal or non-existent in some key disciplines but increasingly high profile in others' (Dawe *et al.*, 2005, 4). In general, campus developments (greening of the university environment etc.) have proved rather more achievable than have changes to the curriculum (SQW Limited, 2006). Whilst these patterns could simply reflect a time lag between recent policy directions and HEI practices, evidence from previous research has identified a range of obstacles to ESD. These include: a lack of a shared understanding of, and language for discussing, SD (Reid and Petocz, 2006), the discipline-focused nature of many academics' work (Wals and Jickling, 2002; Blewit and Cullingford, 2004; Moore, 2005), the perceived irrelevance of ESD to some disciplines, and lack of curriculum time (Dawe *et al.,* 2005; Velazquez *et al.*, 2005). Sterling (2001) also identifies 'the comparative newness of the sustainability agenda, the interdisciplinary and transdisciplinary nature of the area (and) the need for learner-centred approaches' (71) as challenges to established norms in HE. He adds that the increasing emphasis on standards and standardisation can create further barriers to the development of high quality educational experiences, and argues that for education to engage fully in ESD requires 'visioning and designing a credible and practicable alternative' (Sterling, 2001, 19).

The three main strands of research on ESD within HE can be summarized as: normative accounts of the aims and pedagogical characteristics of ESD; reviews of progress; and general inventories of issues facing HEIs in relation to embedding ESD. However, few studies have investigated in detail how existing constraints are being negotiated by individual lecturers or of the juxtaposition of these 'coping strategies' with the ESD principles proposed in the theoretical literature. In this article, we examine these issues by means of a study of

lecturers' beliefs, attitudes and practices towards ESD at the University of Plymouth, an HEI that has been at the vanguard of promoting ESD and which, in its own terms, is 'committed to contributing to national and international efforts to embed sustainability in Higher Education' (University of Plymouth, 2007). Following a review of the methodology employed for the study, we identify constraints seen as significant by respondents and examine the various ways in which these are negotiated by lecturing staff. We then discuss in more general terms reasons for the slowness of change in the HE sector, and utilise the 'theory of the second best' to review the potential implications of 'coping strategies' adopted by lecturers for research on teaching about SD.

The current study

The research project was undertaken at the University of Plymouth, a university of around 30,000 students in the south-west of England. Plymouth has a strong reputation for teaching and learning, having gained funding of over £18.5 million in 2005 for four Centres for Excellence for Teaching and Learning (CETLs), including one in ESD, the Centre for Sustainable Futures (CSF). This context was considered to offer strong potential for investigating innovation in curriculum and pedagogy with respect to SD. The research was supported by the CSF, whose core aim is to:

> *'… transform the University of Plymouth from an institution characterised by significant areas of excellence in ESD to an institution modelling university-wide excellence'* (University of Plymouth, 2004, 1)

This research aimed to investigate lecturers' beliefs about, and understandings of, SD, and their views on incorporating SD in the HE curriculum. An earlier paper (Cotton *et al.*, 2007) presented findings from the first stage of the research (an online questionnaire sent to all academic staff conducted in 2005), addressing these research themes.

The questionnaire was developed by the research team using a mixture of closed and open-ended questions, building on previous research in this field. It was then tested with colleagues and redesigned before being piloted during September 2005 with selected lecturers from a range of disciplines. Qualitative questions were used to complement quantitative data where it was felt useful to elicit more detailed information.

The questionnaire findings suggested that although lecturers gave strong apparent support for SD and its inclusion in the HE curriculum, there was considerable ambiguity in how respondents interpreted the term sustainable development, which made it difficult to ascertain exactly *what* they were supporting. Interview methods enabled us to explore these understandings further, in addition to examining in more detail whether and how lecturers included SD in their teaching.

