



GUEST EDITORIAL

Effective change management, governance and policy for sustainability transformation in higher education

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Abstract

Purpose – Numerous policy announcements and articles have been produced over the past 20 years calling for higher education institutions to give greater focus to social, cultural, economic and environmental sustainability in their curriculum, research, engagement activities and operations. However, there has been much less attention given to establishing how to ensure these desired developments are successfully initiated, implemented and sustained. It is to these key areas of effective change management, leadership, support and governance for embedding sustainability into the core activities of higher education institutions through transformation that this special issue of *Sustainability Accounting, Management and Policy Journal (SAMPJ)* gives focus. The paper aims to discuss these issues.

Design/methodology/approach – This paper brings together a consolidated analysis of the existing empirical literature on effective change management and leadership in higher education transformation with particular focus on the results of a recent international empirical study of 188 experienced leaders of sustainability in universities in Australia, the UK, the European Mainland, North America and South Africa.

Findings – The paper brings together the case for action in the sector, identifies an integrating framework for addressing sustainable development in the university curriculum, research, engagement activities and operations consistently, comprehensively through a whole institutional approach and identifies the key challenges and lessons on effective change management and leadership for sustainability transformation initiatives in universities and colleges.

Originality/value – Higher education institutions often give more attention to discussing what should change in their provision than to ensuring that desired transformations are actually put into practice effectively, sustainably and with positive impact. This paper and the articles which follow seek to address this gap.

Keywords Change management, Governance, Higher education for sustainable development, Turnaround leadership, Transformation, Whole institution approach

Paper type Viewpoint



Overview

This special issue of *Sustainability Accounting, Management and Policy Journal (SAMPJ)* gives focus to the transformative role that higher education must play in addressing the social, cultural, economic and environmental challenges facing the world over the coming decades and, in particular, how this agenda can be effectively enacted and supported. Numerous policy announcements have been made calling for higher education action on the area over the past decade and an increasing number of publications are appearing on what might be done to build a focus on the four pillars of sustainability into the curriculum, research, engagement activities and operations of universities (Lozano *et al.*, 2013; Nejadi and Nejadi, 2013). However, there has been much less attention given to establishing how to ensure these desired developments are successfully implemented and sustained and it is to this latter issue that this special issue gives focus.

The key themes explored in this issue are, therefore:

- Good ideas with no ideas on how to implement them are wasted ideas.
- Change does not just happen but must be led.
- It is not only a matter of where to go but also how to get there.

This contextualising paper seeks to bring together the case for action in the sector, identify an integrating framework for addressing sustainability in the university curriculum, research, engagement activities and operations consistently, comprehensively and effectively through a whole-of-institution approach and to identify the key challenges and lessons on effective change management and leadership for those committed to building sustainability into the core activities and operations of universities. The paper then locates the articles that make up the issue into this overarching picture, noting common links between them and gaps in addressing the overall framework. It concludes by suggesting what we need to do next to follow up on the key findings, issues and initiatives outlined.

Aim of this special issue of *SAMPJ*

The *SAMPJ* aims to find practical and policy solutions to improve the social and environmental sustainability performance of private, public sector and non-governmental organisations and societies. It provides a forum for quality research contributions with practice and policy implications concerning the interactions between social and environmental sustainability, accounting, management and policy.

This special issue gives specific focus to the important role that higher education must play in addressing the social, cultural, economic and environmental challenges facing the world; to research on transformative change implementation for the area; and to key initiatives that are underway in a wide range of countries to address this agenda.

What then are the key challenges facing those committed to the systematic transformation of higher education to give greater focus to sustainable development and how might these challenges best be addressed? For answers to these questions we turn to a recent international study of *Turnaround Leadership for Sustainability in Higher Education (TLSHE)* (Scott *et al.*, 2012).

Transforming the university to support the successful implementation of sustainability initiatives

Education for sustainable development (ESD) requires a reorientation of existing curricula and pedagogy rather than the adaptation of proposed courses or content to current educational structures, systems, processes and objectives. That is, change leadership in this area requires a focus not only on curriculum change but also on the gradual transformation of the overall way in which our universities are structured and operate. And [...] it is this which makes the role particularly complex (Scott *et al.*, 2012, p. 9).

Distinctive challenges in achieving organisational transformation through ESD in higher education

In the recent literature on this area, authors have identified models of “sustainable universities” (Lozano *et al.*, 2013; Nejati and Nejati, 2013). They have suggested what to focus on in the education, research, management or outreach activities of universities, what a sustainable university might look like and how it might be developed. However, what do the processes of creating a sustainable university look like? What actors need to be involved? What change principles should be followed? How can policies and reporting systems impact action? (Milne *et al.*, 2009). How can the comprehensive challenges the planet and our societies now face be tackled through the education, research, management and outreach activities of universities?

Some pioneering universities started addressing this task decades ago, some have followed in recent years but many are yet to do so. To achieve this transformation, higher education institutions have to identify not only what to give increased focus to in their curriculum, research and community and business engagement activities but also how to ensure that desired changes are effectively and sustainably implemented through a whole-of-institution focus. The Rio + 20 *People’s Sustainability Treaty on Higher Education*, developed by representatives from 25 higher education agencies, organisations, associations and student groups from different parts of the world at the UN Conference on Sustainable Development, Rio + 20, in May 2012 identifies the importance of taking a whole-of-institution approach to transformation in higher education:

Sustainable development must be an institutional commitment and be reflected across campus management, curriculum, research and student and community engagement activities [...] Sustainable development must be embedded in governance and decision making processes, at an organisational as well as sector level (Rio + 20, 2012, Principle 8, p. 5).

