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**Integrating Sustainability into Business Schools –
Analysis of 100 UN PRME Sharing Information on
Progress (SIP) reports**

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Integrating Sustainability into Business Schools – Analysis of 100 UN PRME Sharing Information on Progress (SIP) reports

Abstract

This paper explores the endeavours and achievements of business schools in the integration of sustainability by analysing the Sharing Information on Progress (SIP) reports of the first 100 UN PRME signatories who developed and uploaded their report onto the UN PRME website. The findings from the analysis are presented in an order which reflects the dimensions that constitute a model of integration. They show to what extent and in which ways business schools embed sustainability in their teaching, research and operational practice and how they manage and facilitate the integration process. This report synthesizes the key findings of the content analysis of the SIP reports and provides a critical analysis of business schools' approaches to and achievements in integrating sustainability.

Key words

Business Schools – Organisational Change – Sustainable Development – Responsible Management Education – United Nations PRME Initiative

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The project

'Integrating Sustainability into Business Schools' (ISIBS) is part of the 'Leading Sustainable Development in Higher Education' initiative of HEFCE. The project, a collaboration between the International Centre for Corporate Social Responsibility, Nottingham University Business School and the Centre for Business, Organisations and Society, University of Bath School of Management, aims to provide guidance to business schools on the integration and communication of social, economic and ecological sustainability in their educational programmes, research and their organisational practices and processes. The guidance is derived from three empirical studies into those business schools that have already made commitments to contributing to sustainability education.

The three empirical stages are:

Stage 1: Content analysis of SIP reports: Through the analysis of the SIP reports the project aims to improve our understanding of how international exemplars of business schools integrate sustainability. We explore the approaches to sustainability integration and identify existing and state-of-the-art experiences among the signatories of the UN initiative 'Principles for Responsible Management Education' (UN PRME).

Stage 2: Telephone survey of English business schools: Telephone interviews are carried out with the Dean and MBA Programme Directors of business schools which have made a commitment to integrate sustainability (signatories to UN PRME; those ranked in the 2009 Aspen Institute Beyond Grey Pinstripes Ranking; members and/or founding institutions of the Academy of Business in Society). We label these schools as Aspirational Sustainable Schools.

Stage 3: Mini case studies: On the basis of the above survey and the analysis of the SIP reports case studies at a selection of Aspirational Sustainable Schools are carried out. The case studies aim to enhance our understanding of the organisational change process and are based on interviews with various stakeholders and the analysis of secondary data (building upon data gathered in stages 2 and 3).

The empirical findings form the basis for the identification of approaches to sustainability integration and for dissemination and wider usage of these good practices. This report centres on the findings from stage 1 and provides insights into current approaches to sustainability integration in business schools worldwide.

Executive Summary

We identify 12 key messages from the analysis of the 'Sharing in Progress' reports:

- The vast majority of business schools which have signed the UN Principles for Responsible Management Education aim to embed sustainability within all areas (research, teaching, operations); however most emphasis is placed on teaching
- Business schools stress different goals of sustainable business education: some focus on critical thinking whereas others stress the necessity of innovation, to deal with societal problems or emphasise the value of traditional management knowledge
- Business schools tend to develop new programmes or courses to address sustainability or critically revise the syllabus of individual modules; few business schools try to embed sustainability issues across the entire curriculum
- Business schools have the tendency to integrate sustainability into postgraduate programmes, with a particular focus on the MBA programme
- Several business schools have established research centres and research groups to carry out research dedicated to sustainability and to enhance the overall integration of sustainability in their organisations
- Business schools seem to see sustainability as a main research focus but they do not elaborate on their understanding of and approach to sustainability research
- Business schools are committed to greening the campus activities (with a strong focus on the reduction of CO₂ emissions) and community involvement
- Although business schools mainly apply traditional teaching methods (e.g. case studies) they also offer interdisciplinary courses and new learning settings to teach sustainability
- Only few business schools appear to realise the full spectrum of opportunities arising from participation, particularly of staff and students, to 'learn from each other' and discuss and reflect different perspectives on higher education for sustainable development
- Tools which support business schools in reflecting their own practices, overcoming barriers and facilitating change appear to be a critical part of strategies for sustainability integration; however, these strategies are made explicit by a minority of business schools only
- To integrate sustainability business schools put effort into infrastructure (e.g. by establishing sustainability related working groups and committees or enhancing internal communication)
- Stimuli to foster change such as offering grants for sustainability related initiatives or qualification of staff are not yet very common

1. Introduction

Sustainability in management education and business schools is a fairly recent phenomenon. Following several environmental, social and financial crises in the recent years, which revealed the significant social and environmental effects of businesses and other organisations' practices, an increasing number of business academics and practitioners have begun considering that sustainability issues are imperative to the survival of business and the society. The recent financial downturn and business scandals have further exposed management education and made it subject to criticism (Felton and Sims 2005). In as much as business schools provide the education for the next generation of managers, it is increasingly recognised as crucial that business schools proactively ensure that graduates are educated in business ethics (Sims 2004, Swanson and Fisher 2011) and acquaint their students with the challenge to integrate sustainability in their decisions as professionals.

There is some evidence of response to this challenge in the field of management education. For example, there has been an increase in the percentage of business schools worldwide that require students to take a course focusing 'Business and Society' issues (from 34% in 2001, 45% in 2003, 54% in 2005, 63% in 2007 to 69% in 2009; Aspen Institute Centre for Business Education 2010). A continuing growth of CSR education in Europe is also evident in Moon and Orlitzky's (2010) study.

However, despite a broad consensus that education programmes require change towards better preparation of students for the complexity they will face as professionals (Atwater et al. 2008), with praxis in mind there is still uncertainty about *how* embedding sustainability in the curriculum can be achieved. Previous studies articulate concerns and limitations in the sustainability integration process (Rusinko 2010). For example, Alcaraz and Thiruvattal (2010: 542) state that "[sustainability] has not yet become embedded in the mainstream of business-related education." So, though business, society, CSR and sustainability education have increased in business schools anxiety that these themes are not embedded in management education remains.

The development of the six Principles for Responsible Management Education (UN PRME) under the auspices of the United Nations can be seen as a response of business schools to cope with the increasing societal demands for a responsible economy (c.f. Waddock et al. 2011). The principles were unveiled at the UN Global Compact Leaders Summit in July 2007. They emerged from a collaborative initiative of the United Nations Global Compact and representatives of selected business schools and other higher education institutions. The objective of UN PRME is to embed corporate responsibility and sustainability in business schools' core areas of education, research and organisation. At this point in time (August 2011), more than 380 business schools worldwide have joined the initiative and have been devoting a significant amount of attention to sustainability. This is still a small proportion of all business schools worldwide but a remarkable achievement given that the UN PRME initiative was founded only a few years ago.

Last year saw the achievement of a key milestone of the initiative: by June 2010, all participants that had adopted the UN PRME before 31 December 2008 were requested to submit their first Sharing in Progress (SIP) report and to make it publicly accessible by uploading it onto the UN PRME website. The purpose of SIP reports is twofold (UN PRME 2010): they support sharing experience and good practice among the UN PRME network and provide a regular account of achievements made by the signatories to all stakeholders (at least every 24 months).

We took this opportunity to explore the endeavours and achievements of business schools in integrating sustainability into business education, research and operations by analysing the SIP reports of the first 100 UN PRME signatories worldwide who uploaded their reports onto the UN PRME website. We use the term 'business school' in this study and subsume different types of organisations from free-standing business schools or schools / faculties within larger university level institutions. This report synthesizes the key findings of the content analysis of the SIP reports and provides a critical analysis of business schools' approaches to and achievements in integrating sustainability.

This report proceeds by outlining the Principles for Responsible Management Education of the UN initiative (Section 2). It then unfolds the research question that leads the analysis as well as the research method employed (Section 3). In the

following three sections (4, 5 and 6) the findings from the analysis of the UN PRME reports are presented. The presentation of the results does not follow the order of the six principles of the UN initiative (see Section 2). Rather they are presented in an order which reflects the dimensions that constitute a model of integration (Table 1 in Section 3). In Section 4 the frameworks and strategies for the integration of sustainability into business schools are described. In Section 5, the focus is on the transformation process and the question of how business schools facilitate the integration of sustainability. In Section 6 the focus lies on what the business schools have achieved with the integration process. Conclusions are then drawn from this analysis, and some implications for the integration of sustainability into business schools are discussed (Section 7).

2. The Principles for Responsible Management Education of the United Nations Initiative

The UN PRME initiative of the United Nations is a reaction to a set of challenges that business schools are facing today. The initiative formulates six principles which reflect the implications of the societal transformation process for business schools and provide guidance to business schools in integrating sustainability into teaching, research and operations (UN PRME 2008).

To embrace the increased demands upon and societal expectations of managers the first three principles focus on a shift in business education:

Purpose: *“We will develop the capabilities of students to be future generators of sustainable value for business and society at large and to work for an inclusive and sustainable global economy”.* (Principle 1)

Values: *“We will incorporate into our academic activities and curricula the values of global social responsibility as portrayed in international initiatives such as the United Nations Global Compact”.* (Principle 2)

Method: *“We will create educational frameworks, materials, processes and environments that enable effective learning experiences for responsible leadership”.* (Principle 3)

The fourth principle addresses the relationship of knowledge generation and the businesses' role in and interaction with society and the natural environment:

Research: *"We will engage in conceptual and empirical research that advances our understanding about the role, dynamics, and impact of corporations in the creation of sustainable social, environmental and economic value".* (Principle 4)

In relation to the mission of educating responsible managers and enabling them to deal with complex global problems, two further principles are formulated:

Partnership and Dialogue. These two principles stress that business education has an important role in fostering a stakeholder-oriented ethic to managers. *"Otherwise, students will continue to get the message that practicing managers have little or no legal and ethical responsibilities to society"* (Swanson 2004: 43). More broadly, it highlights the role of business schools in developing a debate about sustainability and the importance of engaging with stakeholders to better understand and meet the challenges of sustainable development.

Partnership: *"We will interact with managers of business corporations to extend our knowledge of their challenges in meeting social and environmental responsibilities and to explore jointly effective approaches to meeting these challenges".* (Principle 5)

Dialogue: *"We will facilitate and support dialog and debate among educators, business, government, consumers, media, civil society organizations and other interested groups and stakeholders on critical issues related to global social responsibility and sustainability."* (Principle 6)

Finally, the initiative also stresses the necessity to transform organisational practices to reflect the business schools' overall commitment to responsibility and sustainability. In following this requirement, it has become current practice in business schools' SIP reporting to disclose information about the integration of sustainability into their operations.

