Journal of Cleaner Production xxx (2014) 1–11

Contents lists available at ScienceDirect

Journal of Cleaner Production

journal homepage: www.elsevier.com/locate/jclepro

Teaching organisational change management for sustainability: designing and delivering a course at the University of Leeds to better prepare future sustainability change agents

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ARTICLE INFO

Article history:
Received 20 August 2013
Received in revised form
9 March 2014
Accepted 10 March 2014
Available online xxx

Keywords:
Education for sustainable development
Corporate sustainability
Organisational change management for sustainability
Curriculum development

ABSTRACT

A number of universities worldwide have created new courses and degrees or modified existing ones, as a response to the increasing interest by companies to hire sustainability literate graduates. However, many of such courses have been developed with a focus on 'hard' technocentric or managerial issues. The examples that have been published in academic journal have tended to be descriptive, and in only a limited number of cases have they been based on theories of teaching and learning. This paper presents the process of designing and delivering a new course on organisational change management for sustainability for the BA Environment and Business degree at the University of Leeds. The course was developed based on holism and a constructivist position to help deal with the complexities of sustainability and organisational change management. The course objective was to educate students as sustainability change agents by dealing with the complexities of sustainability and 'soft' issues in organisational change management. The process had three key elements: (1) the learning outcomes; (2) the course delivery; and (3) the course assessment (including feedback). During the process a number of challenges had to be overcome. The paper provides a more complete, systematic, robust, and focused approach to education for sustainable development, specifically on course design and delivery, by using theories of teaching and learning and linking the course aims, delivery, and assessment. The paper integrates education for sustainability development and corporate sustainability into a relatively new discipline, organisational change management for sustainability.

1. Introduction

The recent shift in focus to corporations, particularly the larger ones, in the sustainability debate (Cannon, 1994; Elkington, 2002, 2005; Hart, 2000), has arisen because they are perceived to be responsible for many negative environmental and societal impacts (Dunphy et al., 2003; Hart, 2000). Nonetheless, corporations are also perceived as possessing the resources, technology, global reach, marketing skills, and, sometimes, the motivation to work towards more sustainable societies (DeSimone and Popoff, 2000; Hart, 2000; Henriques and Richardson, 2005), as well as helping to change customer behaviour to make it more consistent with sustainability principles (DeSimone and Popoff, 2000).

Corporations and their leaders have increasingly recognised the relations and inter-dependences between the economic, environmental and social dimensions of their activities (C.E.C., 2001; Elkington, 2002), as well as their effects in the short-, long- and longer-term (Langer and Schön, 2003; Lozano, 2008). In this context, some companies have been demanding graduates who are sustainability literate (see Bradfield, 2009; Hesselbarth and Schaltegger, 2013; WBCSD, 2010). This emphasises the amply discussed importance of the links between industry and academia (see Arora et al., 1998; Carayannis et al., 2000; Etzkowitz and Leydesdorff, 2000; Leydesdorff, 2000) encompassing different academic disciplines.

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http://dx.doi.org/10.1016/j.jclepro.2014.03.031
0959-6526/

In parallel with, and frequently in response to, corporate efforts, an increasing number of higher education institutions (HEIs) have been incorporating and institutionalising sustainable development (SD) into their curricula, research, operations, outreach, and assessment and reporting, as well as engaging with all key stakeholders, both internal and external (see Cortese, 2003; Lozano, 2006; Velazquez et al., 2005).

One of the key areas of interest for sustainability in HEIs has been the incorporation of the concept into curricula at all levels, as well as stratagems to achieve this in practice (Boks and Diehl, 2006; Wemmenhove and de Groot, 2001). Within this context, a key focus of attention has been students learning how their decisions and actions affect the environment and society (Lozano, 2010; Lozano and Peattie, 2009).

Five main approaches can be found for incorporating SD into higher education curricula:

1. Coverage of some environmental issues and material in an existing course or courses (Davis et al., 2003; Thomas, 2004);
2. A specific SD course (Abdul-Wahab et al., 2003; Boks and Diehl, 2006; Cortese, 2003; Kamp, 2006);
3. SD intertwined as a concept in regular disciplinary courses, tailored to the nature of each specific course (Abdul-Wahab et al., 2003; Ceulemans and De Prins, 2010; Kamp, 2006; Peet et al., 2004; Thomas, 2004);
4. SD as a possibility for specialisation within the framework of each faculty (Kamp, 2006); and
5. SD as an undergraduate or post-graduate program (Lozano and Lozano, 2014).

Incorporating some material or creating a stand-alone introductory SD course could appear as a relatively simple starting point for institutions. However, such steps tend to result in the students learning and studying for that particular course but not being able to integrate SD principles into their professional life (Boks and Diehl, 2006; Lourdel et al., 2005; Peet et al., 2004).

Some examples of the incorporation of SD into higher education curricula have been published in academic journals. For example, Vann et al. (2006) discussed the development of an e-learning introductory course on sustainability, basing the content on environmental ethics, ecology, and environmental economics. Stubbs and Schapper (2011) developed two courses on corporate social responsibility (CSR) and sustainability as part of a business curriculum in Australia. Pappas et al. (2013) applied Bloom's Taxonomy of Educational Objectives to a six-course design curriculum to develop an engineering programme. MacVaugh and Norton (2012) explored the use of active learning methods for addressing the legitimacy and practicability of an introductory course on sustainability into business. Matten and Moon (2004) assessed the state of CSR education in Europe, where they highlighted the levels and types of programmes available, the teaching methods, and the main developments in CSR research by business school faculties and PhD students. Hesselbarth and Schaltegger (2013) carried out an alumni survey to explore the corporate sustainability practice experiences of their MBA graduates, where they found that more research is needed on the topic and that this needs to be linked to curriculum development. These examples show that the efforts have comprised course development, programme coverage, application of theories of teaching and learning, and the results of sustainability education. As it can be seen from the examples, many of these have focused on 'hard' technocentric or managerial issues. In most cases the papers have been descriptive, with a limited number of cases being based on theories of teaching and learning, e.g. Pappas et al. (2013).