The authors note the divergence in use of terms such as ESD, SD and sustainability, but it emerged during piloting of the questionnaire that respondents found SD easier to understand than sustainability (which can have more generic meanings). In this paper, therefore, we use the term SD throughout to refer to a broad range of environmental, social, economic and equity concerns at both an inter- and intra-generational level. ESD is used hereafter to describe the incorporation of SD into teaching. It should be noted, however, that the majority of interviewees used the terms 'sustainable development' and 'sustainability' interchangeably. For further discussion of these terms, please see Williams and Millington (2004).

In terms of teaching about SD, a substantial number of respondents felt that some pedagogies were more appropriate than others (for example discussion, role play and case studies). We were keen to explore these issues further in the second stage of the research. In this paper, therefore, we utilise subsequent interview data to explore constraints which act

to prevent lecturers integrating SD into the curriculum, and the ways in which they negotiate these constraints.

A two-stage process was used to select respondents for the interview phase of the research. First, a short-list was made of all those who responded positively to a request (in the questionnaire) to take part in a face-to-face interview. Second, interviewees were selected using purposive sampling based on a series of criteria: (i) discipline; (ii) gender; and (iii) response of a survey question concerning the relationship between economy and environment (see Figure 1). This ensured that the final list of interviewees were broadly representative of the survey respondents. For instance, the majority of survey respondents agreed with statement two in Figure 1 (that economic growth needs to be modified), so comprised the majority of interviewees, although respondents who agreed with the other options were also selected to reduce the degree of selection bias likely to arise in the relatively small sample of volunteers.

Figure 1 here

Interview questions were formulated, piloted and refined prior to the main interview phase. Interviews were conducted over a two month period, lasted 30-60 minutes and were recorded. To enhance research neutrality and encourage participants to express views openly, the interviews were undertaken by a research assistant with no direct connection to the CSF.

Key questions addressed in the interviews included the following:

* What is your current understanding of SD? To what extent do you think it is a clearly defined concept? Do you see it as relevant to your discipline? Do you have any experience of teaching about SD? *(How did you find it?)* Do you have any plans to include it in other courses?

- To what extent do you think that SD could or should be integrated into the HE curriculum? *Why?* How do you think this could be done? (*Do you think it can be?)* As an add-on generic course or integrated into all curriculum areas?

- What, if any, difficulties/barriers do you envisage with such integration? Are there aspects of the campus or curriculum which create particular difficulties in this respect? *What are they? Why?* How could these barriers be overcome?

- We asked in the questionnaire whether, if at all, teaching about SD influences the teaching methods you use. What are your views on this? *Why?* What kinds of teaching method might you use? *Which are most useful?* What do you see as the benefits of this method? *Why?*

The interviews were then transcribed and coded using NVivo qualitative data analysis software. Subsequently, the research team utilised the constant comparative method to draw out cross-cutting themes and patterns of response (Silverman, 2005). Data were then viewed against the existing theoretical literature in ESD, and the analysis refined accordingly. Within this paper, the data have been organised in relation to the key argument presented; however, the argument was inductively derived from the data collected. Additional analysis was also undertaken to search the data set for evidence that contradicted the case presented. Where such evidence was found, every attempt was made to integrate it into the findings (revising aspects of the argument where necessary). Where this was not possible, these counterviews are mentioned at appropriate points in the discussion.

Findings

As with the questionnaire survey, the interviews revealed a diversity of understandings of ESD and a range of views on the appropriateness of including SD in the HE curriculum. The

following discussion is organised in two sections to reflect key themes emerging from the data analysis. These are: (i) the constraints on including SD in HE teaching identified by respondents (which both overlap with and diverge from the findings of previous research); and (ii) the 'coping tactics' utilised by lecturers to include SD within their teaching.