Operations: *"We understand that our own organizational practices should serve as example of the values and attitudes we convey to our students."* (Additional Principle 7)

These principles are intended to provide guidance to the UN PRME signatories in integrating sustainability and are used by many signatories to structure their SIP reports. Reporting on progress to other business schools and stakeholders by signatory institutions is an essential part of the active commitment to the UN PRME initiative. In relation to these principles, SIP reports are expected to include the following four elements (UN PRME 2010):

1. *"Renewal of the commitment to UN PRME, signed by the highest executive of the organization;*
2. *Major achievements in relation to the implementation of one or more of the six principles during the last 24 months;*
3. *Key objectives for the next 24-month period with regard to the implementation of the principle(s);*
4. *Desired support (meetings, tools, good practise, implementation guidelines etc.) from the UN PRME community which could help most in achieving the organizational key objectives for the next 24 months."*

3. Research Questions and Method

The purpose of this study is to investigate to what extent business schools worldwide which have submitted UN PRME SIP reports embed sustainability in their teaching, research and operational practice and how they manage and facilitate the integration process. More specifically, we explore three elements which together constitute different stages and aspects of the integration process. These elements are: 'Frameworks and Strategies', 'Facilitating Integration and Organisational Change' and 'Achievements' (see Table 1).

First, we investigate the **Frameworks and Strategies (A)** applied at the organisational level and within education and research (Baseline). Research questions addressed are:

- How do business schools incorporate sustainability values in their educational framework?
- What are business schools' understandings of sustainability research and how do they strategise the integration of sustainability in research?

- What frameworks and strategies for managing organisational practices and communicating sustainability are utilized?

Secondly, we investigate how business schools **Facilitate (B)** the processes of organisational change towards sustainability (Context, Process, Reflection). Research questions addressed are:

- Which learning strategies and structures do business schools mobilise for sustainability integration (Context)?
- What tools are used to manage the organisational change process (Process)?
- Do business schools reflect on and learn from the integration process (Reflection)?

Thirdly, we analyse the self-reported **Achievements (C)** of the sustainability integration process (Outcome, Impact). With regard to the Outcome of the integration process we ask:

- To what extent have business schools enhanced sustainability education and created respective learning opportunities (sustainability-related learning offerings)?
- To what extent have business schools created and advanced knowledge regarding sustainable development (sustainability-related research collaborations and output)?
- How have business schools developed their organisation and operations towards sustainability (sustainable organisational practice)?

With regard to the Impact of the integration process we ask:

- What are the impacts of business schools on the society and the natural environment (through teaching, research and operations)?
- How is knowledge transferred?
- What are the key targets for improved performance in the future?

These research questions form the basis of our analysis. Table 1 presents the three main elements and the sub-areas of our analytical structure. It also provides some examples taken from our findings for illustrative purposes.

We analyse the SIP reports of the first 100 reporting signatories who developed and uploaded their report onto the UN PRME website. UN PRME is one of the most important initiatives to inspire and champion responsible management education, research and thought leadership globally. Signatories are committed to implementing one or more of the six sustainability-related principles for responsible management education and to sharing progress regularly to all stakeholders through their SIP reports.

We consider the data base to be appropriate for our analysis for two reasons:

- All SIP reports respond to one single institutional cue;
- The data are publicly available for other researchers to verify, challenge or extend our analysis.

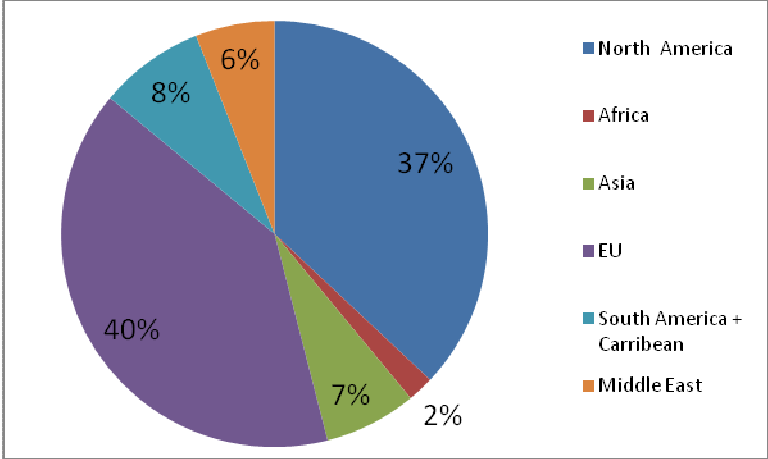
Their analysis enables us to take stock of the state-of-the-art experience among a network of 'Aspirational Business Schools'.

We acknowledge that SIP reports are not necessarily a representative reflection of business schools' concepts and practices with regard to sustainability integration. The results only reflect what business schools choose to report not what they are actually doing. The results could therefore underestimate, over-estimate or otherwise poorly reflect performance. However, we assume that the reports represent the respective priorities set by business schools to integrate sustainability and therefore expect that these reports provide useful insights into existing and cutting-edge approaches to sustainability integration and experience made with these approaches.

The 100 SIP reports were identified as follows: All reports that had been uploaded by the 30th September 2010 (104) were downloaded for analysis. We considered only the latest report provided by each organisation (a few business schools report more frequently on their progress and thus had uploaded 2 or 3 reports by the time we carried out our analysis). Five downloaded reports were not available in English and one report was published by a non-business school organisation and therefore we did not include these reports in our analysis. The remaining 98 reports were complemented by the next two reports which were uploaded after our deadline. Thus, 100 reports form the data for our analysis.

As Figure 1 shows, the coverage of the SIPS is global but the overwhelming majority of reports are from North America and Europe.

Figure 1: Population



We used a deductive theoretical framework for the analysis of the data, whilst also allowing criteria to emerge inductively from the data. We coded across all sections of the report i.e. if business schools reported about their teaching methods in other sections than in the dedicated section (in this case principle 3: methods) the data was also coded and included in our analysis. The analysis was carried out with the NVivo software.

The analysis of the report was built around the following structure (Table 1).

Table 1: Analytical structure

		Description	Examples
(A) Frameworks and Strategies	Baseline	<ul style="list-style-type: none"> → Overall strategic approach to sustainability → Educational framework for sustainability → Strategies for sustainability research → Frameworks and strategies for managing and communicating sustainability 	<ul style="list-style-type: none"> → Sustainability embedded in business school's strategy, stand-alone sustainability strategy → Curriculum framework, list of competences, assessment criteria → Understanding of sustainability research → Environmental management standards
(B) Facilitating Integration and Organisational Change	Context	<ul style="list-style-type: none"> → Demonstrating willingness and openness to learn → Developing learning strategies to enhance sustainability integration → Establishing an organisational structure that supports the learning process 	<ul style="list-style-type: none"> → Balancing top-down and bottom-up approaches to create climate for organisational learning → Sustainability related working group, taskforce, committee → Research centres addressing sustainability issues
	Process	<ul style="list-style-type: none"> → Instigation of organisational change through evaluation of current practices → Engaging and communicating with organisational members and external stakeholders → Developing staff 	<ul style="list-style-type: none"> → Evaluation of the existent practices of sustainability-related teaching, research and operation → Engaging staff and students and exploring mindsets → Providing teaching materials and financial incentives to staff
	Reflection	<ul style="list-style-type: none"> → Sharing with and learning from others → Identifying barriers to organisational change → Developing learning strategies and approaches to enabling organisational change 	<ul style="list-style-type: none"> → Lessons learnt in the process of integrating sustainability → Development of tools to overcome barriers → Exchange of experience with other business schools
(C) Achievements	Outcome	<ul style="list-style-type: none"> → Sustainability related learning offerings → Sustainability related research collaborations and output → Sustainable organisational practice 	<ul style="list-style-type: none"> → Programmes and teaching methods → Innovative curriculum and research → Collaboration to overcome disciplinary boundaries in research → Sustainability related campus initiatives and events
	Impact	<ul style="list-style-type: none"> → Impacts that result from the integration of sustainability (through teaching, research and operations) → Transfer of knowledge → Impacts reflected in target setting 	<ul style="list-style-type: none"> → Impact of commitment to participate in the UN PRME initiative → Academic publications, presentations and media contributions linked to sustainability → Various key targets for improved performance in the future

4. Frameworks and Strategies

The purpose of this Section is to explore frameworks and strategies for sustainability integration in different areas of business schools (see Table 1). The baseline was identified as describing the integration of sustainability in frameworks and strategies for teaching, research and operations. This could include:

- The educational framework underpinning sustainability related learning objectives and learning outcomes;
- The business school's understanding of and strategies for sustainability research;
- The frameworks and strategies for managing and communicating sustainability within the business school's operations.

We also investigated to what extent business schools report on their overall strategic approach to sustainability integration. As explained above, business schools are expected to report their commitment to the UN PRME within the SIP reports. It thus does not come to a surprise that nearly all reviewed business schools present the organisation's vision of and a general commitment to sustainable development and UN PRME in their report. However, only one third of the business schools explicate their sustainability-related organisational strategy. Out of these, almost all explain how sustainability is defined and integrated within their overall strategy. In less than 5% of these cases a stand-alone strategy for sustainable development is said to form the foundation for the integration of sustainability. An additional 5% of the business schools refer to a strategy for individual areas, i.e. they explain how they strategise research, teaching or operations (see also below).

The analysis reveals some further insights into the sustainability strategy. These findings are always limited to individual cases but indicate approaches which may be useful for other business schools. First, a few business schools explicitly align their strategy with or incorporate a commitment to UN PRME. Second, some business schools develop progress indicators for their long-term strategy, e.g. in relation to the six principles. Third, in individual cases stakeholder engagement is explicitly mentioned in connection with the formulation of a sustainability strategy, in one case by utilising the AA1000 Stakeholder Engagement Standard as a framework for the involvement of internal and external stakeholders.

Educational frameworks for sustainability

Educational frameworks refer to business schools' learning goals and how these are translated into learning outcomes, methods and assessment.

Almost half (46%) of the reports deliver a description of the business school's learning objectives. These schools often use standard phrases which describe that the business school wants to educate leaders of tomorrow, deliver solid foundations in the management disciplines and enable students to approach managerial decisions with confidence. In two third of these cases (65%) we also identified distinct learning goals for their sustainable education. These distinctive learning goals can be characterized – in roughly equal proportions – as follows.