Using education to pursue sustainability has presented a number of conceptual and practical challenges, especially as the typical university curriculum has been generally organised into highly specialised areas of knowledge represented by individual disciplines (Cortese, 2003; Costanza, 1991; Orr, 1992; van Weenen, 2000), which conflict with the holistic basis of sustainability (Lovelock, 2007). This is especially critical when designing a new course where the topic is relatively under-researched.

This paper presents the process of developing a new, integrative course focussing on organisational change management for sustainability (OCMS) for the BA Environment and Business at the University of Leeds. The structure of the paper is as follows: Section 2 provides an overview of organisational change management for corporate sustainability; Section 3 presents the context for developing the new course; Section 4 discusses the design of the course (divided into learning outcomes, course delivery, and course assessment); Section 5 presents the discussion; and Section 6 offers the conclusions.

2. A brief discussion on organisational change management for corporate sustainability

For Dyllick and Hockerts (2002, p. 131) Corporate Sustainability (CS)[1] is: "*…meeting the needs of a firm's direct and indirect stakeholders (such as shareholders, employees, clients, pressure groups, communities, etc.), without compromising its ability to meet the needs of future stakeholders as well*". Linnenluecke et al. (2009) emphasised that in order to make real progress a company's CS should encompass a holistic perspective. Lozano (2013) postulated that CS is a journey for companies as they iteratively seek to adjust and improve their internal activities, structure, and management, and how they engage with and empower stakeholders (including the environment) to more effectively contribute to sustainable societies.

A number of tools and approaches have been developed that go beyond legal compliance to help companies become more sustainability orientated (see Daily and Huang, 2001; Dunphy et al., 2003; Robert et al., 2002). However, the majority of CS efforts described in the literature focus on integrating the economic and environmental dimensions (e.g. Atkinson, 2000; Costanza, 1991; Lozano, 2012; Reinhardt, 2004), and they have concentrated principally on 'hard' technocentric issues, such as reducing impacts, or improving efficiencies and effectiveness (Lozano, 2012), often for individual processes or firms (Korhonen, 2003).

In spite of company efforts and the tools available, relatively few organisations have successfully incorporated and institutionalised sustainability into their systems and cultures (Doppelt, 2003a; Hussey et al., 2001; Siebenhüner and Arnold, 2007). The companies that have engaged in sustainability have done so mainly through upper management levels' initiatives (Siebenhüner and Arnold, 2007), where companies have been, generally, treated as 'black boxes', seldom accounting for intra-organisational differences (Küpers, 2011; Linnenluecke et al., 2009), and addressing their organisational systems tangentially (Lozano, 2012).

In recent years, a new body of literature has appeared that has focused on the social and psychological obstacles faced within companies (Hoffman and Henn, 2008). The authors in this field have proposed the use of change theory to better address 'soft' issues (such as values, visions, philosophies, policies, employee empowerment, and change management practices) (Doppelt,

[1] Several discussions have evolved on the role of CSR for companies to contribute to sustainability; however, CSR is limited by: too many definitions and interpretations (sometimes confusing and at other times contradictory); being, in many cases, equated to philanthropy; and being perceived, usually, as referring only to the social dimension (Lozano, 2009).

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Table 1
BA Environment and Business degree structure for 2011–2012.

Year	Type of course	Course name
Year 1	Compulsory courses	Environmental Science for Environmental Management
		Introduction to Business, Environment and Corporate Responsibility
		Mathematics for Earth and Environmental Scientists
		Skills for Environmental Social Science
		Sustainable Development: Concepts and Case Studies
		Understanding Social Enterprises
	Optional courses	Environmental Politics and Policy
		Introduction to Company Law
		Introduction to Management
		Organisational Behaviour
Year 2	Compulsory courses	Career Development and Planning
		Finance for Small Business
		Managing Innovation in Business
		Research Design, Planning and Practice
		Research in the Environmental Social Sciences
		Tools and Techniques for Business, Environment and Corporate Responsibility
	Optional courses	Climate Change: Science and Impacts
		Climate Change: Society and Human Dimensions
		Environmental Planning, Policy and Decision Making: Assessment Tools and Techniques
		Leadership in Business
		People in Organisations
		Principles of Corporate Strategy
		Principles of Marketing
Year 3	Compulsory courses	Business and Sustainable Development
		Environmental Enterprise Project
		Sustainable Consumption
	Optional courses	Earth and Environmental Sciences into Schools
		Environmental Risk: Science, Policy and Management
		Geographies of Consumption
		International Business Management
		Law and the Environment I & II
		Social Networking for Enterprise
		Sustainable Development: Challenges and Practice

Source: (University of Leeds, 2012a)

2003a, 2003b; Dunphy et al., 2003). This has included: (1) systems theory (Clarke and Roome, 1999); (2) organisational learning (Senge, 1999; Siebenhüner and Arnold, 2007), e.g. learning sophisticated theories or providing moral and philosophical support to managers about sustainability (Rosner, 1995); and (3) organisational theories (Baumgartner and Zielowski, 2007; Siebenhüner and Arnold, 2007), including hierarchy flow, top–down or bottom–up (Doppelt, 2003a), through managerial measurement and control (Henriques and Richardson, 2005), and stressing the importance of internal change and innovation (Doppelt, 2003a; Henriques and Richardson, 2005). Most of the efforts found in the literature follow the managerial control route (e.g. DeSimone and Popoff, 2000; Harvard Business Review, 2000; Henriques and Richardson, 2005; Holliday et al., 2002), with only a few dealing with internal change and innovation (e.g. Baumgartner and Zielowski, 2007; Doppelt, 2003a, 2003b; Dunphy et al., 2003).