i) Constraints on inclusion of SD in teaching

Constraint 1: Limited relevance of sustainable development to some disciplines

31% of respondents to the questionnaire survey agreed and 23% strongly agreed that SD was central to their discipline (Cotton *et al.,* 2007). Surprisingly, no clear subject bias emerged on this issue though it might have been expected that SD would be viewed as more relevant to some disciplines (e.g. geography and environmental science) than others (e.g. occupational therapy, psychology). Through the interviews we were able to explore this in more depth, including the way lecturers viewed the link between SD and their discipline, and how this was expressed in teaching content and delivery. Only two interviewees reported that SD was a central component of their teaching (an engineer and a geographer). The majority felt it was not integral in the sense of not being a specified learning outcome, but many still saw its connections with moral and ethical issues influencing areas of teaching. Between them, respondents identified a range of subjects in which SD might play some part, including: Coastal Zone Management; Education; Energy; English Language; Media Arts; Medical Ethics; Occupational Therapy; Oceanography; Theatre and Performance; and Visual Arts. Some of these appear to have a more obvious link to SD than others, yet respondents' disciplinary origin was by no means the key indicator of beliefs about the relevance of SD to teaching (see table 1).

Table 1 about here

It was apparent that flexibility in curriculum content allowed individuals to approach similar subject matter in different ways. For example, respondent 6 felt uncomfortable with the more contested aspects of SD, so avoided them in his teaching:

> *Although I am dealing with the finding of resources I am not really dealing with the conservation of resources. I have done an MSc and a PhD in coastal zone management, which can be used I would think as vehicles for promoting sustainability. But my take on them was from a surveyor's perspective … others would fulfill what I see as the more political role of managing developments.* (int 6)

Respondent 1 – from a similar disciplinary background – chose to focus more on human-environment relationships and therefore included a stronger SD slant into his teaching:

> *I started by being, what you might refer to as a scientific geomorphologist, in that I was looking at processes of river flow … Over the years I got interested in hydrology and particularly water resources. So I began to swing from pure physical into applied physical studies, with a link to human utilisation, and issues of sustainability* (int 1)

These findings suggest that the relevance of SD to a subject area is not clear-cut: The decision on whether to include it within the curriculum appears to depend upon both the lecturers' personal beliefs and the disciplinary context in which they work. Respondent 6 added, 'I can imagine there would be courses on sustainability, which will even use some of the elements that I teach ... I guess that I would see individuals with those interests going into that study.' (int 6)

Interestingly, evidence also emerged that even in disciplinary areas which appeared to have only marginal connections with SD, links could be made by enthusiasts:

> *On the surface you would think, occupational therapy is about recruiting people for the health profession primarily, what has that to do with sustainable development?*

11

> *And yet if you look at … all the resources that are required in order to get them qualified, it does have an impact on sustainability.* (int 3)

This respondent did not see SD as a core element of his subject, but nonetheless saw it as sufficiently important to attempt to incorporate it. Again, relevance to the curriculum is interpreted through the lens of personal beliefs:

> *I used to teach Geography years ago, and I have got a strong environmental consciousness. So there are a lot of things I am bringing with me into my job, that colour my view on the world. So how I think about sustainable development within my teaching, is trying to make some of those bigger connections.* (int 3)

These data provide a further perspective on previous studies which suggest that lack of relevance to certain subject areas is a barrier to the inclusion of SD in the curriculum. An awareness of the notion of 'relevance' as a social construct, influenced as much by the individual as by the discipline, may bring with it a change in thinking about how to enact institutional change.

Constraint 2: Tensions between top-down and bottom-up approaches

Some lecturers had a fairly straightforward belief that stronger support for SD in university policies and practice would have a positive impact on their ability to include it in teaching:

> *It would be nice to see some evidence within the university that they took sustainability seriously* (int 5)

> *I think it ought to be in a mission statement or somewhere in a prospectus … You don't want to preach, but I think there should be something that says our university is committed to sustainable development, through a number of policies* (int 3)

In many cases, respondents felt that it should not be their responsibility to decide whether to incorporate SD into their teaching, seeing this as a value judgment that they were not prepared to make in isolation. Several suggested that senior managers should be taking a stronger stance on SD issues and showing clear support for this agenda. This was not felt to be the case currently despite the funded CETL in ESD, and the newly developed Sustainability Policy.