The international TLSHE study of 188 experienced leaders of sustainability in colleges and universities (Scott *et al.*, 2012, p. 66) identified a range of challenges unique to transforming our universities and colleges towards this whole-of-institution focus on sustainability and ESD[1]. These include seeking to challenge the existing system by introducing transdisciplinary, problem-based, real-world curriculum and research programs in a context which is structured and funded around specific disciplines; the absence of senior leaders to champion and be accountable for the area; an unclear or limited understanding of what “sustainability” means; unaligned national policies, rewards and incentives; the failure to reward transdisciplinary research in national research funding formulae; and the “commuter” nature of the student body in some universities and the increased use of remote learning by others which mitigates against the use of the campus as a living laboratory for sustainability.

Below are direct quotes from the sustainability leaders in the TLSHE study that give a picture of the nature of the challenges they have had to face in seeking to build sustainability into the core activities and operations of their university or college:

- A confused understanding of what the concept “sustainability” means in the context of the curriculum, research, campus operations and engagement.
- Can sustainability really become mainstream, or will it be a niche next to all other disciplines/themes/programs?
- Making the case for how sustainability “fits” in with the different disciplines – it is still seen as a soft add-on to the core of any particular discipline.
- The perceived link with emotive subjects such as climate change, meaning there can be quite immediate emotive responses to the subject acting as a barrier to engaging staff and students with what ESD is really about.
- Convincing faculty that their courses, no matter the subject, can be ESD-oriented.
- Being truly interdisciplinary and truly applied.
- Challenges of change management and silo mentalities are amplified because sustainable development requires a multi-disciplinary approach to both teaching and research.
- Particularly awkward reporting lines.
- Desire of top university leaders for high profile infrastructure projects which do not include sustainability considerations.
- A focus on sustainable development is not funded or supported by dedicated and/or senior staff; it is expected to happen as a result of the good will of concerned staff.
- We do not yet have a sustainability director who coordinates across multiple functions [...].
- My university is [...] historically black [...] Close to 90% receive financial aid. Their thoughts and concerns often are not about “the environment,” so the challenge is to connect the dots between their lives and the climate crisis.
- We are seeking to implement educational processes that are innovative both in content and process.
- While not confined to my university, the greatest impediment to ESD (and thus the greatest challenge to leadership in the domain) is the prevalence and ubiquity of the reductionist, neo-liberal, technocentric paradigm that prevails in the academy worldwide.

Alignment with the findings of other studies

A recent study of developments in this area in UK universities for the Higher Education Academy by Ryan (2011) identified four key areas of challenge which reinforce the findings above:

- Creating unified understanding around sustainable development in higher education.
- Developing connected strategies across the organisation.
- Alignment with institutional Teaching and Learning functions.
- Content overtakes pedagogy (Ryan, 2011, Findings 3.3).

The challenges are also similar to those identified by Stirling (2012) in his *Future fit* report (Table I).

And, as Tilbury (2013) observes, there are broader contextual challenges as well: Higher education has been engaged in a snakes and ladders relationship with sustainable development. As universities and colleges advance their commitments to this agenda, changing political moods provide slippery slides, the economic crisis in the West presents distractions; whilst student and social movements for sustainability gain strength and accelerate changes in this area.

They also align with the challenges identified in our field-work around the world and those identified in the articles that make up this *SAMPJ* special issue, including:

- A failure to develop shared terminology.
- No shared understanding of what a comprehensive approach to the area entails or how successful implementation of initiatives using this framework can be measured, tracked and improved.
- Coming to agreement on how to measure “success” in this area and getting agreement on who should decide this and set key performance indicators.
- Having to deal with the complexity and scale of the sustainability challenge itself.
- The challenge of using the campus in new ways in higher education institutions committed to a nineteenth century model of teaching.
- A curriculum which is too present-focused and work-focused.
- A lack of understanding of how leadership and quality assurance are central to the change.
- Figuring out how to engage the disengaged, including senior university leaders uninterested in the area and how to involve students more consistently in campus action, research and courses on the area.
- How to balance the use of intrinsic motivators (like calling on the individual’s “moral purpose”) with extrinsic ones (like applying penalties for non-compliance).
- Succeeding in getting better alignment of the university systems, incentives, funding and leadership with a focus on sustainability in all its core activities.
- The need to “practice what we preach” – for example to encourage staff to engage in less travel and use ICT for meetings and in learning.
- How to more effectively link and leverage those existing networks and community groups which are currently working in parallel on the same sustainability challenge.

Crowded curriculum	Too demanding
Perceived irrelevance in some curriculum areas	Academic freedom
Limited staff awareness or expertise	Floodgates – ESD seen to be a new subject rather than informing all
Limited institutional commitment	Ideology
Limited commitment from external stakeholders	Apathy
Lack of incentives	Rapid change – continuously changing external agenda
“Silo” organisation	

Table I.

- Coming to a clearer picture of what differentiates higher education from, for example, vocational education and training.
- How to respond when ESD is pushed to one side in organisational structures and decision-making.
- Managing and leading transformative practices towards sustainable development within institutions full of leaders.