OCMS aims to move an organisation from the current state to a more desirable one (Lozano, 2013). This ranges from minor evolutionary changes (Dawson, 1994; Doppelt, 2003a; Gill, 2003) to radical[2] ones (Dawson, 1994; Maurer, 1996; McGahan, 2004; Meyerson, 2001). Such change can also be through *non-intervention*, where there is little or no direction or guidance; *radical* intervention, which may restrict the freedom of individuals or groups; and *planned change*, which is concerned with the identification of mission and values, collaboration and conflict, control and leadership, resistance and adaptation to change, utilisation of human resources, communication, and management development (Bennis et al., 1969). Change in organisations is complex (Dawson, 1994), continuous, iterative and uncertain (Pettigrew and Whipp, 1991).

When addressing organisational change, companies have a higher degree of control over internal changes (i.e. constantly reassessing objectives and policies that affect or are affected by primary stakeholders) than over external stimuli, which is, in general, more proactive (Freeman, 1984). Organisational sustainability has been driven by many factors (Oskarsson and von Malmborg, 2005; Salzmann et al., 2005). However, organisational changes that threaten the *status quo*, such as moving away from unsustainable practices towards more sustainable ones, are bound to face resistance at the different organisational levels (Gill, 2003; Maurer, 1996; Senge, 1999). The major constraint in such processes is the ability of people to accommodate change (Dent and Galloway Goldberg, 1999; Garvin and Roberto, 2005; Maurer, 1996). Resistance can be covert or explicit with blatant struggles over resources, expressions of doubt, and an unwillingness to commit to the change efforts (Lewin, 1947).

Several authors (see for example Chin and Benne, 1969; Doppelt, 2003b; Kanter, 1999, 2003; Maurer, 1996) have recognised a large number of barriers to change that affect the different organisational levels and strategies and approaches to overcome them (for a compendium of these generic barriers and strategies to overcome

[2] Radical changes create high levels of resistance, and may cause instability if not managed properly. Radical change is useful when the system cannot evolve further in response to external stimuli or when engaging with proactive changes.

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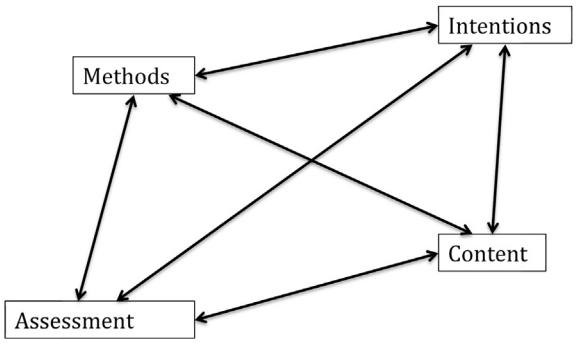

Fig. 1. The articulated curriculum.
Source: Hussey and Smith, 2003

them and their corresponding attitudes, refer to Lozano, 2009).[3] Engaging and overcoming barriers to change can help to better incorporate and institutionalise CS. According to DeSimone and Popoff (2000), this is both a radical and incremental process.

Long-lasting CS change requires transformation of the organisational structure, operations (Diesendorf, 2000), management (Doppelt, 2003a), the development of sustainability visions for the future (Doppelt, 2003a), proposals on how to achieve these (Hodge et al., 1999; Robert et al., 2002), and changes in mental models (Lozano, 2013).

Organisational change management for corporate sustainability is a fairly new topic (see Küpers, 2011; Linnenluecke et al., 2009; Lozano, 2013) with limited research and, even less, reported teaching on the subject.

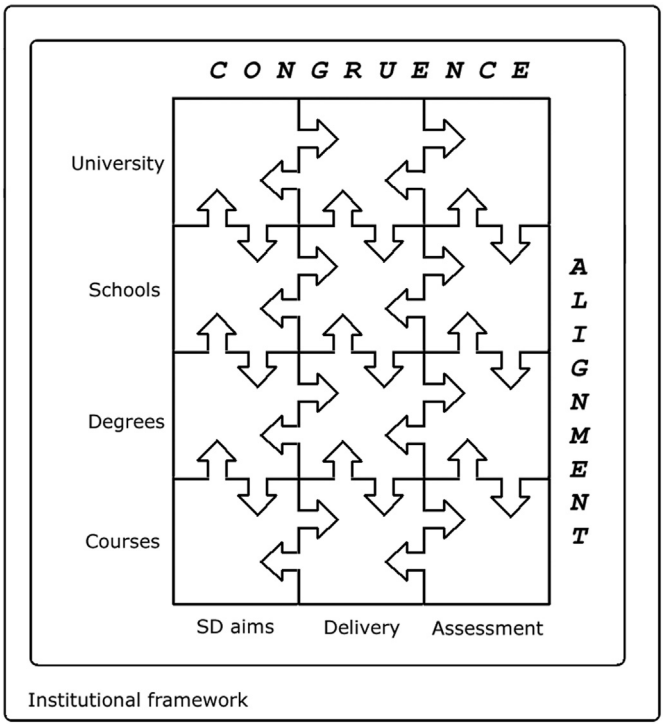

Fig. 2. Multi-dimensional Sustainability Influence Change for Academia (MuSICA) memework.
Source: Lozano, 2010

3. Context for developing the new course

The University of Leeds (UL) was established by Royal Charter in 1904 (University of Leeds, 2012b). In 2012, it had over 33,000 students from 145 countries, of which almost 25,000 were undergraduates and 8240 are postgraduates. The university had around 7500 staff encompassing 99 different nationalities (University of Leeds, 2012b).