Students should...

- be encouraged to think critically and independently;
- be able to achieve sustainability through innovation in their professional life;
- act as change agents and global citizens in their professional life;
- be capable of dealing with today's challenges and complexity;
- be equipped with solid traditional management knowledge for responsible decision making.

Those signatories who describe their objectives and learning goals in more detail refer to capabilities or competences in order to explain the learning outcomes of their educational efforts.

The *capability approach* can be seen as a framework to think about quality of life and social justice. Capabilities are oriented towards the kind of life that people find valuable based on reflection and refer to what people are or what they are able to do or be – rather than how much income they have (Sen 1985, 2009). The first UN principle demands, literally, the development of students' capabilities (see Section 2). Applying the capability approach in the context of management education of UN PRME signatories appears to be sensible as these institutions are committing themselves to student learning for sustainable development. Students are supposed to reflect on the value of sustainability both in their decisions as professionals and as individuals, and as future managers they will have the opportunity to create sustainable values in their organisation and in the society. Therefore, for business

education programmes it is worth focusing on the underlying values through which students distinguish and select what is valuable or less valuable, and explore if and how sustainability related values are delivered through business education.

Our study shows that every tenth business school makes a reference to a capability related approach by explaining which capabilities it wants to foster and why it considers this to be important for future business leaders and responsible individuals. These references are usually shaped around aims such as to equip students with the capacity to reflect their decisions and judgements against the backdrop of ethical reasoning or to give them the opportunity to reflect on how they define their own moral compass for decision-making and define a successful life. In their reports, the business schools make no connection between their approach to enhancing capabilities and theoretical approaches or concepts. In one case, however, Sen's (1985, 2009) capability approach has been used for framing the business school's pedagogical approach (see Illustrative Example 1).

Illustrative Example 1: Sen's capability approach applied in a business school

At Pforzheim University Amartya Sen's human development and capability approach is applied in lectures and seminars on sustainable development as well as in lectures on business, society, and ethics. Sen has criticized the traditional economic understanding of welfare in a constructive way. The Capability Approach is a basis for the modern, meanwhile well-established, human development approach. We apply the human development and capability approach in order to better understand the meaning and interrelations of "social sustainability" and enable students to connect economic, social and environmental sustainability more easily.
(Pforzheim, Germany)

To enhance students' appreciation of the value of sustainability is critical for sustainable business education. Besides appreciating its value, there is also a need to act in line with the principles of sustainability – both as a professional and individual. Therefore specific *competences* are needed. So called competency models specify the contents and goals of educational programmes and provide guidance to the 'design' of teaching and learning processes. The higher education for sustainable development (HESD) literature highlights the role of key competences which enable students to "*modify and shape the future of society, and guide its social, economic, technological and ecological changes along the lines of sustainable development*" (de Haan 2006: 22).

Overall, analysing the extent to which business schools aim to foster competences through their educational programmes proves difficult, as there is a rather random use of terms such as skills, knowledge, capabilities and competencies. Despite a tendency to use the term 'skills' in a broad and more general way, in 13% of the reviewed reports there is a clear articulation of specific competences which business schools want to foster through responsible business education (e.g. social, intercultural or methodical competences) (see Illustrative Example 2).

Illustrative Example 2: Learning methods and goals

The school defines intercultural and social competencies as core learning outcomes. This is mirrored in the curricula' which integrate exchange programs and language courses as well as in didactic means namely group work and small group sizes.
(Frankfurt, Germany)

In addition to the articulation of learning goals and outcomes, our study also explored to what extent these are presented in connection with *learning methods* and/or *criteria of assessment* in order to portray a more complete picture of the organisation's educational framework. More than a quarter (27%) of the reviewed business schools explains how the learning goals or outcomes are linked with learning methods and/or criteria of assessment. About half of these business schools place particular emphasis on how the learning methods relate to the envisaged learning outcomes (see Illustrative Example 2; for further findings on learning methods applied by business schools please see also Section 6). The other half of these business schools describes assessment criteria for measuring the learning outcomes (see Illustrative Example 3). There are only very few examples of business schools which cover all of the issues mentioned above in a comprehensive way.

Illustrative Example 3: Assessment criteria

Ethics Assessment: In each sequence (major) in the Collect of Business, students are assessed on four dimensions – writing and critical thinking, team skills, presentation skills, and ethics knowledge. With respect to ethics knowledge, the goal is that at least 75 percent of the students will be evaluated as acceptable or exemplary on the following criteria: students demonstrate an understanding of the responsibility of business in society; students demonstrate an understanding of ethical decision making; students demonstrate moral development in ethical decision making; students demonstrate an understanding of the responsibilities of a leader's role as it relates to ethics; and students demonstrate an understanding of the roles of various corporate governance

entities and policies as they relate to ethics. Faculty members in the 20 sequences assess these skills each semester and meet once a year to discuss results and ideas for improving student performance on these assessments.

(Illinois State, USA)

Strategies for sustainability research

Sustainability research investigates the interactions between human and environmental systems to address the challenges of a sustainable development and to promote transition toward sustainability (Clark and Dickson 2003). According to Clark (2010) four broad characteristics of sustainability research can be identified which clarify how sustainability research addresses its questions. "These are (...) i) problem-driven focus on human-environment systems; ii) integrative approach to understanding complex human-environment interactions; iii) special attention to the cross-scale dimensions of those interactions and iv) its boundary-spanning work at the interface of research and practice" (Clark 2010: 88).

The analysis of the SIP reports shows that only a tiny number of the reviewed business schools provide a comprehensive explanation of their understanding of sustainability research or their specific approach to understanding and approaching complex problems related to the vision of sustainable development. This does not mean that business school would not address this element of sustainability integration. Indeed, almost every business school shows some engagement with sustainability related research (see Section 6). Moreover, as mentioned above, one third of the business schools address sustainability related research aspects in their sustainability strategy or overall strategy. However, this often takes the shape of short statements such as reference to the business school's commitment to UN PRME as a key element of the organisational strategy, in both teaching and research. A very low number of business schools (less than 10%) provide more details about their sustainability research strategy and, for example, elaborate on the areas of expertise and the process of engaging with the emerging area of sustainability research. Interestingly, although only very few business schools explicitly address *interdisciplinary* as one of the main characteristics of sustainability research in their strategy there is at least some broader evidence of actively engaging with this type of research, for example, through cross-faculty research collaboration (for further information, see Section 6).

Frameworks and strategies for managing and communicating sustainability

The UN PRME initiative suggests an additional principle which refers to the integration of sustainability into the organisational practices of business schools (see Section 2). The analysis of the reports reveals that this principle is often briefly addressed within the overall strategy or sustainability strategy (see above). About a fifth of the reviewed business schools explicitly acknowledge that their own organisation must be seen as a 'role model' and that the business school's organisational practice should be committed to sustainable development. In only a few cases is there broader coverage, for example, in terms of strategic environmental and/or sustainability targets. This is exemplified in the strategic goal of reducing carbon emissions and becoming carbon neutral within a certain period (e.g. by signing the American College and University Presidents' Climate Commitment ACUPCC) (see also Illustrative Example 4).

Illustrative Example 4: Sustainability strategy including CO₂ emissions reduction goals

Carbon reduction: We understand the importance of leading by example, and Cranfield University as a whole is developing its sustainability strategy, including a commitment to a 50% reduction in CO₂ emissions by 2014 and seeking to expand our Carbon Brainprint (the positive impact the university has through research, teaching and practice to help others to reduce their carbon emissions). The SOM specifically has engaged with the Carbon Trust and the Selix Fund to reduce energy wastage by investing in new technology.
(Cranfield, UK)

Environmental management systems and ranking and awarding schemes appear to provide frameworks for managing sustainable organisational practices. About a tenth of the business schools say that they use frameworks such as the accreditation standard ISO14001 for environmental management systems or refer to their achievements in being awarded for outstanding environmental or sustainability performance (for further information see Section 6).

Overall, the findings on strategies for sustainable organisational practices need to be interpreted with caution. It appears that business schools often 'benefit' from being part of a university-wide strategy for creating a sustainable campus and developing a sound learning and working environment. There are instances in which this is

explicitly mentioned in the SIP reports and it may well be that university strategies have not been reported in all cases (this appears to be likely as there is also broad coverage of organisational outcomes in terms of sustainable practices, see Section 6). Among the SIP reporters there are also a few business schools which mention that they aim to build up on these university strategic initiatives and to further develop their own approaches to manage their operations and develop their own sustainability models to create a sustainable environment where stakeholders work, learn and interact.

One might expect that a *communication strategy* would play a significant role within the management and implementation of sustainability in business schools given its potential role in helping to operationalise the strategies and frameworks introduced above and the high importance of partnerships and dialogue within the UN PRME framework (see Principles 5 and 6 in Section 2). Strategic sustainability communication includes a comprehensive communication management concept which enables listening and responding to members and stakeholders of the business school with the aim to engage and involve them to stimulate and guide change (Godemann and Michelsen 2011). Indeed, there are several business schools which make efforts to foster dialogue and communication about sustainability (see Sections 5 and 6). However, less than 10% of the business schools note that a specific sustainability related communication strategy underpins their communication activities.

Summary

Summarising the baseline in which the overall integration of sustainability in teaching, research and operation takes place, several basic frameworks and strategies were identified. Table 2 gives an overview of the main findings regarding these frameworks and strategies as used by business schools.

The review of the educational framework underpinning learning objectives and learning outcomes showed that business schools stress different goals of sustainable business education: some focus on critical thinking whereas others stress the necessity of innovation to deal with societal problems, acting as a global citizen, dealing with complexity or emphasise the value of traditional management knowledge. Overall, many reports appear to be rather vague in specifying their educational framework. Similarly, sustainability seems to be a main research focus

for the reviewed business schools but within their reports they have not pointed out the specifics of sustainability research and how they address it e.g. worded in a research strategy.

On the frameworks and strategies for managing and communicating sustainability within the business schools, our analysis shows that there is commitment to engage with their community and 'green' the campus. Environmental management systems and ranking and awarding schemes appear to provide frameworks for sustainable organisational practices. Within the last decade higher education institutions have put efforts into environmental management systems (Viebahn 2002) - the focus now appear to move to carbon management, the reduction of CO₂ emissions and carbon neutrality. Business schools communicate about environmental and sustainability issues (see Section 6) but a comprehensive sustainability communication strategy is rarely presented in the SIP reports.