Strategies found to be effective in addressing these sustainability transformation challenges in the unique context of higher education

Change doesn't just happen but must be led.

It is not only a matter of where to go but also how to get there.

Transformation in higher education requires leadership in an environment of co-creation in which universities and their stakeholders (university executive and staff, students and employers, faculty, regional actors, business, policy, NGOs, etc.) interact. These transformative approaches are framed around (Mader, 2013):

- a shared understanding of the vision (vision and leadership);
- trust that is mirrored through exchanging and innovative social networks (social networks);
- shared responsibilities and leadership in processes (participation);
- organisational learning that supports system understanding of the vision's implications (education and learning); as well as
- transdisciplinary research that leads towards applied innovations (research integration).

To create such transformative environments and processes within higher education institutions, organizational learning practices, transdisciplinary approaches as well as effective leadership for sustainability strategies are relevant.

The TLSHE study (Scott *et al.*, 2012, pp. 6-13) identified a range of strategies that have been used by successful sustainability change leaders in higher education around the world – both at the local level and centrally. They provide a repertoire of options for higher educators committed to taking a desired sustainability initiative (a “good idea” for ESD) and get it to operate consistently, effectively and sustainably in their university or college. The TLSHE study has also produced role-specific guidelines and tips on managing change for the area from the experienced change leaders involved in the study. These are available for download from the Australian Government's Office for Learning and Teaching web site.

Overall, areas for systemic action identified in the TLSHE study

- (1) Acknowledge and emphasise the distinctive challenges and complexity of ESD leadership and change implementation. This includes its focus on:
 - transformation not adaptation;
 - the future not just the present; and
 - interdisciplinarity and interportfolio exchanges.

- (2) Sharpen the focus and understanding of sustainable development as it applies in higher education.
- (3) Context counts: ensure organisational integration and system alignment to support ESD and its leaders (see the specific strategies below on how this can be done).
- (4) Track and improve ESD program quality more systematically.
- (5) Put in place the right incentives.
- (6) Engage the disengaged and the institution's senior leadership by presenting a well thought through case for change, including for senior leaders, a robust business case.
- (7) Apply the key lessons of successful change management in higher education (see below).
- (8) Focus on the change-leadership capabilities identified in the TLSHE study.
- (9) Review sustainability leadership position descriptions, selection processes and succession strategies in the light of the study's findings.
- (10) Apply the most productive approaches to leadership learning identified in the study to the professional development of ESD leaders.

Specific strategies to enact this overall agenda

The following combination of strategies has been identified as being critical to transform the entire "learning ecosystem" (Barber *et al.*, 2013, p. 8) of the university to support the objective of embedding sustainable development across the institution and enact the above agenda.

Engagement

- Institute processes that engage all key players (including the university executive and staff, students and employers) with the sustainability agenda, taking into account the incentives found in the TLSHE study known to attract their interest and support. This involves building a business case for change and ensuring that the benefits of engagement for all those involved outweigh the costs.

Alignment

- Ensure that the institution's vision, structure, resources, performance plans, leadership development programs and key performance indicators are all aligned towards a focus on ESD.
- Demonstrate that such a focus aligns not only with the mission and core values of the institution but also with national policy requirements and local and international peak body commitments in order to achieve further buy-in.
- Align staff selection, performance review, tenure, promotion and recognition processes with the institution's sustainability goals and priorities; and remove disincentives in these areas.

Governance and management

- (1) Ensure sustainability leadership is centrally located in the "management and governance structure" of the university. Key steps in this regard identified in the TLSHE study include:

- appointing an appropriate senior leader accountable for overall action and coordination of all four sustainability pillars across all of the key activities of the university or college;
- locating the leader in the senior executive not in one of the support areas (e.g. in the area of capital works and facilities);
- ensuring that the senior leader reports directly to the VC or president and does this regularly – preferably on a monthly basis with a focus on implementation of an agreed performance plan and key targets;
- establishing a senior leadership and coordination team to ensure consistent cross-departmental and unit linkages and collaboration;
- establishing a small coordination and implementation unit reporting to the sustainability leader to identify, illuminate, link and leverage sustainability initiatives already successfully underway across the institution and in partner institutions;
- establishing a “nested system of leadership” – with local leaders mirroring the focus and accountabilities of the central leader in their local context and reporting to him/her as part of a network;
- seeking to ensure that action on sustainable development is a standing item on the agenda of all core committees; and
- putting in place a monitoring system for the area, the results of which are regularly reported at these committees.

Efficiency

- Ensure that meetings are outcomes-focused and effectively chaired; and that administrative systems are fit-for-purpose, efficient, and that they demonstrably assist the institution to put its sustainability agenda successfully into practice.

Collaboration

- Actively foster a culture of collaboration – in which teams involved in cross-faculty and inter-unit projects are supported, recognised and rewarded.

These strategies align with 20 years’ research on effective change implementation in higher education more generally (Fullan and Scott, 2009) as well as the principles of transformation developed by Mader (2013) as described before. The following specific tactics, based on this research, were endorsed at the Sustainable Futures Leadership Academy meeting of Higher Education Leaders of Sustainability from a wide range of countries in Salzburg in February 2012 (where authors of this paper participated), along with the participants in the TLSHE study and the 500 other leaders across the world that reviewed its outcomes and implications:

- Engage staff by first undertaking a stocktake of current practice using an agreed framework to locate what is already underway and then to link those who are involved in the same area of innovation.
- Focus on small number of agreed priorities for action.
- Ensure that the people who will implement these change priorities agree upfront that they are relevant, feasible, desirable and clear.