UL committed to spending £157 million by 2016 on new buildings and refurbishment to create an environment in which to pursue excellence in research and teaching. It has won a number of environmental awards, including a 'Highly Commended' in the 2011 Green Gown Awards for Promoting Positive Behaviour in relation to its UTravelActive transport project (University of Leeds, 2012b).

Among a number of sustainability-focused degrees offered at UL, the BA Environment and Business[4] degree, from the School of Earth and Environment, specifically focuses on the role that businesses play in contributing to making societies more sustainable. The degree is taught over 3 years with 120 credits in each year (University of Leeds, 2012a). The degree structure for 2011–2012 is presented in Table 1.

4. Designing an organisational change management for sustainability course

During the academic years 2010–2011 and 2011–2012, there were two hours of classes per week on OCMS in the course Tools and Techniques for Business, Environment, and Corporate Responsibility (see Table 1). It was identified, through student and staff feedback meetings at the end of each academic year, that too much information on organisational change management was being conveyed to the students, and that the class difficulty level was too high for a second year course. Additionally, the BA students had indicated, on their degree's official feedback from the previous two years, that they wanted more courses integrating business and sustainability. Based on these points, it was then decided to reduce the content on OCMS for the Tools and Techniques for Business, Environment, and Corporate Responsibility course to an introductory level, and provide more in-depth coverage through a new course. This led to the development of the OCMS third year 10 credits course. The course was taught for the first time in semester 1 (September to January) in the academic year 2012–2013, with 26 students enrolled.

In developing a new course, two models were useful: (1) the articulated curriculum by Hussey and Smith (2003), which interlinks the methods, intentions, content, and assessment of the course, see Fig. 1; and (2) the Multi-dimensional Sustainability Influence Change for Academia (MuSICA) memework by Lozano (2010), which stresses that the SD aims of a course are closely linked to its delivery, and assessment, and expresses how this links to the degree, school, and the university as a whole, see Fig. 2. From the two models presented, the MuSICA memework provided a more holistic perspective along two axes: (1) linking the course, to the degree, the school, and the university; and (2) linking the SD aims, the delivery, and the assessment.

As the two models propose, three main elements have to be addressed when developing a course: (1) learning outcomes; (2) delivery of the course; and (3) course assessment.

When designing a course a typical dilemma appears (Hussey and Smith, 2003): on one side, there is a tight focus on the

[3] A list of all the barriers to change and strategies to overcome them (see Lozano, 2009) would result in the current paper being too large for publication in an academic journal.

[4] For more details on the degree, including the courses offered, refer to http://www.see.leeds.ac.uk/fileadmin/Documents/Admissions/UG/EB_Pathways.pdf.

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published learning outcomes (following the institution's guidelines and policies); and on the other, there is a need to empower the students to engage with the teacher and the course material.

In this dilemma, the epistemological position of the lecturer and the context of the course are important. Vrasidas (2000) discussed two opposing epistemological positions, the objectivist and the constructivist. In the objectivist position there is only one true and correct reality and understanding of any topic. The objectivist curriculum is linear and follows four sequential steps: (1) identify the objectives of instruction, (2) select the useful learning experiences, (3) organise the learning experiences in the best possible manner, and (4) evaluate learning. The constructivist position is based on the premise that knowledge is constructed. It assumes that: (1) there is a real world that sets boundaries to what we can experience, but reality is local; (2) the structure of the world is created in the mind through interaction with the world and based on interpretation; (3) the mind creates symbols by perceiving and interpreting the world; (4) human thought is imaginative and develops out of perception, sensory experiences, and social interaction; and (5) meaning is a result of an interpretative process, and depends on the knowers' experiences and understanding. Constructivist education encourages multiple perspectives. However, in this position it is difficult to evaluate learning, since there are no clear-cut performance objectives. The two major topics of the OCMS course were socially constructed, which is better approached through the constructivist position.

4.1. Learning outcomes

A key element in designing a curriculum has been the learning outcomes, which need to include the demonstrable acquisition of specific knowledge and skills and reflect the institution's objectives and graduate attributes (Stefani, 2009). Curricula, syllabi, and teaching and learning activities have to be formed so as to achieve the desired learning outcomes (Svanström et al., 2008). Stefani (2009) postulated that when more attention is paid to the curriculum, the more likely it is that transparency about the intended learning outcomes is provided, and that alignment with assessment strategies and processes can be achieved. Once the outcomes of learning have been agreed upon, the strategies for teaching and assessing these outcomes must also be chosen.

For a third year course in UL, the learning outcomes have to focus on developing an understanding of concepts, as well as fostering 'deep' learning (see Stefani, 2009), 'double loop' learning (as proposed by Argyris, 1977; Senge, 1999), and 'discerning and inquisitive' learning (see Lozano, early view). An important consideration when designing the OCMS course was that the students should go from a technical know-how approach (used in preceding courses for the degree) to an ethical know-how approach[5] (see Bernstein, 1982 for a discussion on these terms). The latter can help to transform the student's mental models from instrumental to more critical through analysis and reflections.

Bloom et al.'s (1956) taxonomy of knowledge (with five stages: knowledge, comprehension, application, analysis, synthesis, and evaluation) was used as a base to develop the learning outcomes. It should be noted that although Bloom et al.'s categories are helpful when developing a course, the rigid hierarchy is not practical.

Following the intentions and needs of the course, it was decided and agreed with the school's management to set up five course objectives (i.e. learning outcomes) and four knowledge outcomes:

Course objectives:

1. To familiarise students with the key principles of organisational systems and their respective attitudes, and how they influence and contribute to sustainability. This focuses mainly on the knowledge stage;
2. To familiarise students with change management for corporate sustainability. This focuses mainly on the knowledge stage;
3. To develop the students' understanding of the complexities of change management in organisations (such as corporations and universities), and how it can contribute to more sustainable societies. This focuses mainly on the application and comprehension stages;
4. To enable students to critically think and reflect on and analyse key literature and case studies. This addresses the analysis stage; and
5. To enable students to implement recommendations for organisations to help them become more sustainability orientated, and improve their employability prospects. This focuses on the synthesis stage.