Table 2: Summary of 'Frameworks and Strategies'

(A) Frameworks and Strategies	
Overall strategic approach to sustainability integration	<ul style="list-style-type: none"> - there is evidence of strategising sustainability: - often all three areas (research, teaching and operations) are covered but addressed rather general and short: - sustainability integration in overall strategies rather than stand-alone sustainability strategies.
Educational frameworks for sustainability	<ul style="list-style-type: none"> - specific learning goals around critical thinking; innovation; global citizenship; dealing with complexity; traditional management knowledge - low alignment of learning goals with learning outcomes, methods and assessment criteria.
Strategies for sustainability research	<ul style="list-style-type: none"> - almost no account of a sustainability research strategy: - no explication of understanding of sustainability research.
Frameworks and strategies for managing and communicating sustainability	<ul style="list-style-type: none"> - utilizing frameworks such as environmental management standards and awarding and ranking schemes; - social engagement focuses on community involvement; - almost no account of a communication strategy.

5. Facilitating Integration and Organisational Change

This section gives attention to the organisational transformation process and the question of *how* business schools *facilitate* organisational learning and manage organisational change towards sustainability across the institution (see Table 1). Three areas are analysed: a) the **Context** in which all endeavours of integration takes place, b) the **Process** of managing organisational learning for sustainability, and c) how business schools **Reflect** the integration and learning process at an organisational level.

Context

The term *Context* refers firstly to the willingness and openness of business schools to learn about sustainability and organisational change. Secondly, it addresses the learning strategies for sustainability and coordination of organisational learning. The development of learning strategies for sustainability can support business schools in achieving their targets and visions of organisational change. Thirdly and in relation to this, the development of an organisational structure can trigger business schools' ability to learn, and therefore should be aligned with the strategy.

The three key aspects underpinning the context of sustainability integration are:

- Demonstrating willingness and openness to learn;
- Developing learning strategies to enhance sustainability integration;
- Establishing an organisational structure that supports the learning process.

Demonstrating willingness and openness to learn

An important precondition for organisational learning is the awareness of a need to learn. Although becoming a signatory to UN PRME itself includes the commitment to changing existing organisational practice and incorporating one or more of the six principles, the willingness and openness to learn may still differ among organisations. Therefore, clearly communicating that the organisation is willing to learn and that learning is recognised as critical for organisational change towards sustainability represents one way to show the importance attached to organisational learning. Our analysis shows that 13% explicitly express a will to learn through the UN PRME initiative.

Organisational change evolves to fit the shifting environment. It requires a *learning strategy* that frames infrastructure (Context) and processes (Processes), often in a top-down approach. In our set of business schools, there is frequent reference to the importance of formal initiatives from the school's leadership or of university-wide change efforts for organisational renewal. With regard to responsible management education, this includes for example a formal request from the business school director and the programme directors to incorporate UN PRME into core courses. However, there also seems to be limited power or willingness to mandate organisational change and implementation of UN PRME from the top (see Illustrative Example 5). It seems that learning strategies need to take the expectations and experiences of research, teaching and student bodies into account and provide an environment in which exploration and experimentation can take place. Illustrative Example 6 highlights the role of staff's involvement, perceived efficacy and experimentation. Overall, the findings from our study suggest that the key challenge in strategically implementing sustainability into business schools depends on finding the right balance of top-down and bottom-up approaches to create the right climate for organisational change.

Illustrative Example 5: Balancing top-down and bottom-up change processes - I

Without strong roots in research, teaching and the student body, implementing PRME will become a bureaucratic exercise. On the other hand, without clear support from the School's leadership, the implementation of PRME stands in danger of becoming too attached to the efforts of a few individuals.

(Hanken, Finland)

Illustrative Example 6: Balancing top-down and bottom-up change processes - II

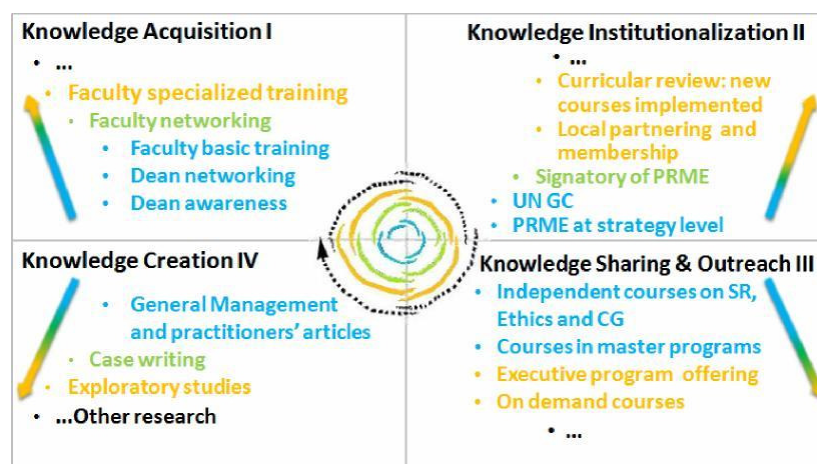
Sustainability courses can be driven from the top down, but, to embed sustainability within the curriculum more holistically, we need to engage the hearts and minds of the lecturers who design the courses and set the coursework. The extent to which lecturers do this is a product not just of their attitudes towards sustainability issues, but also their perceived efficacy (Ajzen, 1991) ie how well they feel able to embed sustainability issues within their courses.

(University of Southampton, UK)

Developing learning strategies to enhance sustainability integration

Explicit stimulation of learning processes within the organisation is hardly addressed by the reviewed business schools. This could mean that most of the business schools apply some of the tools presented in this Section of the paper without systematically embedding them in a more comprehensive and strategic approach to organisational change. Only about one out of ten business schools (9%) demonstrate that they employ a certain strategy for organisational learning. Illustrative Example 7 shows such systematic approach to foster organisational change.

Illustrative Example 7: 'Spiral Approach' - a step by step approach to organisational change



Each group of activities triggered a knowledge cycle of a spiral that is characterized by the stages: Acquisition – Institutionalization – Sharing – Creation. Our experience tells us that these are overlapped activities. The PRME spiral metaphor tries to explain that every cycle increases our knowledge, reinforce institutionalization, involve more people and develops the knowledge creation capacity.

(ESPAE, Graduate School of Management, Ecuador)

Establishing an organisational structure that supports the learning process

Finally, the findings give insights into elements of the design of business schools' organisational *structure* which is generally seen to play a key role in organisational change of higher education institutions (Kezar 2001). In our sample, structural change processes include very often the establishment of working groups, committees or task forces (Illustrative Example 8) within the business school or the overall institution. These changes aim to support the integration of sustainability in one or more of the three areas, teaching, research and operations.

About one in four business schools provide information related to this change in structure but the form of transformation varies. On the one hand, there are working groups at university level which mainly address environmental and sustainable practices on campus and in which the business schools participate (17%). They aim to establish a sustainable campus culture and to enhance communications activities across the campus.

On the other hand, at business school level there are in some cases (10%) task forces which have been established to either embed sustainability in the curriculum or, more broadly, integrate sustainability into all three areas. The latter type of task force supports sustainability research and intends to influence curriculum development and pedagogical innovations towards sustainability education. In our cases, these changes are aligned with the UN PRME and in one case there was a new UN PRME coordinator hired who leads this group. Overall, the number of working groups, committees and task forces appears to be low which may be explained by the coverage of the UN PRME activities within other business school or university bodies. It may also be expected that with increasing involvement in the UN PRME initiative and reporting process, the number of these specialised bodies might increase in future.

Illustrative Example 8: UN PRME task force

In the Spring of 2009, a taskforce was created to coordinate the efforts of the College of Business with respect to the six principles of PRME. The taskforce is multidisciplinary and includes members from each of the departments in the College of Business. To date the taskforce has created and deployed a survey to gather baseline data about faculty awareness and incorporation of PRME principles in both teaching and research, presented a panel presentation called "PRME in the Classroom," and met with members of the College of Business Advancement Department to create calls for donations to support PRME oriented classroom and research opportunities.
(Illinois State University, USA)

Another key approach to organisational form that has emerged seems to be the establishment of dedicated business school centres or the extension of the focus of existing centres to integrate questions of sustainability. To advocate sustainability issues within research more than a third of the reviewed business schools (36%) established research centres which are dedicated to or integrate questions of sustainability. These institutes carry out research and teaching focused on business and sustainability in a wide sense. They also coordinate the engagement processes

with businesses through dialogue. Overall, it appears that these centres have a key role in the entire organisational change process.

Process

Having analysed the context (willingness, strategy and structure) for a successful integration of sustainability we now turn to the findings from analysing how business schools *manage* the *process* of organisational learning. The term 'process' refers to initiatives or mechanisms which foster organisational learning resulting in new developments in research, teaching and operations and contributing towards a sustainable development of the organisation.

Key aspects underpinning the process of managing change are

- Initiating organisational change through review of the current state;
- Engaging and communicating with organisational members and external stakeholders to enhance the organisational change process;
- Developing staff.

Initiating organisational change through review of the current state

One important step in organisational change of higher education institutions is to "promote organizational self-discovery" (Kezar 2001: 114). Therefore we focused on aspects in the reports that indicate activities through which business schools tried to learn more about themselves in order to allow change to occur. The review of the reports indicates that about one quarter of all business schools (23%) have undertaken a review of their own sustainability-related teaching, research and/or organisational practices. Two third of these business schools (65%) solely review teaching aspects (e.g. overview of current integration of sustainability in the curricula, re-definition of syllabus of all courses, exchange of ideas and perspectives to develop interdisciplinary courses).

Engaging and communicating with organisational members and external stakeholders to enhance the organisational change process

To gather ideas and expectations of staff and students about sustainable practices in teaching, research and on campus, the entire business school should be involved.

Mechanisms that bring organisational members of a business school together in order to discuss, relate and understand the current status are part of the self-discovery process but were mentioned by less than 10% of the reviewed business schools. Some Illustrative Examples were:

Illustrative Example 9: Tool to share ideas and initiate change I

Brownbag Research Session on New Course: The school has a strong history of brownbag research sessions. All the three brownbag sessions of spring 2009 was dedicated to exchanging ideas to develop an interdisciplinary course on "Sustainable Business Development." During these session faculties from other academic units, especially Environmental Science, was invited to share their perspectives on developing this course.