- Build on the stocktake and agreed priorities for action by using a process of “steered engagement” (Fullan and Scott, 2009, pp. 85-88) to involve and support additional numbers of staff to learn how to make the desired changes work with a specific focus on using the experienced practitioners identified during the stocktake as a key resource for mentoring.
- Recognise that transformation is not an event like the launch of a new sustainability policy or curriculum document but, instead, is a complex learning and unlearning process for all concerned. In acting on this finding we need to apply the same learning principles with staff that engage university students in productive learning. These productive learning (change implementation) principles include ensuring relevance, continuous theory-practice links, access to proven solutions that have worked elsewhere, site visits, networks of “fellow travellers” further down the same sustainability change path as a key learning resource, just-in-time, just-for-me assistance, proactive leadership, and constructive, timely feedback.
- Through learning, create holistic system understanding so everybody involved sees the whole picture of impact and interrelations. This system understanding allows to continuously work on an adaptation of the vision reflecting challenges of today and tomorrow.
- Ensure that all decisions are based on evidence not anecdote, i.e. that there is consensus on what is to be done which is based on robust data not simply on personal opinion alone or “group think”.
- Build and reward a culture which gives focus to working collaboratively, and actively seeking to identify and address areas that are not working.
- Recognise that change unfolds in a rising spiral of implementation, review and enhancement rather than in a rigid linear fashion.
- Ensure that everyone who plays a role in the change effort is identified and acknowledged for their contribution and role in ensuring successful, sustained implementation.

Develop a shared terminology

The 188 experienced leaders of sustainability initiatives in universities and colleges from Australia, North America, South Africa, the UK and the European mainland involved in the TLSHE study consistently reported having to deal with widely varied and often confused understandings of what sustainability in higher education entails. If any sustainability initiative in a university or college is to succeed all of those involved in it need to confirm that they are using key terms like the following in the same way:

- “sustainability”, “education for sustainability”, “education for sustainable development”, “engaged learning”, “leadership”, “management”, “competence”, “capability”, “change”, “progress” and “implementation”.

Appendix 1 gives a set of definitions for these terms and concepts endorsed by the sustainability leaders in the TLSHE study. The key point here is that these do not have to be the only definitions or even the “correct” ones but that everyone involved in a sustainability initiative needs to check they have a shared understanding of each of them to ensure that they do not subsequently find they have been talking at cross-purposes.

Build a robust case for action on sustainable development in higher education

Below is a summary of some of the reasons provided by those committed to building sustainability into the core activities of HEIs on why action in this area by universities is both necessary and beneficial. Presenting such a case is essential if not only senior leaders but line staff, students and other key players are to be engaged with the agenda.

The world faces a wide range of interlinked social, cultural, economic and environmental change challenges. As Barber *et al.* (2013, p. 3) observe:

Given the state of the global economy, tensions in international relations, massive gaps between wealth and poverty, the deepening threat of climate change and the ubiquity of weapons of mass destruction, our contention is that we need a generation better educated, in the broadest and most profound sense of that word, than ever before.

However, addressing these challenges consistently and effectively will not just happen but must be led, and deftly. And we know that a large percentage of the leaders of tomorrow, the people who can help us address these challenges, will come from our universities. This is because our research indicates that whilst 6.7 percent of the world has a college degree more than 80 percent of the decision-makers in industry, community and politics have one.

Many nations, peak bodies and higher education institutions themselves have recognised the key role that universities and colleges need to play in developing future leaders capable of successfully negotiating the interlaced challenges of social, cultural, economic and environmental sustainability (GUNI, 2011; Karatzoglou, 2013; Sedlacek, 2013; Wals, 2013).

For example, over the past decade, there has been an extensive number of international policy statements, declarations and plans calling for action. They include the UNs Decade of Education for Sustainable Development (DESD) 2005-2014, the Swansea Declaration, the People's Sustainability Treaty for Higher Education issued at the July 2012 Rio + 20 conference, regional plans like the UN Economic Commission for Europe (UNECE, 2013) strategy on ESD and national strategic documents like Australia's National Action Plan for ESD (Australian Government, 2009) or Germany's memorandum "Science for Sustainability" on reorienting the German science system (UNESCO Commission Germany, 2012).

At the same time, national coordinating groups have been established with the specific aim of linking, promoting and leveraging initiatives. Examples include the North American Association for the Advancement for Sustainability in Higher Education (AASHE, 2010), Australian Campuses Towards Sustainability (ACTS), the European Network on Higher Education for Sustainable Development – the COPERNICUS Alliance, the Baltic Universities ESD program, the Mainstreaming Environment and Sustainability in Africa (MESA) partnership of universities, and the ESD in Small Island States initiative. Peak national and international higher education bodies have declared their commitment. For example, at the time of writing, in North America 674 presidents have signed up to the American College and University Presidents' Climate Commitment (ACUPCC), and internationally many universities are signatories to Rio + 20 Higher Education Treaty and to the Talloires Declaration: "University Leaders for a Sustainable Future".