However, one risk arising from strong leadership is that SD may be viewed as another imposed agenda which does not align with the academics' views of what it is important in their discipline – or indeed their underpinning beliefs about academic practice and autonomy in HE. If it is perceived as a top-down imposition, resistance is highly likely from lecturers who already believe that teaching time is being filled with unnecessary additions:

> *I think if we actually had to put it into the curriculum and show where it was that would become very difficult and … one would start to find some very antagonistic responses.* (int 10)

> *There is already disquiet and a small amount of rage amongst academics at all the other things that we are already having to add in. You know things like PDP* [personal development plans] *… So I think the way that it is handled would need to be quite sensitive.* (int 2)

An extreme example of this view was represented by a respondent from Media Studies who expressed strong beliefs about the 'colonisation' of traditional subjects by competing agendas:

> *One of the problems, I think, is that subjects aren't very good at making a defence of their core territories, so things like environmentalism or other "isms" actually can quite easily invade and distort the subject centre.* (int 8)

This respondent's use of military metaphors (competing agendas 'invading' the subject and 'territories' in need of 'defence') illustrates the strong beliefs some lecturers hold about their disciplines (as detailed by Becher and Trowler, 2001). The impact of this kind of discourse should not be under-estimated in attempts to engage staff in curriculum change.

On the other hand, some respondents argued that concerned individuals should initiate actions, rather than ESD strategies relying on top-down leadership:

> *I think the biggest barrier here is that no one person is saying "I'll be the rep for" or "I'll put my name forward for someone to look at this" …There is an expectation, which is completely wrong, that the university should be promoting this.* (int 3)

It appears that a careful balance is needed between inclusion of the wider university community, and leadership from the top.

Constraint 3: Conflict with 'conventional' Higher Education pedagogies

There is clearly considerable potential for tension between the ambitious pedagogies recommended by many ESD theorists and those commonly encountered in contemporary HE. Despite (or perhaps because of) the ubiquity of lectures as an HE teaching method, lectures were rarely mentioned in the interviews. One respondent who did refer to lectures dismissed them as inappropriate for ESD:

> *We tend to have a lot less of the lecture format, with 500 students and one person in the front droning on … We tend to be much more seminar based ... something like that would fit very neatly with that approach rather than someone standing at the front saying "you have to care about the environment!"* (int 12)

Two respondents argued that conventional teaching methods were suitable for any subject area:

> *What is my teaching method? It's stand up and deliver … How does sustainability come into that? I don't really know. I don't think the teaching method is driven by sustainability.* (int 1)

In contrast and echoing the findings of the questionnaire survey, seven respondents described interactive or student-centred pedagogies as more appropriate for teaching about SD. These included discussion-based teaching, role plays and project work:

> *Because you are talking mainly about concepts, attitudes and value systems … It would require quite a lot of discussion and debate and reflection.* (int 12)

> *[Role playing] I will often say "who thinks this is bad" and invariably most of the group with think this and then I'll flip their role … instead of leaving them with their preconceived idea.* (int 4)

The benefits of student-led pedagogies identified by respondents included the ability to consider different attitudes and values when looking at SD issues. Two respondents were explicit about their aims in terms of challenging students' existing views:

> *I think part of something like this is you are trying to change people's perspectives. Make them less selfish perhaps but more looking at the broader picture ...* (int 12)

However, another respondent referred to the risk of 'brain-washing' students, and questioned whether lecturers should promote concepts which they favour (int 9).