(Cameron School of Business, USA)

Illustrative Example 10: Tool to share ideas and initiate change II

Communication: The six principles of the UN PRME have been clearly communicated to all faculty members. This was done through Academic meetings, Subject Area Grouping meetings, Emails and also on the contracts of all faculty members. Communication of the PRME was carried out in conjunction with our curriculum review process. Our Administrative staff was also informed of the PRME through general and departmental meetings. In addition, all new students are exposed to the PRME during their orientation ceremony.

(Arthur Lok Jack, Trinidad)

In a very few cases the assessment of sustainability-related issues among faculty members, staff and students or the brainstorming on possibilities regarding the implementation of sustainability were accompanied by interviews or questionnaires. This is surprising as surveying expectation and inhibitors can help in overcoming barriers and facilitating change. Such an approach is grounded in the idea that the integration of sustainability is interpreted as changing of mindsets or mental models and transformation strategies are needed (transformative learning). The baseline therefore is knowledge about the mindsets that exists within the business school. This knowledge helps to modify and develop tools for the integration of sustainability. An Illustrative Example which combines the use of a survey with a discussion event is shown below (Illustrative Example 11).

Illustrative Example 11: Change of sustainability related mindsets within the business school

The experiences of trying to embed sustainability within the School of Management curriculum revealed some useful insights. In a survey of the academic staff with teaching responsibilities, most thought they already addressed sustainability issues within their courses. (...) In a specific lunchtime forum to discuss and share ideas about ways in which this could be addressed, conversation immediately took a negative turn focusing on barriers to including sustainability issues rather than sharing positive ideas. However, once lecturers were offered specific examples of innovations and ideas that fit easily within their course, they immediately became more positive. Many of the negative reactions to embedding sustainability are due to a lack of confidence, knowledge and/or time to work out how to do it. Given concrete examples, the lecturers became energised. Attitudes became much more positive and, most importantly, sustainability issues began to be integrated in a much more embedded way as they realised they were not necessarily being asked to lose chunks of their core material in order to insert sustainability.

(Southampton, UK)

Relatedly, some business schools also seek to gain external input to further develop their educational programme (e.g. to update the materials or develop new courses). A good case in point is a discussion event with sustainability leaders from the business school's community.

Overall, only few business schools appear to realise the full spectrum of opportunities arising from participation, particularly of staff and students, in order to 'learn from each other' and discuss and reflect different perspectives on higher education for sustainable development. The involvement of students and staff (8%) as well as external stakeholders (9%) was communicated broadly by 14% of the reviewed business schools.

Illustrative Example 12: Engaging staff and students

Engaging academics: We raised the issue of integrating issues of sustainability, responsibility and ethics into all School activities at our annual staff briefing day in September 2009. This was preceded by a survey of both students and academic staff to gather views and suggestions relating to this issue. Results were fed back to staff at the briefing day followed by discussion. We followed this up in December with a lunchtime forum which all staff were expected to attend. Staff brainstormed in groups how to integrate issues of sustainability, responsibility and ethics into their teaching.

(Southampton, UK)

There also seems to be room for improvement to let students participate in the formerly mentioned working groups. They are usually composed of faculty members and in some cases administrative staff. The reviewed business schools rarely involve students in such working groups. Students of the reviewed business schools are engaged mostly in student-led activities such as volunteering or participating in student-led networks (e.g. Net Impact student club) or in groups on campus (e.g. Green teams).

To further enhance students' commitment to and participation in and the learning process inside and outside the classroom, two overlapping basic strategies are suggested within the reviewed reports:

- Providing organisational support to those students who have already been committed to sustainability (e.g. through networks, clubs, projects) in order to encourage further participation;
- Developing other opportunities for those who are not proactively engaged with sustainability issues to learn more about sustainability inside and outside the classroom (e.g. through exhibitions).

Developing staff

Integration of sustainability can also be increased through staff development such as opportunities for individuals to learn through engagement with themes associated with the change effort i.e. sustainability. Providing staff with new input and supporting them in developing and integrating new sustainability related ideas is reported by one out of ten of the business schools. Support made available to organisational members takes the form of the development of teaching material, provision of sustainability related publications and multimedia resources and opportunities for research topics. The creation of funds to finance investments in the institutional development linked to sustainability is not very common. Providing financial incentives is mentioned by only 5% of the reviewed business schools.

Illustrative Example 13: Staff development I

This year we have promoted a seminar with all the FDC technical staff, involving professors and program managers, to discuss "The FDC Reason for Being". Our purpose was to gain a greater understanding of our responsibility vis-à-vis society, and particularly of our role in educating and building the skills of executives and entrepreneurs and in developing companies, thus incorporating

the values of sustainability into business and into society. A document about "The FDC Reason for Being" subsidized the debates and it is being reviewed to incorporate the results of the seminar. (Fundação Dom Cabral, Brazil)

Illustrative Example 14: Staff development II

Faculty Development: Individual faculty were given the opportunity to attend an in-depth learning experience through AACSB needed to effectively introduce the subject of ethics to future business leaders. Attendees engaged in an analysis of the ethical dimensions of materials used in the classroom by participating in computer simulation exercises to further develop expertise in the subject area. (...)

Faculty members were also given the opportunity to participate in The Bentley Teaching Ethics Workshop as well as various in-house workshops that revolve around PRME themes and content areas.

(Thunderbird, USA)

Reflection

Thoughtful reflection upon experience with the implementation of the UN PRME is an essential part of business schools' learning. It imposes the highest demands on business schools but enables greater meaning and learning to be derived from the integration of sustainability. According to theories on organisational learning this kind of reflection represents a permanent questioning of inconsistencies and incongruencies in the action theory of the organisation and basically means learning how to learn (also called triple loop learning, reflective learning; Argyris and Schön 1974). In our study, such reflective learning is explored in the form of construction of knowledge through both action and reflection in order to identify barriers to and enablers of organisational change.

Key aspects which underpin the process of reflection are:

- Sharing with and learning from others;
- Identifying barriers to organisational change;
- Developing learning strategies and approaches to enabling organisational change.

Sharing with and learning from others

Within their SIP reports business schools are asked to formulate advice based on the experience they would give to other business schools on the sustainability integration

process and to share their needs and the support they seek to get from the UN PRME initiative (see Section 2). Consequently, in some reports there are specific sections (e.g. entitled 'advice and demand') which we analysed in more detail. However as with the rest of the study, we did not limit our analysis to the dedicated section of the report but took all parts of a report into account in order to explore the business school's learning experience.

Although our analysis shows only a minority explicitly express a will to learn through the UN PRME initiative (see above) the findings reveal that, overall, there is great interest in sharing experience with others and learning from others. This corresponds with the general willingness of business schools to learn (see above). It also signals a strong need for support e.g. through the UN PRME initiative. This general need for support is sometimes directly formulated in form of good practice examples, facilitating the information sharing about signatories and improving the learning network through instigation or coordination of partnerships with other business schools and organisations.

However, the study also shows that only a few business schools yet provide a comprehensive account of their experience with integrating sustainability in their SIP reports and with reflecting on learning-in-action. Synthesising the experience with the construction of knowledge through both action and reflection is often a minor element of the reports and in several cases limited to a few bullet points or sometimes not addressed at all. One reason may lie in the short history of the UN PRME initiative and thus we may see more elaboration and reflection on the learning experience in the future as the efforts to integrate sustainability will increase.

Closer inspection of the findings from reflecting on learning experience reveals that the business schools attested to the importance of time. Organisational change is viewed to require participation of individual business school's members and dialogue opportunities which enables them to contribute to the organisational change process. Several business schools acknowledge that they are still at an early stage on the journey and the implementation to be a work in progress (Illustrative Example 15).

Illustrative Example 15: Consideration of time for organisational change

Change takes time. Real change involves our faculty seriously engaging with the detail of changing context and working out for themselves – individually and collectively – what they make of this changing context and what they think it means for their practice. This process will not happen quickly.

(Ashridge, UK)

Identifying barriers to organisational change

The business schools identified a set of challenges and barriers to the integration of sustainability. These were generally around:

- Difficulties in translating sustainability into individual management disciplines due to underdeveloped understandings of relevant concepts and variety of terms in use;
- Engaging with faculty and providing an account of where it stands on sustainability and responsibility and what needs to be done without seeming to preach or to interfere with academic freedom.

More specific barriers to the integration of sustainability into management education are:

- Uncertainties surrounding the definition of responsible management education;
- Specification of sustainability in customised educational programmes where the business school has limited control over design (e.g. executive education, consulting in partnership with clients who might not appreciate sustainability as an overarching goal)
- Staff reluctance to integrate sustainability into their teaching because they may lack confidence, knowledge or time;
- Mismatch between staff assumptions that they already address sustainability issues within their courses and students' expectations;
- Uncertainties surrounding curriculum change which enhances the attractiveness and relevance of sustainability to students.

Developing learning strategies and approaches to enabling organisational change

The SIP reports also give insights into enablers for organisational change towards sustainability. Reflecting on the usefulness of enablers shows that many of the approaches discussed above (context, process) helped individual business schools in the integration of sustainability. General enablers which have proven to be useful are around internal communication, institutional support (funding, personnel) and dialogue with external stakeholders.

Tools which help business schools in reflecting the organisational change process are:

- Observing and learning from the sustainability integration of other business schools (e.g. through monitoring of developments in UN PRME reporting or inviting scholars or faculty with international expertise to develop joint research) and other business-related organisations (e.g. companies who are committed to sustainability);
- Sharing best teaching practices and learning materials with other business schools (e.g. through collaboration with other scholars within lectures);
- Surveying the faculty (e.g. questionnaires).

Summary

In this section we turned the focus to the transformation process and the question of how business schools facilitate organisational learning and manage the organisational change process towards sustainability across the institution (Table 3).

The findings on the context show that there is a reported will on the part of business schools to learn. However, only few business schools explain their strategy for organisational learning. The findings attested to the importance of the right balance of top-down and bottom-up approaches in creating a climate for organisational change. Key approaches to structural change involve the establishment of business school centres dedicated to or integrating sustainability, followed by, albeit at a lower frequency, the establishment of working groups, committees or task forces within the business school or the overall institution.