However, despite all of these policy launches, declarations and calls for action, consistent, effective change in the curriculum, research, the campuses and classrooms of our HEIs is still to be realised. The TLSHE study (Scott *et al.*, 2012) found that many

staff and senior leaders remain unclear on what sustainability in universities means; how it can be embedded in the curriculum and research; or how best to proceed. And the good work being undertaken in important pockets is neither well known nor being taken up in a coherent and systematic way. Furthermore, some observers have noted that universities may not just be failing to address issues of sustainability in their courses but may be having the opposite effect:

[...] those who contribute to exploiting poor communities and the earth's ecosystems are those who have BAs, MBAs, MScs and PhDs and not the "ignorant" poor from the South (Orr, 2004).

At the same time participation rates in higher education have seen rapid expansion over the past decade in many parts of the world, and this has created dilemmas like how best to balance access with excellence and growth with quality. In some instances the rapid growth has seen a decrease in per capita funding and an increase in "user pays" systems. This, in turn, has led to students actively calling for degrees that give "value for money" by optimising their employment prospects and, in some countries, the growth of a student-as-consumer movement. As Tilbury (2013) observes, in such a context:

[...] It is thus, not surprising perhaps, that the senior leaders and key agencies responsible for higher education have struggled to prioritise the reorientation of higher education towards sustainability.

Yet there is encouraging evidence that there is increased demand for graduates who are not just "work ready" but also sustainability literate and change implementation savvy (Hanover Research, 2010; Bone and Agombar, 2011). Stirling (2012) reports that "research shows that employers are increasingly seeking graduates with the skills to address sustainability issues and work in conditions of change and uncertainty". He notes the UK *Leadership Skills for a Sustainability Report* commissioned by Business in the Community Organisation and the HEA Student Force report which have demonstrated this growing demand and interest in the area. This evidence is very important to build a business case for the area with senior managers in universities faced with the challenges of funding, the massification of higher education, optimising retention and employability and building a distinctive brand in an increasingly competitive national and international higher education market.

Finally, we now have robust evidence of what capabilities and competencies really count for effective early career professional practice in the context of the twenty-first century and we have found that these align closely with the profile of the sustainability literate and change capable graduate, as well as with the profile of the most adaptable and sustainable organisations and indeed, as some have observed, with the distinguishing characteristics of the most harmonious, sustainable and adaptable nations.

In particular we have found that what is needed is for universities not only to produce "work ready" graduates for today but sustainability literate, change implementation savvy leaders for tomorrow; and that, as part of this focus on producing graduates who are work-ready "plus" every graduate should have come to a considered position on the tacit assumptions currently driving the twenty-first century agenda: assumptions like growth is good, consumption is happiness, ICT is the answer and globalisation is great.

A number of the articles in this issue build upon this case for action.

Use an agreed conceptual landscape for the area

Figure 1 has been found in our work in a range of contexts around the world to help identify, locate and indicate the linkages between sustainability initiatives, sound higher education governance, support systems, infrastructure and the core activities of universities and colleges.

In higher education the focus can be on any one or a mix of the four pillars of social, cultural, economic or environmental sustainability in any one or mix of the key activities of a university – education, research, engagement, operations and the design of facilities.

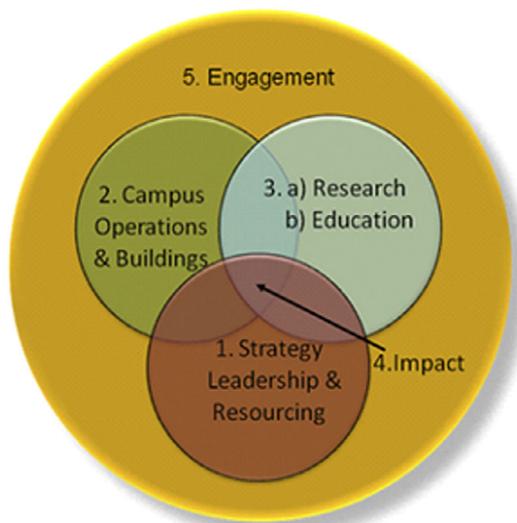
The figure shows how, in a university or college which is taking a systematic, integrated and whole institution approach to embedding sustainability into its core activities and operations, there is an explicit strategic plan for the area, clear, accountable leadership and targeted resourcing (area 1) being interlaced with the four key activities of the institution. And it shows how the key test of quality lies in determining that all this effort is having a demonstrably positive impact (area 4) on those intended to benefit.

Appendix 2 provides a set of indicators identified by the sustainability leaders in the TLSHE study which participants and reviewers suggested can be used to determine if a university’s or college’s sustainability strategy is being systematically, successfully and consistently implemented (areas 1-3 and 5 in Figure 1) and having a positive impact (area 4).

This figure suggests that there is great benefit to be achieved through a whole institution approach, from linking what happens in the curriculum, learning and teaching to what is happening in research and community engagement, along with campus operations, buildings and institutional life.

How the articles in this issue fit into the above frameworks

The articles which make up this issue cover action on sustainability in higher education institutions from many parts of the world – including Australia, the UK, a number of



Source: University of Western Sydney (2013)

Figure 1.
An overall framework for sustainability in higher education

countries on the European mainland, the USA, Canada and Egypt. Together they provide specific case studies of how the frameworks and key change leadership and implementation lessons identified above are being enacted and identify further areas for development in these areas. In combination, they illustrate how the many lessons identified above can be enacted in ways suitable to particular contexts and in different ways.