Despite the widespread enthusiasm for student-centred pedagogies, the extent to which these teaching strategies were *actual* rather than *aspirational* remained unclear. In an institution where class sizes of 200 or more are not unusual, the opportunities for putting these pedagogical strategies into practice may be severely limited. It is notable that the respondent who discussed role play in depth (respondent 4) was from a university partner college, where class sizes are typically small. This tutor's response is well aligned with

findings of previous research looking at teaching of environmental issues in schools (Cotton, 2006), but is an approach that would be unfamiliar to many working in HE.

ii) Coping Tactics

Tactic 1: Covert or surreptitious inclusion of SD in curriculum content

Several interviewees noted that even where SD lay outside the explicit learning outcomes for a session or module, it might be integrated via case studies or specific examples:

> *In a subject area like statistics you can't really include anything like that directly … some of them do creep through, surreptitiously in the examples I use … it's all a bit undercover I am afraid (int 7)*

> *I was involved with building simulation mainly but also a little bit of sustainability always creeps in alongside.* (int 13)

The notion of SD creeping somewhat covertly into the curriculum was a recurrent theme in several interviews, and was also reflected in comments about lack of institutional support for more explicit ESD strategies. Lecturers appeared genuinely concerned about whether their inclusion of SD in certain subject areas could be viewed as subversive. One respondent noted that the tutor's influence may extend well beyond the formal curriculum:

> *As lecturers we have viewpoints that we share with our students in many ways, probably more complexly than just teaching about it. Very simple comments that you slip in in a lecture about saving trees for instance … I think that tutors actually influence students in ways well beyond the classroom or the subject … by choosing texts and cultural products which, while possibly commenting on their structure or contextualisation but also providing pawns for discussing issues of sustainability, which is actually what people do all the time. So in other words I think through the back door.* (int 10)

This participant demonstrated a particularly clear understanding of the potential impacts of the 'hidden curriculum' (Jackson, 1968) on the learning outcomes achieved by students, and the possibility that these may diverge considerably from tutors' explicit teaching aims (Hopkins and McKeown, 2001).

Tactic 2: Small changes to curriculum where and when possible

Many respondents stressed the importance of making small-scale changes that were achievable within the constrained situations in which they worked rather than attempting wholesale inclusion of SD in the curriculum:

> *I think if there could be a kind of framework document, even if it is just a paragraph or something. That could be just cut and pasted and put in every module guide, every course outline.* (int 2)

Some ensured that SD was part of their teaching through their use of resources, or through tutorials or modules which fell somewhat outside the formal curriculum:

> *The other option is of course to promote it as a module in itself, sort of slot it in alongside.* (int 12)

Others were happy to discuss the changes that could be made at a programme or module level, so long as the teaching team felt they retained reasonable control over the process:

> *… giving each programme leader some sort of a duty to say "how can you think about this at any level?" … what things could we do that could be perceived as promoting sustainable teaching?* (int 3)

Advice and support on how SD could be added into current modules (int 12) was also requested, illustrating the desire to make small alterations to the curriculum, rather than deeper structural module or programme reviews. It may be that this was seen as less

threatening to pedagogical beliefs, or simply more manageable than making radical changes.

Tactic 3: Modelling good practice

Many respondents drew on the idea of modelling good practice in areas such as energy and paper use. This again appeared to represent a tactic for making small changes to practice without challenging underlying pedagogic beliefs or causing excessive disruption to established routines:

> *There are some things where technology will perhaps enable me to do things like use less paper in the future. But because of what I teach, and they way that I teach, that's about as far as I can go in the current circumstances. (int 2)*

> *I think is it as basic as when you finish teaching, turn the light out* (int 3)

However, respondent 3 also noted that there were wider issues inherent in ESD, and that more radical changes are required to embed it firmly within HE:

> *Social education for me is a big part of the university. It is not just coming out with a degree, it is how you change and what your values are when you finish. So I think there is so much to Sustainable Development for me within the University of Plymouth that is not just about bits of paper and light bulbs.* (int 3)

Several respondents voiced concerns about making changes to their teaching, however. They felt that insufficient support from within and beyond the institution constrained their actions. As was reported earlier, changes to personal behaviour and campus greening were considered easier to achieve than changes to curriculum.