Knowledge outcomes:

1. Understand organisations, their elements, and their attitudes, and how they influence and contribute to sustainability. This focuses mainly on the knowledge stage;
2. Understand the different types of change and how they can be managed in the corporate sustainability context. This focuses mainly on the knowledge stage;
3. Be able to recognise drivers, barriers to change, and strategies to overcome the barriers in a sustainability context within the organisation. This focuses mainly on the knowledge stage; and
4. Critically reflect on and analyse organisations, in order to be able to implement change management for sustainability. This focuses on the analysis and synthesis stages.

As it can be observed, the course's objectives and outcomes cover all but the 'evaluation' stage proposed by Bloom et al. (1956). This stage was addressed during the assessment and feedback part of the course, as discussed in Section 4.3.

A first draft of the course was developed, which was then commented on by a senior member of staff. The handbook was then written using information from the UL 'new course' form, after the course schema was approved by the school management.

The course's lectures were developed from peer-reviewed articles (to address the course objectives 1 and 2). The lectures were followed by seminars during which selected literature on organisational change management and CS was discussed. The literature was chosen to encourage the students to apply their knowledge through real case studies (course objectives 3 and 4). Objective 5 was addressed through the assessment.

4.2. Course delivery

The ten week course had the following structure: (1) Introduction to the course; (2) Organisations and their systems; (3) Attitudes and behaviours; (4) Change management for sustainability; (5) Steering mechanisms and institutionalisation; (6) Drivers to change; (7) Change incorporation and innovation; (8) Resistance to change and how to overcome it; (9) Institutionalisation; and (10) Revision of the concepts.

Based on the experience delivering sustainability content from Fenner et al. (2005), Hopkinson and James (2010), Posch and Steiner (2006) and Sipos et al. (2008), it was decided to use case

[5] Whereas the technical know-how can be forgotten, the ethical know-how is always present, as ethical knowledge can be applied according to the exigencies of any given situation (Bernstein, 1982).

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Table 2
Student feedback on qualitative questions at the end of the course.

Question	Feedback
Please list what you enjoyed most of the course	Most of the answers indicated that the seminars were stimulating and thought-provoking. Two students indicated that it was the first course focussing on organisations and another that 'Learning about something that is relatively new and we haven't done before, is refreshing'.
Please indicate what you enjoyed the least in the course	In general the students pointed out that too much time was spent on reading. A student indicated that 'Many conflicting views and models were sometimes confusing'.
What do you think of the structure (lecture, then seminar)?	The answers to this question were mostly favourable, with one exception where the student would have preferred to have had a few days between the lecture and the seminar.
How do you think the content relates to your degree?	The students indicated that the course integrated the concepts from previous courses and added new elements, such as behaviour, in a holistic way.
What could be done to improve the lectures?	Some students indicated that different teaching styles could be used, while others indicated that the course was fine as it was. One student remarked that more discussion would have been beneficial, where the students are asked about their opinions on contradicting viewpoints.
What could be done to improve the seminars?	A number of students pointed out that more discussion on the papers would have been beneficial, whilst three students indicated that they would have liked to have spent more seminars in the café

studies, problem based learning, and participation as a pedagogy for the OCMS course.

A key element in the pedagogy, as in any learning experience, is interaction, for example through group work (Webb, 1982). Vrasidas (2000) proposed three types of interaction: learner-teacher (delivering instruction, providing feedback, and encouraging the learner), learner content (in books, objects, ideas, and websites), and learner–learner (collaboration with peers).

The course was designed to have two types of interaction. The first hour was normal lecturing with the help of PowerPoint slides (learner-teacher), whilst the second hour was focused on student participation (learner content). The students were asked, one week in advance, to read between two to three peer-reviewed papers related to the topic and answer between five and ten questions. It was not feasible to create explicit learner–learner activities because of the degree requirements while the students had to focus also on their individual dissertations[6]; nonetheless, this type of interactions was encouraged during the seminars. Group discussions took place in the classroom, and once in a university café. This venue proved popular with the students; however, it was not possible to use it again since there was too much noise from the other café patrons. Although the course delivery was traditional, the seminars fostered student participation (and to a certain extent student attendance).

4.3. Course assessment

This section presents the two-part assessment of the course: (1) assessment of the students' learning progress, and (2) student feedback.

4.3.1. Assessment of student learning

Assessment has been recognised as the most important way to help students learn (Brown, 2004). Norton (2009) highlighted that the most effective way to change student learning is to change the assessment.

Assessment has four main purposes: (1) pedagogy; (2) measurement of knowledge, understanding, abilities, or skills; (3) standardisations of performance; and (4) certification of level and standards set by the awarding institution (Norton, 2009). Some secondary purposes of assessment include: providing feedback to the students; providing information to the lecturer about the understanding of a topic; gathering information about student perceptions and reactions to the class and material; providing an indication of the students' success in achieving the course objectives; and helping the students determine their owns strengths and weaknesses in respect of the course material (Garfield, 1994).

When designing a course, it is important to think about what the students should learn, rather than what is being taught (Norton, 2009). The final aim of the OCMS course was to teach students to plan, implement, and manage change for sustainability in any organisation.

Choosing an appropriate assessment is not easy, given the large range of types (e.g. exams, report writing, essay writing, poster presentations, and oral presentations (James and Fleming, 2004); quizzes, projects, portfolios, surveys, reports, and multiple-choice questions, among others (Garfield, 1994)). The assessment method chosen has to be relevant to the learning outcome it is supposed to test (Norton, 2009). The assessment should also focus on meeting the course's learning outcomes (Norton, 2009; Svanström et al., 2008).