The specific issues addressed in the papers include one or more of the following aspects of effective change management, governance and policy formation for sustainability transformation in higher education:

- How to engage HE academics and students in addressing operational sustainability issues and solutions.
- Higher education change processes towards sustainability that have been helpful.
- Linkages to national and international policies on quality assurance and higher ESD.
- The role of accounting, tracking, reporting and planning systems in limiting or developing sustainability practices in universities.
- The role of Regional Centres of Expertise on ESD (RCEs) in strengthening the sustainability initiatives and performance of universities.
- Case studies of successful transdisciplinary approaches to education, research and management in higher education.

Below is a quick summary of how these issues and lessons identified above are addressed in the articles.

Organisational learning towards sustainability in higher education

(Gisela Cebrián and Marcus Grace from University of Southampton, Debra Humphris from Imperial College London, UK, taking a theoretical perspective).

This paper explores different theoretical frameworks to better understand and improve the effectiveness of organisational change processes towards sustainability in universities. It includes a review of existing frameworks and approaches to organizational learning, systems thinking, transformative learning, action research and expansive learning.

In doing this, the article provides further material to that presented above on the case for change, notes the difficulties of moving from theory to action in the area of sustainability in higher education, the need for a clearer conceptualization of the area, and identifies effective approaches to change management, support and leadership which are consistent with the research presented earlier. Essentially to find in this article is an integrative model that supports to better understand the process of transformation towards sustainability in higher education.

Perception towards sustainable development concept: Egyptian students' perspective

(Dalia Khalil, Omar Ramzy and Rasha Mostafa from Heliopolis University for Sustainable Development, Egypt).

The research reported in the paper involved a qualitative and exploratory study of the level of students' understanding and acceptance of the founding principles of Heliopolis University for Sustainable Development, located in Cairo, Egypt, first when they entered and then after they had been studying at the university for a period.

The study found that most students had little understanding of the concept of sustainability when they entered HU, but that, with direct focus on key aspects of sustainability and entrepreneurialism during their time at the university, both their understanding and capabilities in these areas increased significantly.

The university provides one model of how a transdisciplinary approach can be built into the core activities of a higher education institutions, with its focus on the four pillars of sustainability using proven learning and teaching strategies like active learning, internships, the use of the university farm as a living laboratory for ESD and sustainable entrepreneurship and taking a total university approach to the development of capabilities for entrepreneurialism in the sustainability area and leadership.

A number of challenges facing students are also identified in the paper, including the limited understanding of the concept in their families.

Entrepreneurial opportunities identified by students included setting up a farm similar to the university's model farm, an engineering company, integrated village, use of solar panels, a village hospital, cradle to cradle design and manufacture, sustainable textiles, organic pharmacy and influencing the family business. 88 percent of respondents said they would recommend the HU educational approach to others and 100 percent reported being committed to the concepts learnt.

Recommended areas for further research include undertaking longitudinal studies of students involved in the program, a comparative study with Egyptian students in universities using the conventional learning model and a comparative study with students in European universities.

Managing regional centres' of expertise collaborations with stakeholders including higher education institutions: a case study review

(Francesca Liane Brown, Jonas Meyer and Mario Diethart, Karl-Franzens-University of Graz, Austria, taking a global perspective on RCEs).

This article gives focus to the role of more than 100 UNU-IAS endorsed Regional Centres of Expertise in Sustainable Development around the world in linking and leveraging community-university research, along with teaching and engagement activities focused on sustainable development in a particular region. It identifies the challenges in implementing such a venture and provides an important collaborative, community learning and action perspective to complement the focus of the other articles in this issue. It identifies important synergies between the approach to change management identified for higher education institutions in other articles and the guiding principles of the RCE initiative.

Importantly the article notes that, for UNU endorsement, each RCE needs to have at least one HEI partner involved in its work. This identifies the potential for further centres and important opportunities for universities to give focus to their engaged learning and research initiatives with their region.

Challenges identified in monitoring the implementation of RCEs include sorting out how best to manage the relationship between the HEIs involved and other partners, how best to link individual RCEs (and their partner universities) into a more leveraged network for mutual learning and exchange, how best to evaluate operations and impact, learning from the transdisciplinary nature of the RCE system, how to optimize and sustain funding, identifying and then implementing the most helpful management and governance structures, how best to work with your HEI partner(s), promoting the work

of the RCE including to additional HEIs and other educational partners and funding bodies, and linking and leveraging the many opportunities for engaged research.

Students' perception of quality assurance activities: case study from the European higher education market

(Maha Mourad, The American University in Cairo, focusing on Polish and European perspective).

This article shifts focus to the issue of quality management in higher education from a European perspective.

The paper reports on a study which aimed to identify the key actors in implementing QA policy for sustainability in higher education. It notes the need for greater student involvement in these processes and the need to make students more aware of the dimensions of the area.

A number of benefits which could be used to build a case for greater focus on QA for ESD are identified that, it is argued, will result from greater student involvement. They include improved institutional image and reputation, educational quality, ranking, employment outcomes, differentiation, credibility of degrees and easier transfer abroad.

The "Greenest Department Competition": an exemplary student-led project

(Miklós Antal, from Universitat Autònoma de Barcelona, Spain on case at Budapest University of Technology and Economics, Hungary).