Regarding the process of managing the change process, the findings, firstly, show that a quarter of the business schools have undertaken a review of their own teaching, research and/or organisational practices to learn more about themselves in

order to allow change to occur and that the emphasis lies here on the review of teaching. Secondly, in only exceptional cases there is a communication culture that brings organisational members together in order to discuss, relate and understand the current status of sustainability in the business school. There also seems to be room for improvement to involve students, staff and external stakeholders. Thirdly, one out of ten of the reviewed business schools made support available to organisational members in form of the development of teaching material, provision of sustainability related publications and multimedia resources and opportunities for research topics. The creation of funds to finance investments in the institutional development linked to sustainability is even less common. Providing financial incentives is mentioned by only 5% of the reviewed business schools.

The findings regarding a reflective learning for organisational change towards sustainability reveal that, overall, there is an interest in sharing experience with others and learning from others. However, there is also a need for support. This general need for support is sometimes directly formulated in form of good practice examples, facilitating the information sharing about signatories and improving the learning network through coordination or initialisation of partnerships with other business schools and organisations. The study also shows that only a few business schools yet provide a comprehensive account of how and with which results they reflect on their experience with the integration of sustainability. The business schools identified a set of challenges and barriers to the integration of sustainability as well as insights into enablers for organisational change towards sustainability. Tools which can support the reflection process are monitoring of and learning from other organisations, sharing best teaching practice and surveying the faculty.

Table 3: Summary of ‘Facilitating Integration and Organisational Change’

(B) Facilitating Integration and Organisational Change	
Context	<ul style="list-style-type: none"> – There is a will on the part of business schools to learn; – Only few business schools explain their strategy for organisational learning; – Creating a climate for organisational change seems to require the right balance of top-down and bottom-up approaches; – Key approach to structural change involves the establishment of business schools centres dedicated to or integrating sustainability.

Process

- Only a few business schools provide insights into how they integrate sustainability (process);
- Reviewing the own teaching, research and/or organisational practices to allow change to occur; the emphasis lies on the review of teaching;
- Almost no account for the establishment of a communication culture that bring organisational members together in order to learn from each other;
- Providing financial incentives or input for staff is relatively rare.

Reflection

- Great interest in sharing experience with others and learn from others as well as a need for support;
 - Only a few business schools yet provide a comprehensive account of their experience with integrating sustainability in their organisations;
 - Some business schools monitor other organisations, share best teaching practice and survey the faculty.
-

6. Achievements

Having reviewed the frameworks and strategies for sustainability integration and the approaches to facilitating the organisational change process, we now turn to the findings from our investigation of the outcomes and impacts of business schools' integration of sustainability (see Table 1). The analysis covered the three main areas teaching, research and organisational practices.

Outcomes

Outcomes refer to the results of establishing frameworks and strategies and facilitating organisational change towards sustainability. The review has identified three key sustainability-related outcomes from integrating sustainability in teaching, research and operations:

- Sustainability related learning offerings;
- Sustainability related research collaborations and output;
- Sustainable organisational practice.

Sustainability related learning offerings

In more than three quarters of the SIP reports there is evidence of some kind of *sustainability related learning offerings*, albeit business schools report at a varying intensity and depth. Business schools report that they have created either new modules or programmes which focus specifically on sustainability issues (e.g. developing a stand-alone module on managing for sustainability or a new master programme on corporate social responsibility) or have integrated sustainability within existing structures in recent years (e.g. integrating a session on corporate social responsibility in individual courses such as financial accounting). Overall, there is a large variety of approaches to creating new structures or extending existing structures (Rusinko 2010). Some examples are given below.

Mainstreaming sustainability calls for the business schools to systematically integrate sustainability related issues in at least one of their course offerings of each area/discipline (Illustrative Example 16).

Illustrative Example 16: Mainstreaming sustainability in all disciplines

An undergraduate honors course on Sustainable Development was pilot tested during Spring 2010 to identify the appropriate materials for this restructuring. For the first-year student, two courses are being pilot tested that support understanding of sustainable development –1) Business Sustainability/Green Economy and 2) Discovering Entrepreneurship. Curriculum for all majors includes “Topics” courses that can be used appropriately for introducing new content and for development of courses that support PRME. Mainstreaming Global Responsibility in all disciplines: In addition to these required introductory classes, all courses within all disciplines at Audencia must integrate, in at least one of their courses, the specific stakes of Global Responsibility. Each discipline is free to choose the means to integrate these concepts. This can be through a case study, a testimony of a company representative, a company challenge, or a more classic lecture-discussion class.

(Audencia, France)

Another way to teach sustainability is to offer an accompanying programme. The objectives of such programmes, that are sometimes rewarded with a special certificate, are to foster competencies for solving sustainability related real-world issues and to enable students to adapt to their ever-changing environment (see Illustrative Examples 17 and 18).

Illustrative Example 17: Overarching theme linked with studies

When students enrol in CP/CS, they will join other students in classes that are thematically linked to an overarching theme: The Unintended Consequences of our Consumer Choices. Beginning in fall 2009, for the next two years, 60 Bentley students will focus on environmental sustainability in general and the challenge of – techno-trash – in particular, examining in detail what happens when we dispose of our cell phones, iPods, computer and other electronic gadgetry. Throughout the program emphasis is placed on learning to solve real-world issues on a global scale.

(Bentley, USA)

Illustrative Example 18: Special certificate

SEER Certificate Program: The Social, Environmental, and Ethical Responsibility (SEER) Certificate has been developed over the last year and will officially launch in the Fall of 2010. The objective of the SEER certificate is to allow interested students to enhance their graduate business school experience and provide the opportunity to earn a certificate that would strengthen understanding of strategic issues in business and provide an added credential for career development. Students are also required to participate in a SEER Service Requirement that involves membership in Net Impact and out-of-class service ranging from participating in the Graziadio Without Borders

Program to volunteering or developing a SEER--focused business plan for the Graziadio Business Plan Competition.
(Graziadio, USA)

New learning offerings in which *interdisciplinary* and *transdisciplinary* modules and programmes seem to play an important role are deployed by about one third of the reviewed business schools. These are viewed as useful in higher education for sustainable development as sustainability issues are experienced by students from different disciplines as well as by contributors from various disciplines and non-academics (Godemann 2008). They offer the opportunity to broaden the perspective and foster competencies for group work in heterogeneous teams (see Illustrative Example 19).

Illustrative Example 19: Interdisciplinary learning

A new teaching module called "How to change the world, initiatives toward sustainable business, design and technology". It is an "Aalto university spearhead course that brings together students from different disciplines in order to gain experience in wicked problems and start learning how to approach solutions." Through various case studies a student gets an idea of real world ecological and social problems: what they are, how they can be modelled systematically, and why it is important to tackle them. In the future the module will be developed to become a part of the Creative Sustainability Master's degree program.
(Alto University, Finland)

When analysing the *level* at which sustainability is dealt with in the educational programme, the findings indicate a gap between postgraduate where effort is concentrated and undergraduate levels. Even at the postgraduate level sustainability related learning opportunities appear to concentrate on MBA and Executive Education programmes compared to MSc/MA or PhD programmes. Some business schools state that they have started to change their MBA programme first and plan to analyse and reorganise the MSc/MA programmes subsequently. This might be a consequence of the influence of rankings such as the Aspen Institute Ranking which solely evaluate the integration of sustainability into the MBA programme. We thus may see an increase in the integration of sustainability issues into BA/BSc, MA/MSc and PhD programmes in the future.

On the issue of *learning methods*, the findings show that business schools apply multiple methods to deliver sustainability education. Table 4 presents some of the

various methods that have been advocated for sustainability (Cotton and Winter 2010: 46 ff) and shows which learning methods are utilised most frequently by business schools (the darker the shading of the box, the more frequently used the learning method is). The most common method is to invite experienced guest speaker to discuss sustainability issues within courses (mentioned by at least every second business school). Motivation behind the integration of practitioners in the sustainability related teaching programme is in most cases to enhance integration of knowledge from the world of practice. To ensure that students are exposed to actual CSR practices of corporations 28% of the signatories' report that they give students the opportunity to set up a real project with a social responsible dimension (e.g. including field study, group projects, internships at home or abroad) confirming Moon and Orlitzky's (2010) finding of the popularity of case studies for business school teaching in general and for CSR education in particular. Local and global competitions are also widely used (27%) as part of the coursework and as standalone projects whilst service learning is mentioned by a smaller number of business schools (10%). A few business schools (6%) highlight the role of business games and simulations and role plays for their sustainability teaching.

Table 4: Teaching methods used in business schools

Method	Description of the learning process
Guest speakers	By including guest speakers the reviewed BS addresses different disciplinary perspectives and practical approaches of sustainability.
Field work and outdoor learning Term used by business schools: field-based learning experience	Fieldwork is based on real-world examples and helps to understand complexity of sustainability and encourage active learning. Through internship and group projects BS provides field based learning experiences. To ensure that students are exposed to actual sustainability practices of corporations and are able to apply and integrate business ethics strategies and concepts BS offer sustainability related group projects (in the community as well as in developing countries); national and international internships with a sustainability dimension in private businesses, governmental organisations and non-governmental organisations; studying abroad to develop a global perspective; Company visits with sustainability-related topics
Problem based learning Term used by business schools: Local and global competitions	This provides the opportunity to generate knowledge in a whole range of subject matters. Students can develop a vision of alternative actions and potential solutions to a sustainability related issue, which they use to devise a plan of action. BS schools utilize business plan competitions, case competitions, entrepreneurial competitions, case studies to offer the opportunity to gain knowledge about social, economic and environmental issues in a problem oriented way.

Case studies	These provide learners with a holistic view of an issue and enable them to investigate issues that affect their local area, to work with practitioners and work together in finding solutions for a sustainability issue. The BS reviewed stated they utilize (live) case studies e.g. to enable students to connect theory with practice, to involve real environmental and social issues or assess the morals of multinational corporations.
Critical incidents	As for case studies, these are used to teach about sustainability. By giving students examples and ask them what they would, could and should do BS use critical incidents such as business ethic problems. This technique allow students to consider the affect of business action on different stakeholders and using moral models for analyzing alternatives including specific societal values or rights.
Reflexive accounts Term used by business schools: Service learning	Pedagogies that provide opportunities for students to reflect on personal roles and responsibilities in relation to sustainability issues help students to understand how individual action contributes to sustainability. Service learning can be seen as an opportunity for students to connect classroom theory with practical experience in the community and it enables students to use service to act responsible in their communities and in their lives as well. BS offers projects that involve working with community organisations on sustainability enhancement initiatives.
Role-plays and simulations Term used by business schools: Business games and simulations	These have long been recommended for teaching about sustainability and these techniques provide an opportunity for students to gain an in-depth understanding of another person's perspective and to empathize with others. Nevertheless they are rarely used in university education (Cotton and Winter 2010), probably because they are time consuming and needs a lot of preparation to enable effective learning. Apart of some interesting examples these techniques are not used very often in the reviewed BS.
Group discussions and Debates	These enable students to discuss their own and others views as well as gather information about a problem and develop an argument. This technique potentially enables a variety of perspectives to be aired but a structure and guidance by a facilitator is needed to encourage listening and self-reflection. BS might use this method but didn't mention these techniques especially for SD learning.
Stimuli activities	These might involve looking at photos, watching a video or reading newspaper article to initiate reflection. Among other things BS use externally produced documents (e.g. newspaper article) in live case studies to bring in a wide range of perspectives for critical discussion/analysis in order to resolve the given case.
Critical reading and writing	Critical writing and reading are important social practices to progressing sustainable literacy. These are common assessment methods in the reviewed BS.