A combination assessment of an essay (80% of the final grade) and participation in class where case studies and academic papers were discussed (20% of the final grade) was designed. This provided a comprehensive way of evaluating the understanding of the concepts and their implementation. This assessment type was used to address the requirements of the evaluation stage (see Bloom et al., 1956).

The participation and workshop activities were focused on the students reading a number of academic papers and case studies prior to class, and then discussing them in relation to the topic of that particular class. The final essay was focused on analysing an organisation's changes towards sustainability as presented in the case study, and then proposing how to better institutionalise sustainability.

The assessment criteria need to be clear, explicit, understandable, and available well in advance of the commencement of the course activities (Brown, 2004). The marking criteria for the course were decided to be:

1. Presentation (10% of the essay mark);
2. Discussion on the types of change (15% of the essay mark);
3. Discussion on drivers for sustainability (15% of the essay mark);
4. Discussion on barriers to change for sustainability (15% of the essay mark);
5. Recommendations on how to overcome resistance to change and on how to institutionalise sustainability (35% of the essay mark); and
6. Linking to the literature (10% of the essay mark).

[6] In UK universities it is traditional that students in their final year write an individual dissertation. In the case of the BA Environment and Business, it had 40 credits allocated from September until May.

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The average of the final mark for the course was 59.76, with a standard deviation of 18.13. The pass in the bachelor's level at the UL was 40. Two students failed the course, one due to failing to submit the essay and the other due to a poor essay. Due to confidentiality issues the details of the marks cannot be disclosed.

The first and sixth points were designed to provide a writing frame for the students and ground the assessment on academic references. The second to fourth point focused on the first to fourth course objectives, and the first to third covered knowledge outcomes, as set out in the previous section. The fifth assessment point dealt with the fifth course objective and the fourth knowledge outcome identified in that section.

4.3.2. Student feedback

Typically, assessment has focused on the end-point, i.e. it is summative, and does not allow learners to improve their own learning (Norton, 2009). This can be overcome with the help of formative assessment and through feedback (Brown, 2004; Norton, 2009). Feedback has been recognised to be an important element of student learning (Norton, 2009), which should help to go beyond just passing information, and instead help the student reflect on the course (Wiliam and Black, 1996). Frequent feedback on assignments has been a tradition in the UK; however resource constraints have led to a reduction in feedback timeliness, quality, and quantity (Gibbs and Simpson, 2004).

For the OCMS course feedback was used to address the evaluation stage (see Bloom et al., 1956). Two types of feedback processes took place: (1) bespoke in-class feedback during the last class, with a captive audience of 18 students; and (2) official university-wide feedback that takes place at the end of every course.

For the first set the following qualitative questions were asked, as presented in Table 2. The answers were analysed with the help of content analysis (see Jupp, 2006) of the open-ended questions.

The open-ended questions were complemented with a set of close-ended questions where the students answered using a 1–5 Likert scale. Fig. 3 shows the results from this analysis, where it can be seen that, in general, the students agreed with the way the course was being delivered. Some points that could be improved were note-taking and the presentation/format of the lectures.

The official university feedback form was filled in by 7 out of the 26 students. The students answered this form in a voluntary basis, which may explain the low numbers. It was impossible to know if they were the same students who had already filled in the bespoke feedback form given the anonymity of both surveys. The results from the official feedback are presented in Fig. 4, where it can be seen that, in general, the students were satisfied with the course, but more support could have been offered.

5. Discussion

The OCMS course was designed to be an integral part of the BA Environment and Business by providing a perspective on 'soft issues', which complemented the preceding courses in the degree. This answered students' feedback about having more courses integrating business and sustainability. The course content was designed to help students: understand the complexity of organisational changes (see Benne and Birnbaum, 1969; Dawson, 1994); and proactively plan changes for sustainability (see Bennis et al., 1969) in their future professional lives by taking a holistic perspective.

The model for the articulated curriculum proposed by Hussey and Smith (2003) helped to link the content, delivery (methods), assessment, and the intentions in a more holistic and systematic way to better deliver the OCMS course objectives and knowledge outcomes. The MuSICA memework (see Lozano, 2010) helped to understand and integrate more coherently the aims, delivery, and