This article identifies an effective approach to involving students in key change initiatives. It involves the introduction of a student led "green department" competition. This is seen as being one way in which students can lead the way to build a greener campus and engage senior academic leaders as well as line staff in action around the sustainability agenda.

Important tips, consistent with the key change lessons identified above, on how to foster successful implementation of such a strategy based on students' practical experiences are given. Issues of how the "success" of such initiatives can be measured are raised.

Sustainability reporting and performance management in universities: challenges and benefits

(Carol A. Adams, Monash University, Australia, taking a global perspective).

This article reports on investigations which have found that university practice in sustainability reporting and performance management significantly lags behind other sectors, thereby limiting the sector's potential to influence transformative change in business and society. It calls for social, cultural, economic and environmental sustainability to be integrated into university tracking and improvement policies and systems and identifies the potential of using international tracking systems, including the Global Reporting Initiative, to foster effective change and quality improvement in the area.

It identifies the need for a more integrated, whole-of-system approach, with senior oversight that is consistent with the key findings of the TLSHE study and raises the question of what real innovation and transformation in the practices of embedding sustainability in education and research entails and then what the "material sustainability impacts" are.

The paper identifies similar implementation challenges to those identified in the research reviewed earlier including the challenges of working with unresponsive leaders, siloed thinking and funding, territorial leadership styles, reporting that focuses on the wrong areas, failure to produce a business case for action in the area, limited push from sector associations, and other groups and a limited conception of what best practice in university sustainability might look like.

The paper also presents a framework for managing sustainability in universities which aligns with that shown in Figure 1, along with a set of essential and desirable elements for managing sustainability successfully in universities and associated reporting processes in universities that are consistent with the TLSHE research.

Areas for further research identified include the identification and use of measures of formal and informal learning for sustainability and leadership relevant to students' future careers; identification of how to achieve a more cross disciplinary focus, identification of effective governance and management structures and consideration of mandatory reporting.

Areas for further work and follow-up

Some areas for further work which have not been covered in the current issue and which are important to successful management, policy formation and change implementation and effectiveness in this area include identifying:

- management and governance systems in higher education which have successfully given sustainability a more central role in universities and colleges;
- effective ways to engage senior leadership with giving sustainability a more central focus in the university's core activities and operations;
- how best to engage key policy-makers and government officials with this agenda; and
- robust evidence that taking a transdisciplinary approach to HE for sustainability is going to be more productive for people and planet than a mono-disciplinary one.

A key next step identified in the TLSHE research is to undertake far more networked learning for change between universities using a common HE sustainability framework to classify and link similar activities and a common tracking system to identify, confirm and share good practice. As noted earlier, many regional coordinating groups have been established with the specific aim of linking, promoting and leveraging initiatives. The participants in the TLSHE study emphasised that now may be the opportune time to bring together, promote, link and leverage all of the good practice on building sustainability into the core activities of our universities and good practice in sustainability oriented governance, policy formation and change implementation being identified in these umbrella groups for mutual learning.

Conclusion

In combination, the authors from around the world who have contributed to this special issue of *SAMPJ* make very clear that we need not only to concentrate on producing research outcomes and graduates from our universities that are fit for the needs of the present but people who will also help us secure a fair, just, equitable, collaborative, harmonious and sustainable future for our grandchildren. This, it has been argued,

is the key moral challenge of our time and what is contained in the articles to follow is intended to provide both proven ideas on what might be done to address this challenge and also practical suggestions on how these good ideas might actually be put into practice – with consistent, effective and sustainable quality.

It is, therefore, the effective management by our current universities of both the “what” and the “how” of transformation for sustainability in their curriculum, research and ways of operating and outreaching that will be most telling for the sustainable future we seek.

Finally, in the more scrutinised context currently faced by higher education, there is great opportunity, as Tilbury (2013) emphasises, to approach embedding ESD in our colleges and universities by using quality as the compass. A key next step in this regard is to develop a common quality assurance, tracking, reporting and standards framework for sustainability in universities (Fadeeva and Mochizuki, 2010; Mader, 2012). Proven quality assurance and improvement frameworks already exist in many countries. Now might be the right time for us to look at integrating and adapting them to give specific focus to ensuring that sustainable development is productively and consistently embedded in all of the activities of our universities.

We hope you find the articles from around the world which make up this higher education focused issue of *SAMPJ* of practical assistance and that they trigger ideas for action in your own context and foster more networked learning about sustainability accounting, management, change, leadership and policy development in your institution.

Note

1. Appendix 1 provides some suggested definitions for relevant terms.

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Further reading

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Appendix 1. Glossary of terms*Sustainability/sustainable development*

These terms are used interchangeably. The concept stems from a UN World Commission on Environment Development set up in 1983 which coined the term and promoted quality of life for present as well a future generations. The key goals of sustainability are to live within our ecological limits, to achieve social justice and to foster economic and social progress.

Corporate sustainability and responsibility

This refers to an organisation's response to sustainability and ability to embed sustainability thinking and values in its culture, decision-making and practice. Many organisations now provide annual corporate sustainability or responsibility reports.

Education for sustainability/education for sustainable development

Education for sustainability is a learning and change process which is relevant to people, communities and organisations. Its ambition is to engage learners in thinking critically and creatively about the future as well as in considering the systemic changes that are needed to improve quality of life across the globe. The terms education for sustainability (ESD) and education for sustainable development are often used interchangeably.