White: the method is used by less than 10% of the business schools; light grey: 10%-19%; dark grey: 20%-29%; black: more than 30%.
Dotted line: the method was not explicitly mentioned but represents a commonly used method in business education more generally.

Some detailed module description indicates that business schools distinguish between learning *about* sustainability (knowledge) and learning *for* sustainability (competences). Learning *about* sustainability requires the provision of a wide sustainability related knowledge base. Learning *for* sustainability includes critical reflective thinking that challenges learners to examine the way they interpret the

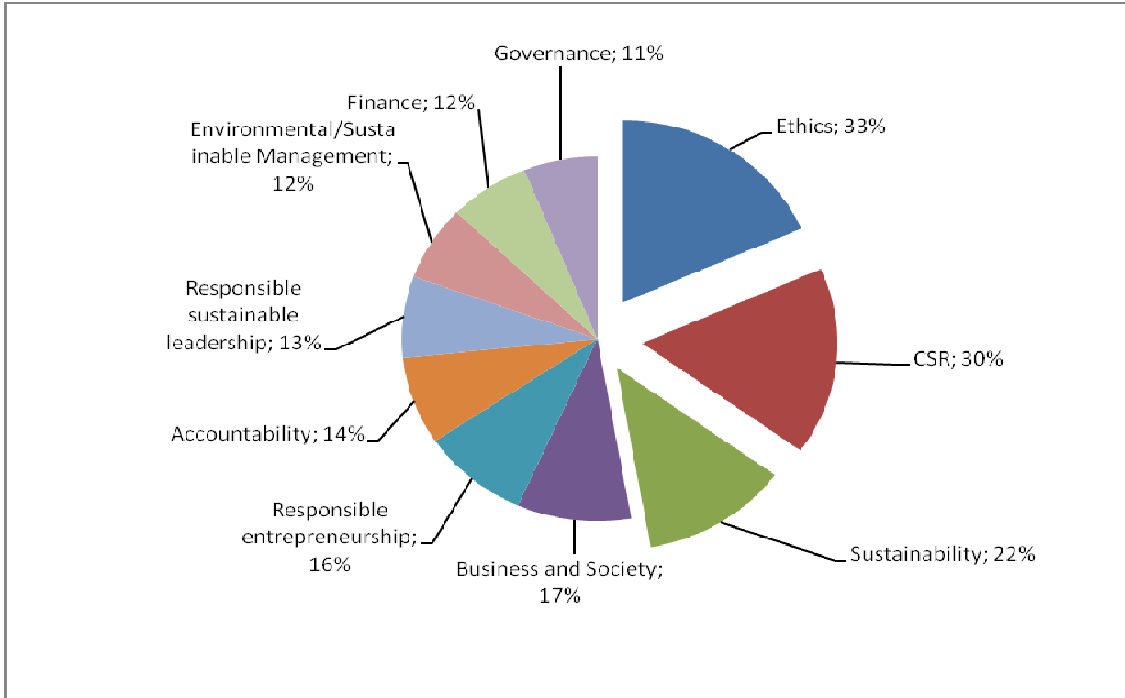
world and how the knowledge and opinions are shaped. Critical reflective learning is about a deep examination of the root causes of unsustainability and it engages learners in recognising the assumptions underlying their own knowledge/ perspectives as well as of their discipline. To foster such reflective learning some business schools constitute innovative learning opportunities by utilizing a variety of approaches to sensitise and open up students to the changing global context and its implications for business and society and to reflect frames of references that define action and life (private and professional). One Illustrative Example is given below.

Illustrative Example 20: Critical reflective learning

In the MBA programme, BHM305, Business, Ethics & Responsibility became a core module for all MBA students seven years ago. The module is interdisciplinary in nature and has contributors from across ABS and from external organisations. The module encourages students to wrestle seriously with ethical quandaries, difficult disagreeable tradeoffs between efficiency and justice and moral contradictions encountered in everyday life. It uses experiential learning to make students aware of ethical and social dimensions of the business making process and enable students to understand the ethical components of managerial decision-making. Students submit a reflective account of their own values and comment upon whether their future decision-making and actions may be influenced by their studies. An analysis of these reflections is undertaken each year.
(Aston, UK)

The sustainability related *content* which business schools deliver through teaching is centred mainly on subjects such as ethics, CSR or sustainability (Figure 2). This is coherent with previous studies on sustainability-related teaching (Matten and Moon 2004, Wu et al. 2010). Other common themes are business and society, entrepreneurship, accountability, responsible sustainable leadership, environmental and sustainability management and finance.

Figure 2: Subjects taught



Other sustainability-related subjects such as gender, climate change, biotechnology, marketing, production and consumption, tourism, education, eco-design and system thinking have been taught but remain more marginal.

Sustainability related research collaborations and output

Overall, the reviewed business schools seem to give some recognition to sustainability in their research. The SIP reports reveal that sustainability research carried out in business schools can be partly characterized as having an integrative approach to understanding complex human-environment interactions and applying a problem-driven, interdisciplinary approach. Nearly a fifth (17%) of the reviewed business schools advocate an interdisciplinary approach and conduct collaborative research that involves faculty members across different academic departments, research streams and brings together scholars with different disciplinary backgrounds across the business school and the university.

Business schools’ involvement in sustainability research is also evident in lists of sustainability-related publications presented in the SIP reports. Moreover, research activities on sustainability are demonstrated through comprehensive description or lists of projects in about one third of the cases (29%).

The sustainability related research is centred on the following themes:

- CSR
- Corporate governance
- Ethics
- Leadership
- Stakeholder engagement/ management
- Responsible finance and governance
- Sustainable Supply Chain Management
- Sustainable entrepreneurship
- Sustainability in the Management Curriculum
- Sustainability and Corporate Citizenship
- Sustainable consumption
- Diversity management

Organisational practice

In their organisational practice, the majority of business schools centre on environmental initiatives and aspects (e.g. preserving the environment, reducing emissions through recycling, resource management) which are very often linked to or embedded in activities of the related university. These activities aim at saving energy through the development of saving strategies and, energy management projects and improvements measures (e.g. improved insulation, heating controls, installation of wind turbines). There is a particular emphasis on carbon emissions reduction. Other environmental measures address for example biodiversity (grass roofs to encourage biodiversity) or water consumption (e.g. rainwater collection units).

Illustrative Example 21: Campus focused student project

In spring 2009, the MBA students enrolled in the Metrics of Sustainability course undertook a major sustainability project. On behalf of Viterbo University, the students collected baseline data related to energy and water use, waste, and facilities management. The usage data compiled by the students serve as a starting point to inform future sustainability efforts on campus. The students' analyses included the type and amount of cleaning products used by building maintenance, the total amount of gas, electricity, and water consumed across campus, as well as and the total waste produced and recycled. The students produced several sustainability baseline documents reports, which were presented to campus' Environmental Responsibility Committee. The information presented will be utilized to help guide the Committee's sustainability efforts on campus.
(Viterbo, USA)

About a third of the business schools promote sustainability not only within the university but also in the wider community and thereby also address social issues (see Illustrative Example 22). These initiatives include, for example, widening participation activities, voluntary activities and outreach work. They can be related to the work of foundations and charities, student-led organisations or other partnership programmes.

Illustrative Example 22: Partnerships with entities in the campus surroundings

Actions in the Campus surroundings, especially in the Jardim Canadá district in Nova Lima, with the aim of coordinating and enhancing actions towards its sustainable development:

- FDC has played the role of a nucleus entity towards a partnership with entities in the Campus surroundings
- Associação Industrial e Comercial do Jardim Canadá, Associação Geral do Alphaville and Casa do Jardim nursery school, with the aim of setting up a Master Plan for networked actions to be developed in the district.
- We take part in the Estação do Conhecimento NGO in Jardim Canadá, in partnership with the VALE mining company and the Nova Lima City Hall.
- We have an agreement with Fundação Flávio Gutierrez and with Museu de Artes e Ofícios to support a restoration course in wood art objects for underserved youths, mainly those from Jardim Canadá.

(Fundação Dom Cabral, Brazil)

Finally, in one quarter of the reviewed business schools, there are sustainability-related campus initiatives. Activities include green or sustainability campus weeks or days as well as the installation of green technologies and other campaigns to raise awareness of sustainable actions. In about a tenth (9%) of the reviewed reports student-led activities are mentioned (e.g. environmental clubs or campus focus student projects) and the Net Impact chapter is a common initiative to engage students across campus (see Illustrative Example 23).

Illustrative Example 23: Net Impact

The Net Impact Chapter at Duquesne is made up of 23 active members, including night-time MBA, MBA Sustainability and graduate students of the Bayer School of Natural and Environmental Science. The goal of the club is to align business and environmental interests of students with a wide-range of activities and campus greening initiatives.

(Palumbo-Donahue School of Business, USA)

Impact

'Impact' results from the integration of sustainability and refers here to three key areas:

- Impact of organisational commitment to participate in the UN PRME initiative;
- Transfer of knowledge;
- Key targets for improved performance in the future.

Impact of organisational commitment to participate in the UN PRME initiative

The overall findings show that the UN PRME initiative represents a key enabler for sustainability integration within business schools. Participating in the UN PRME initiative and developing a management and reporting system appear to enhance the formalisation and development of strategic sustainability integration (see Illustrative Example 24). This obviously impacts on the learning process of the business school in several ways and contributes to transformation towards sustainability.

Illustrative Example 24: SIP report as impulse for change

This report has helped us identify gaps or needs for improvement on each principle and we are taking action to fill those needs immediately. As we think that our students benefit from this perspective, we are taking action to improve those benefits.