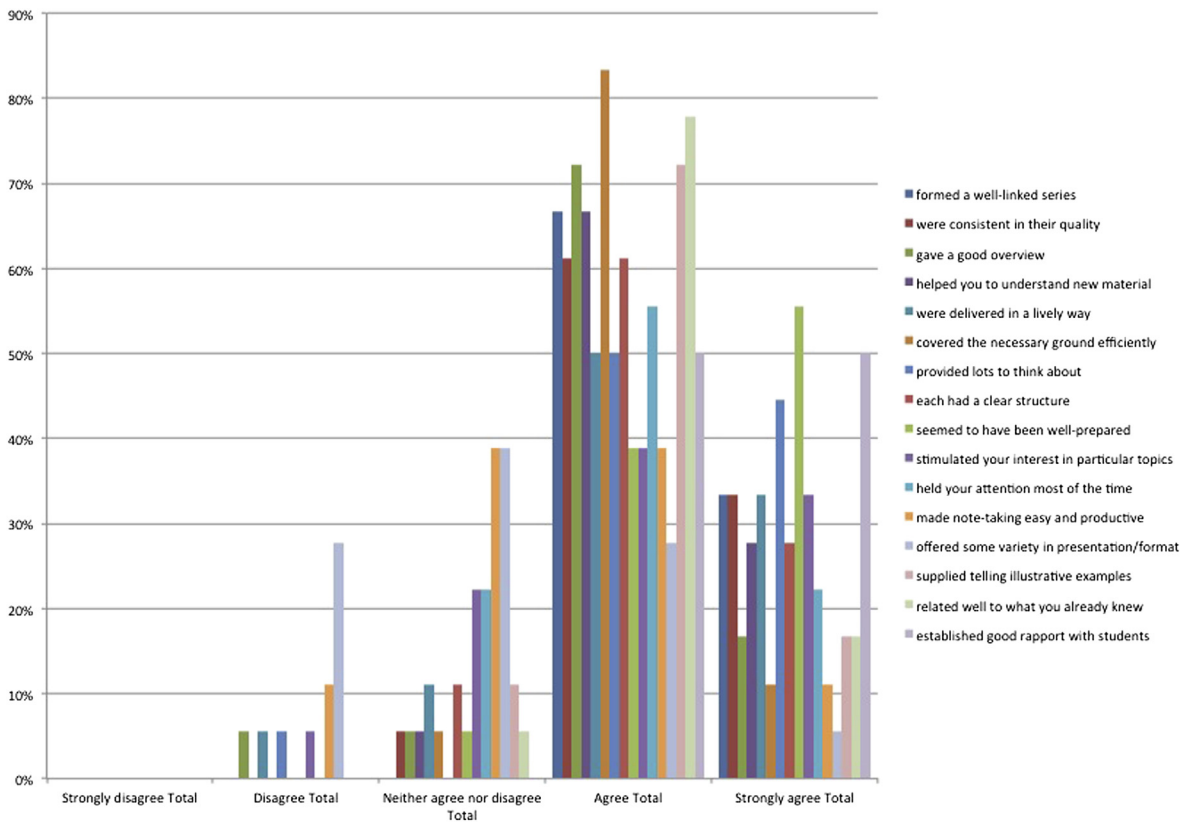

Fig. 3. Results from the bespoke course feedback.

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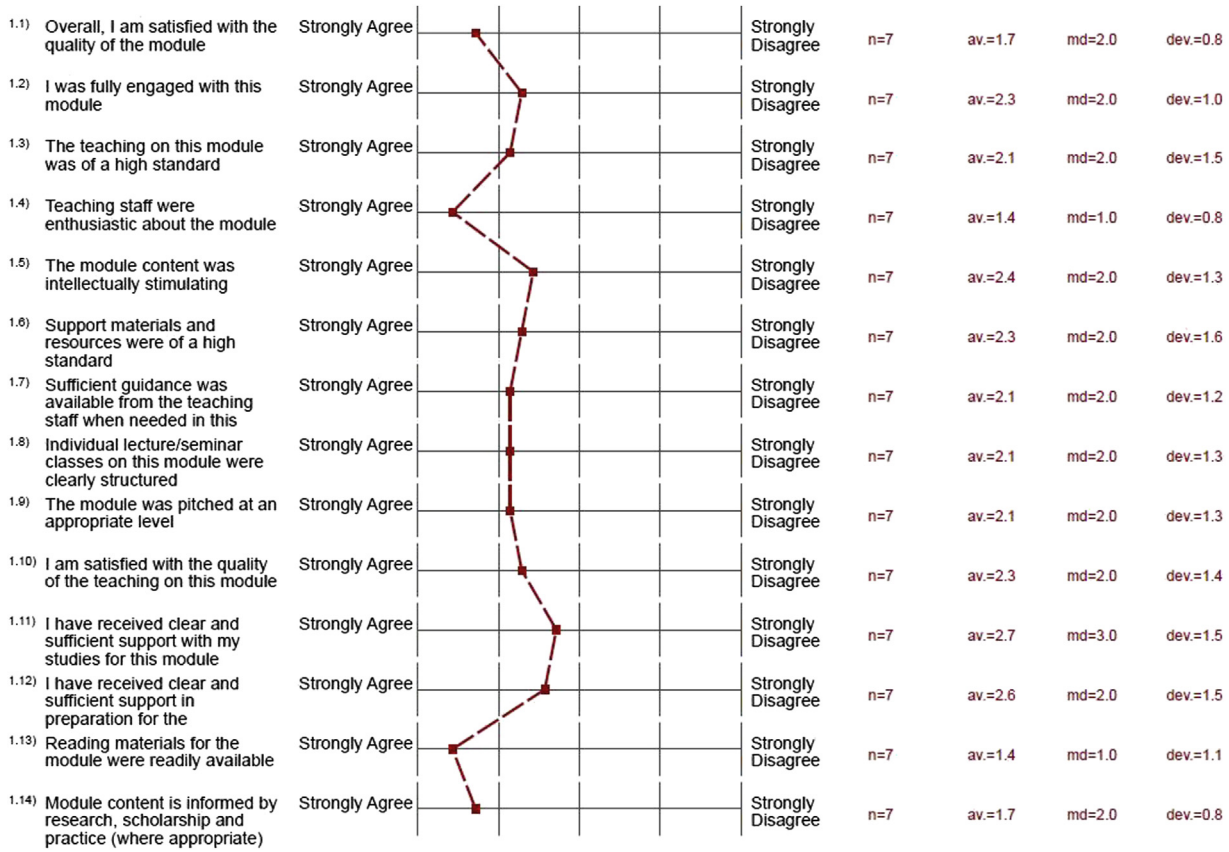

Fig. 4. Results from the university's official course feedback.