Discussion

Our research suggests that the mismatch between ideals and reality identified in the introduction to this article is unlikely to be either the result of a temporal-lag between policy and enactment, or resistance to change among individual lecturers. Even those individuals who professed a commitment to including SD in their teaching reported facing structural barriers which made attainment of the 'ideal' states of ESD (both in terms of prominence and teaching styles) unachievable. This has led in many cases to a position in which tinkering with the curriculum and covert inclusion of SD in teaching have become commonplace responses to the constrained situations in which lecturers work. Our research also suggests that some barriers identified by previous research (e.g. lack of time; irrelevance to the discipline) are highly mediated by lecturers' attitudes towards SD. This may explain the 'patchy' nature of current practices identified by Dawe *et al.* (2005).

From these results it is apparent that – in the institution under study at least – current practice in integrating SD into HE is far removed from the 'ideal states' envisaged by many ESD experts. The radical changes to educational programmes and institutions creating holistic learning opportunities that transcend disciplinary boundaries and provide 'transformative' learning experiences (Bosslemann, 2001; Sterling, 2001, 2004b) appear somewhat disconnected from the everyday experiences of our respondents. If such a gap exists in a university that is strategically committed to ESD and nationally recognised as demonstrating excellent practice, this has important implications for institutions that are less advanced in these areas. Whatever standpoint one takes on the rectitude of transformative visions of ESD in HE, much of the current pedagogical literature on ESD (at least implicitly) overlooks, or discounts, a significant portion of current practice as deficient in relation to this 'ideal' state.

 One way in which to attain a deeper understanding of current realities regarding ESD is by recourse to the theory of the second-best. This theory, originally developed in welfare economics (Lipsey and Lancaster 1956-7), takes as its starting-point the ideal state of a

19

system – the most desirable form it could take (although, of course, desirability is a relative concept). For ESD advocates, this might be the systemic and institution-wide transformation of policy and practice, maximising both the breadth of ESD across disciplines and requisite pedagogical reforms. Achieving the ideal state would, however, depend on the amenability of certain underlying variables: sufficient resources to operate with small groups; economic stability; commitment of key faculty managers, and so on. The theory suggests that, if one or more variables are constrained, it is necessary to seek 'second-best' states that may require moving unconstrained variables away from their 'first-best' state (Solum, 2007). In crude terms, if the first-best state is unattainable, it may be more productive to adopt the next-best alternative than to strive to maintain the conditions relevant to the first-best.

To take a simple example, a lecturer is allocated a formal lecture theatre for a course on SD, one hour per week through the academic year, with eighty students. Truly transformative learning – the 'first-best' – might require small-group working on a variety of problems (both within and beyond the classroom), with close facilitation and deep discussion of the complexities. The lecturer could strive to achieve something approximating the ideal by building group work and discussion into sessions, despite the fact that several of the variables (resources, venue, time) are structurally constrained. However, the result may be a less effective learning process than a well-structured lecture series, supported by online student-centred learning materials – a second-best solution. Though stylised, this example demonstrates the essence of the second-best argument.

The potential danger, of course, is that institutions or individuals may utilise 'second-best' arguments to avoid taking responsibility for initiating change, or to accept obviously flawed changes too readily. The ideal of HE as a truly transformative experience is intuitively appealing, and ESD advocates have strong justifications for striving to persuade governments and institutions to create the necessary conditions. In reality, however, other competing agendas – not least, employability – that may work against this position may be

intractable for the foreseeable future and cannot simply be dismissed. Against this, from the evidence from much ESD literature, many advocates of 'ideal–state' solutions appear to engage little with the 'realists' who identify barriers to implementation, leading to an impasse which engaging with notions of second-best may help to circumvent:

> *The enterprise of ideal theory circumvents certain recurring types of impossibility objections—it allows us to engage in normative investigation while we set some issues of feasibility to the side. The enterprise of nonideal theory puts those feasibility issues back on the table.* (Solum, 2007, 4)

It is important to acknowledge that the constraints on institutions and individuals in modern HE are very real, and in many cases irresolvable in the short and medium term. In such circumstances, focusing excessive attention on normative prescriptions while dismissing the value of second-best scenarios risks at best a missed opportunity, and at worst a general disengagement by the HE community.