"ESD" covers a range of international initiatives across formal and informal learning contexts and at all educational levels. The concept of sustainability focuses on achieving human wellbeing and quality of life, pursued through the maintenance, care and equitable use of natural and cultural resources. Terminology around sustainability is by necessity extremely complex and highly contested, with definitions varying according to context and perspective (Ryan, 2011).

Leadership

I used to think that running an organization was equivalent to conducting a symphony orchestra. But I don't think that's quite it; it's more like jazz. There is more improvisation (Warren Bennis).

Leadership is a process of social influence and motivation which enlists people, communities or organisations in the accomplishment of a common goal, change or task; and, at the same time, builds their change capability and resilience.

Management

The effective day to day delivery of key operations and tasks. "The organization and coordination of the activities of an enterprise in accordance with certain policies and in achievement of defined objectives" (Business Directory.com).

Management tends to be more associated with competence whereas leadership is more associated with capability (Scott *et al.*, 2008, p. 13).

Change

A situation becoming or being made different.

Progress

The evaluation by the individuals concerned that change has been in a "desirable" direction.

Sustainability education

Sustainability education prepares people to cope with, manage and shape social, economic and ecological conditions characterised by change, uncertainty, risk and complexity (Stirling, 2012).

Evaluation

Evaluation is the process which leads to judgements about the worth, effectiveness and efficiency of an activity, project or strategies. It can be formal or informal and can be formative (informs development) or summative (reflects on processes/achievements at the end). At the heart of this process are judgements of “value”.

(Source: Scott *et al.* (2012))

Appendix 2. Key indicators that can be used to determine that ESD is being successfully implemented in a university or college

From input provided at the phase 2 feedback workshops and by respondents.

Indicators of the quality of ESD inputs

- Strong, active leadership from the senior executive of the university, including the VC.
- Senior leaders with the capabilities identified in this study are in place and part of the senior decision-making mechanisms of the institution.
- Fact that people researching this area are being invited by each institution’s CEO to visit and meet with all the senior executive and key local leaders of the university or college.
- A quality assurance and improvement framework is in place and being used as new programs are approved and implemented.
- Evidence-based practice with a clear tracking and improvement system and quality management framework is in place for the area.
- Presence of a required graduate attribute that gives focus to the area, e.g. each graduate to be sustainability literate, change implementation savvy and clear on their position on the tacit assumptions being used to describe national “success” (assumptions like “growth is critical”; “the answer is technology”).
- The university is modelling sustainability in its operations and management and uses its campuses and surrounding region as a living laboratory for real world, problem-based learning and action research.
- The university is leading active consideration and action on the key sustainability challenges facing its local region.

Indicators of the quality of the outcomes and the impact of ESD initiatives

- Every graduate is being assessed as a sustainable professional and practitioner.
- Positive return on investment in ESD courses.
- Positive employer and professional accrediting body feedback.
- Staff buy in and support evidenced in applications for awards, engagement in ESD networks, feedback on surveys, participation in Yammer sites, proactive approaches to the institution’s office of sustainability.
- Positive student evaluations of ESD learning and research units of study and programs in which they are involved.
- Best practice is being defined, disseminated and taken up.

- All players understand what ESD means in their institution, how they contribute to it and know what is being done.
- Awards for successful practice are in place; external awards are being achieved.
- Positive media coverage.
- Increases in student interest in sustainability courses and specializations.
- Growing enrolments and demand.
- Communication with wider community – external endorsement from key regional leaders.
- Attention to the four pillars of sustainability is seen in all practices.
- Capstone projects and research outcomes are identified by employers and other key parties as being productive.
- A vibrant campus – clear evidence of it being a living lab.

About the authors

Clemens Mader is Visiting Professor for environment and sustainability in the Region at Leuphana University of Lüneburg in Germany (2012-2014) and Vice-President of the COPERNICUS Alliance – European Network on Higher Education for Sustainable Development (2012-2013). Prior to this, he was Director of the Regional Centre of Expertise on Education for Sustainable Development Graz-Styria, hosted at University of Graz, Austria. In the course of the Rio + 20 UN Conference on Sustainable Development, he was delegated by the Austrian Federal Ministry of Science and Research. In 2005, he was elected president of Oikos International, the inter. His research and teaching focuses on sustainability transformation and transitions, transdisciplinary approaches at the science/society interface as well as sustainability assessment procedures.

Dr Geoffrey Scott is Emeritus Professor of higher education and sustainability at the University of Western Sydney Australia. From 2004 to 2012 he was Pro Vice-Chancellor (Quality) and then Executive Director of Sustainability at UWS. He is Co-Chair of the Sustainable Futures Leadership Academy, Convenor of RCE-Greater Western Sydney, author with Canada's Michael Fullan of the widely used book *Turnaround Leadership for Higher Education*, and has just completed an international project on *Turnaround Leadership for Sustainability in Higher Education* with Daniella Tilbury, Leith Sharp and Liz Deane. He is a member of the Board of Directors of the Australian Council for Educational Research, a Fellow of the Australian College of Education, a member of Australia's Tertiary Education Quality and Standards Panel of Experts and a higher education auditor in many countries. In 2007, he was the Recipient of the Australian Higher Education Quality Award.

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