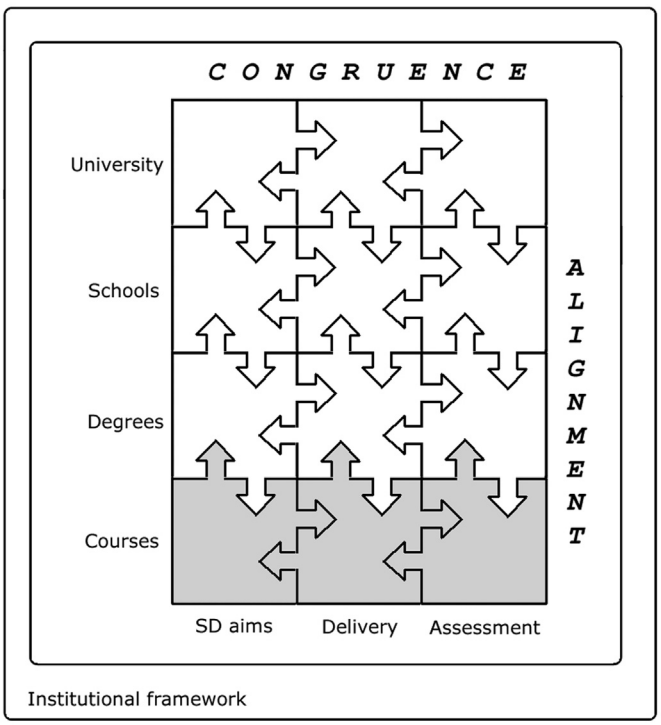

Fig. 5. Multi-dimensional Sustainability Influence Change for Academia (MuSICA) memework.
Source: Adapted from Lozano, 2010

assessment of the OCMS course (as shown in the shaded part of Fig. 5).

Bloom et al.'s (1956) taxonomy of knowledge was helpful in designing the learning outcomes. The aim was to encourage the students to develop a more critical analytical approach, thus promoting ethical know-how (see Bernstein, 1982), 'deep' learning (as proposed by Stefani, 2009), 'double loop' learning (Argyris, 1977; Senge, 1999), and 'discerning and inquisitive' learning (Lozano, early view).

The knowledge imparted in each class built upon that of previous classes, as set by the course structure. The course started with Organisations and their systems (as postulated by Lozano, 2013; Lyon, 2004) and Attitudes and behaviours (see Lozano, 2008). These set the stage for the Change management for sustainability class (as discussed by Doppelt, 2003a; Dunphy et al., 2003), which was followed by classes on Steering mechanisms and institutionalisation (see Lozano, 2013), Drivers to change (as discussed by Oskarsson and von Malmborg, 2005; Salzmann et al., 2005), and Change incorporation and innovation (see Lozano, 2008). The last two classes focused on Resistance to change and how to overcome it (as discussed by see Chin and Benne, 1969; Doppelt, 2003b; Kanter, 1999, 2003; Maurer, 1996; Lozano, 2013), and finally, Institutionalisation, i.e. long lasting sustainability changes in organisations (see Diesendorf, 2000; Doppelt, 2003a). The over-all aim of the course was to provide a holistic perspective on organisational change management, where the different elements discussed in all the classes related to each other.

The discussions during the seminars provided constant feedback on the students learning (as proposed by Gibbs and Simpson,

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2004). This was complemented with a written assessment, where they reflected on the course subjects and improved their own learning (see Norton, 2009).

When developing the course a number of challenges had to be overcome, such as: (1) adhering to the institution's guidelines on course design; (2) dealing with student feedback and demands; (3) developing the learning outcomes; (4) linking the course to other courses in the degree; (5) designing the assessment; (6) discussing a new topic, especially where literature is scarce, and (7) dealing with complex and dynamic topics, such as sustainability and organisational change management. The MuSICA memework and Bloom's taxonomy of knowledge can help to overcome such challenges.

Another challenge was the assessment design, since there were different potential solutions and perspectives to address organisational change. This quandary was resolved by combining in-class participation together with a case study based essay. This combination helped to assess expected learning outcomes, thus addressing the evaluation stage (see Bloom et al., 1956).

Due to the complex nature of organisational sustainability, the course was developed using a constructivist position (see Vrasidas, 2000), where interpretation, understanding, and experience were instrumental in dealing with the challenges of integrating organisational change and corporate sustainability.

6. Conclusions

Corporations and their leaders have become more aware of their role and responsibilities towards the environment and society, both for this generation and future ones. Thus, a number of corporate voluntary tools and initiatives have been developed to address sustainability, and increasingly universities and industry are working together to help societies become more sustainable. However, most of these efforts and partnerships have been based on 'hard' technocentric solutions with an environmental focus. Organisational change management has appeared as a new field of research that focuses on planning internal changes in a proactive way by addressing holistically the 'soft' issues in the complex systems that are organisations. Although the number of research papers on the topic has been increasing in the past years, they are still relatively scarce.

The OCMS course was designed to educate students as sustainability change agents competent to deal with the complexities of sustainability and 'soft' issues in organisational change management. The course was designed to be a terminal course of the BA Environment and Business degree, which integrated the teaching from preceding courses and complemented it with new knowledge. The course was developed based on holism and a constructivist position to help students address the inter-relatedness and complexities of sustainability and organisational change management. A number of challenges had to be overcome during this process, such as designing the course, linking it to the other degree courses, and developing the form of assessment.

The experience in designing and delivering the OCMS course could be useful when redeveloping other courses and degrees at the UL at all levels. These efforts in curricula construction should be an integral part of the university's sustainability efforts, encompassing operations, research, outreach, and assessment and reporting.

This paper provides a more complete, systematic, robust, and focused approach to education for sustainable development, specifically on course design, by linking, in a congruent way, the course aims, delivery, and assessment. The paper also integrates education for sustainability development and corporate sustainability by using theories of teaching and learning applied to designing and delivering a course on a relatively new discipline, organisational change management for sustainability.

Further research should be conducted on delivery styles and on the integration of the course within the degree. A longitudinal analysis of student feedback could help improve the course. The course could also benefit by partnering with external organisations, so that the students can have real-life experiences.

We, educators, must develop and redevelop our sustainability courses, building upon the theories of teaching and learning that are available for educators, so we can provide our students with more robust course aims, better delivery of the classes, and more challenging assessments that promote holistic learning. We hope that the insights of this paper can help us design and deliver our sustainability courses, and better educate students to address current and future sustainability challenges in their professional (and personal) lives.

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