Conclusion

In this article, we have argued that the notion of the 'ideal state' is both appealing and problematic in the context of ESD. On the one hand, it provides a framework of principles and practices that reflects broader political and social aspirations in relation to SD. On the other hand, focusing on optimal solutions may lead to insufficient attention to the 'real-world' context of ESD in HE, particularly the rigidities that inevitably exist in large institutions trying to offer and manage a diverse educational curriculum. Interpretations of optimality, of course, vary substantially between the different stakeholders in HE. For advocates of ESD (and perhaps for some students), the optimal situations may be: to make SD a core part of every undergraduate programme; small class sizes enabling interactive, discursive and experiential teaching; and formal policies aimed at promoting SD awareness, values and

activism both within and beyond the classroom. For university policy-makers, optimal situations may be full lecture theatres and a teaching and learning diet that increases employability. Further research which investigates the impacts of utilising these different approaches would be of potential interest to policy-makers and practitioners alike.

Where institutional and other constraints make it impossible to achieve optimal situations (i.e. most situations), seeking 'second best' solutions may provide a way of making progress and stimulating processes of reflection and cultural transition. In part, this would involve less focus on rhetoric and more on practical changes within the boundaries of the current HE system. Although problems with the tactics undertaken by lecturers in this study can be readily identified (not least the risk that content surreptitiously incorporated into the curriculum will undergo lesser scrutiny than material which has been formally validated), they provide the possibility of changes to HE that are within the reach of individuals. Such approaches may also provide a more realistic and politically acceptable way of raising students' sustainability literacy without imposing a doctrinaire SD agenda.

An enduring difficulty for those who are forced to adopt second-best approaches, nevertheless, is the often highly normative and abstracted literature on how ESD should be delivered. Given the improbability that institutional constraints will simply disappear under the weight of principled reasoning, continuing to highlight stylised (some might say utopian) views of ESD may become profoundly disempowering for those 'at the chalk face'. Perhaps a greater engagement in the ESD literature with the constrained situations which are the reality of mass HE in the twenty-first century might be more constructive than the perpetual advocacy of 'first-best' solutions which institutions continually fail to achieve. Perhaps there should be a greater recognition of the need to accept, and even promote, 'second-best' policies without losing sight of the long-term objectives. Perhaps, indeed, there is a need to look not for revolution but evolution.

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Figure 1: Typology of understandings of the relationship between economy and environment

(Based on Jordan and O'Riordan, 1999)

1. There are no limits to growth: loss of some natural capital is acceptable if it results in a gain in human welfare, and a strong economy can afford to find technological solutions to environmental problems.

2. Economic growth needs to be modified (for instance by regulation and 'green taxes'), since there is some natural capital for which human capital and technological fixes cannot substitute.

3. We should aim for zero economic growth in order to ensure complete protection of 'critical' natural capital.

4. Negative growth should be encouraged in order to create smaller national economies, dependent on localized production.

Table 1: Interviewee profiles

Interview no.	Discipline	Gender	Age	Response to figure 1	Relevance of SD to discipline
1	Geography	Male	60+	2	Central
2	History	Female	20-29	2	Irrelevant
3	Health	Male	40-49	2	Peripheral
4	Marine Biology	Male	20-29	2	Peripheral
5	Biology	Male	40-49	No response	Irrelevant
6	Environmental Science	Male	50-59	2	Irrelevant
7	Maths	Male	50-59	3	Peripheral
8	Media	Male	40-49	1	Peripheral
9	Business	Female	40-49	3	Peripheral
10	Art	Female	30-39	2	Peripheral
11	Architecture	Female	30-39	2	Peripheral
12	Education	Female	40-49	2	Peripheral
13	Engineering	Male	30-39	3	Central
14	Sociology	Male	40-49	2	Peripheral