(Walter E. Heller College of Business Administration, USA)

Transfer of knowledge

Regarding the *transfer of knowledge*, the 'traditional' academic way of publishing seem to dominate as most of the research efforts have been published in international refereed journals and/or presented at conferences. Only a few business schools elaborate on ways to transfer their knowledge to other audiences through, for example, contributions in the media or other print media. An example which emphasises the importance attested to creating impact through non-academic 'channels' is given below.

Illustrative Example 25: Creating impact through non-academic publications and presentations

The active research on corporate responsibility at the Discipline of Organizations and Management was rewarded [...]. The leader of the group, Professor Minna Halme received a personal award of the Academy of Finland for her merits in improving the societal impact of science through participation in public discussions and distributing understanding of her field e.g. by popular writing (thus also serving the principle 6).
(Aalto University, Finland)

Key targets for improved performance in the future

In their key targets, nearly all business schools commit themselves to enhance their activities in the fields of research, education and operations. These changes that are anticipated by the business schools for the future represent the impact of the organisational commitment to sustainability and cover a range of topics such as promoting interdisciplinary research, integrating PRME within the overall strategy, embedding sustainability into other programmes or enhancing faculty continuing professional development in relation to sustainability (see Illustrative Example 25).

Illustrative Example 26: Identifying implications of sustainability

By the end of 2010 we aspire to show significant progress in embedding – especially in research, FTMBA and through student engagement. By the end of the 2010/11 financial year, we want a critical mass of faculty to be able to articulate what the implications of sustainable development and responsible management are in their discipline; and to know just how their discipline can continue to improve the practice of responsible management. Business schools need to understand the increasing concerns of society, what is expected from our leaders, the governance of business, and the role of business in society. As a leading business school, we need to engage in this discourse today, which in turn will help us become a stronger and even more relevant institution tomorrow.
(Cranfield, UK)

Summary

Summarising what the reviewed business schools have achieved with the integration process, firstly, many business schools have various sustainability related learning offerings (Table 5). Most of the business schools report that they have either created

new courses or programmes which focus specifically on sustainability issues or integrated sustainability within existing structures. Secondly and in relation to this, interdisciplinary teaching seems to play an important role as 30% of the reviewed business schools employed such an approach to teach about sustainability. Thirdly, the level at which sustainability is integrated in the educational programme indicate a gap between postgraduate and undergraduate levels and business schools have the tendency to put more effort in integrating sustainability into postgraduate level. Fourthly, regarding the methods to deliver sustainability the most popular choice are guest speakers, field-based learning experience, the use of case studies and local and global competitions. The content of sustainability related teaching is centred on topics such as ethics, CSR, and sustainability.

Sustainability also seems to be a main research focus. Interdisciplinary research is mentioned by nearly a fifth (17%) as a way to conduct sustainability research that involves faculty members from different departments, research streams and scholars with different disciplinary backgrounds. Still, there seems to be room for improvement for enhance collaboration in sustainability-related research. Moreover, impact is mainly created through traditional ways of publication; less frequently, there is knowledge transfer to other audiences through, for example, contributions in the media or other print media.

The majority of activities of the business schools are centred on environmental initiatives and aspects and are often linked to, or embedded in, activities of the related universities with an observable focus carbon emissions reduction. A quarter of the reviewed business schools mention sustainability related campus initiatives and about a third of the business schools promote sustainability not only within the university but also in the wider community through social projects and initiatives.

Overall, the participation of business schools in the UN PRME initiative appears to enhance the formalisation and development of strategic sustainability integration and transformation. In their key targets, nearly all business schools commit themselves to enhance their activities and impacts in the fields of research, education and operations.

Table 5: Summary of 'Achievements'

(C) Achievements	
Outcome	<ul style="list-style-type: none">– Sustainability related offerings in the majority of business schools;– Interdisciplinary teaching seems to play an important role;– Focus on teaching methods such as guest speakers, case studies and competitions;– Tendency to put more effort in integrating sustainability at postgraduate level;– Collaborative research is employed to enhance sustainability related research but this is still not wide spread;– Organisational practices are centred on environmental activities and community involvement.
Impact	<ul style="list-style-type: none">– Participating in the UN PRME initiative enhances the formalisation and development of strategic sustainability integration and transformation;– Business schools appear to choose the 'traditional' academic way of publishing about sustainability rather than creating impacts through contributions in the media;– Committing to continuous improvement and goal setting reveal the future impact of business school's activities.

7. Conclusions and Implications

This report sets out to address questions about the extent and the ways in which business schools that have published UN PRME SIP reports embed sustainability in their teaching, research and operational practices and how they manage and facilitate the integration processes. Key elements that were addressed in this analysis are: 'Frameworks and Strategies', 'Facilitating Integration and Organisational Change' and 'Achievements'. The survey has succeeded in gathering data from the SIP reports of the first 100 UN PRME signatories who developed and uploaded their report onto the UN PRME website.

Our evidence allows an optimistic answer to questions about the role of sustainability in business schools and willingness to consider sustainability as part of the curriculum, the research agenda topic and as a feature of campus development. The reviewed business schools are aware of the imperative for mainstreaming sustainability and have made notable achievements in embedding sustainability within research and teaching. Regarding operations they are committed to greening the campus activities and some business schools received certification for their environmental management system or have been awarded for their environmental performance.

Notwithstanding the fact that many business schools have established research centres and groups to foster sustainability integration and carry out sustainability dedicated research, there is a low level of elaboration on their understanding of and contribution to sustainability research. Although some business schools apply an interdisciplinary approach in research practice, there appear to remain disciplinary boundaries and barriers separating scholars from practitioners (transdisciplinary research). The current involvement of practitioners can be viewed to be positive but this still mainly takes the form of guest speakers, advisory board members or supporting partners rather than in embedded collaborative sustainability research.

Business schools tend to develop new programmes or courses to address sustainability or critically revise the syllabus of individual modules. However, our findings reveal that some but not all business schools try to embed sustainability issues across the entire curriculum. Regarding the methods to deliver sustainability education the use of traditional teaching methods (e.g. case studies) prevail

although about 30% of business schools employ inter- or transdisciplinary teaching. This enables students to learn from other disciplines which can broaden perspectives and foster competencies for group work and for dealing with complex problems. The experiences with this kind of learning seem to be promising and some business schools express strong interest in further developing this approach and integrating interdisciplinary learning into more programmes. A more theoretically engaged discussion about interdisciplinary learning within sustainable management education could be encouraged (c.f. Kurland et al. 2010).

The findings indicate a gap between postgraduate and undergraduate levels and business schools have a tendency to offer sustainability related programmes particularly at the MBA level. These results are consistent with findings of Wu et al. (2010) and raise the question of whether sustainability should be introduced at the very beginning of their studies.

There is a highly diverse understanding of the learning outcomes of sustainable management education. Terms like competences, capabilities, skills and knowledge are more or less used randomly. Only a minority of business schools explain how they move from educational frameworks to goals, learning outcomes and methods. It seems that there could be greater integration of sustainability with a clear set of learning goals, objectives and learning outcomes. Within accreditation, business schools and universities in general are asked to articulate their learning objectives and learning outcomes. Defining a set of sustainability related learning goals and learning outcomes would be the next step and would provide the opportunity to distinguish between learning *about* sustainability (knowledge) and learning *for* sustainability (competences)

Only few business schools appear to realise the full range of opportunities arising from participation, particularly of staff and students, such as learning from each other and discussing and reflecting different perspectives on higher education for sustainable development. Participatory mechanisms in the reviewed business schools could be further developed. Students could be better used as a source of strategic pressure for implementation, since many of them join sustainability related programmes with a dedicated interest already in mind. A recent research report by the Higher Education Academy (HEA 2011) shows that 65% of first-year UK students believe that universities should incorporate and promote sustainability to prepare

students for the job market. Over 80% of the respondents believe sustainability skills are important to their future employers. However our analysis shows a disappointingly low level of student involvement in the process of implementing sustainability.

Only a minority of the business schools provided a comprehensive account of their contributions to the non-academic print and electronic media in the SIP reports. This may reflect what Suleski and Ibaraki have described as: "Scientists are talking, but mostly to each other" (2010: 115). Bentley and Kyvik (2011) point out that publishing in popular media is only undertaken by a minority of academics, usually a result of the modest rewards associated with non academic publications. However academics with a high record of high quality publications also publish occasionally in popular media. In the sense of transdisciplinary sustainability research the dialogue and communication with a variety of audiences such as practitioners would be valuable. The output of papers in scientific journals has increased over the last two decades but less than 0.3% of papers gained attention from mass media (Suleski and Ibaraki 2010). Regarding the demand of sustainability research to bring science to the public and integrate them into research in a transdisciplinary way (Gibbons 1999) more effort could be placed on communication by academics in general (Rowland 1993) and by business schools to have an impact on society. The UN principles may offer an opportunity for encouraging reporting about the institutions' values and achievements. In the UK, this may also be fostered through the stronger recognition of impact considerations in the Research Excellence Framework.

Overall, the evidence leads to a qualified rejection to the claim that business schools might sign the principles rhetorically but not change much internally. There is substance and some degree of change and development towards the integration of sustainability into business schools can be identified. In the light of pervasive estimations that business schools are not interested in sustainability education, probably the most surprising finding is what some business schools have achieved regarding the integration of sustainability. The study might allow an optimistic answer to questions about the role of sustainability in business schools. Given that we analysed business schools that are committed to sustainability already, it would be interesting to ask non-signatories about their progress.

The results on mainstreaming sustainability as well as the observation that the principles are seen as an opportunity to get or keep the ball rolling to integrate sustainability internally seem to paint an encouraging picture of the usability of the principles for business schools to think about how they want to look like in the future and contribute to a sustainable society. However, the results also indicate that the reflection on the implementation process and the management of the organisational change process is underdeveloped and there is a need for more institutionalised future drivers. Developing tools and methods for creating a culture of organisational learning and building change strategies around sustainability knowledge (mindsets) remain challenges for business schools.

It should also be noted that it is often difficult to assess the integration process and learning opportunities as these are not documented in sufficient detail. Lots of information is available about specific general objectives, initiatives and outcomes of projects but there is a noticeable lack of data to show *how* these objectives and outcomes are achieved. Tools which support business schools in reflecting their own practices, overcoming barriers and facilitating change are viewed to be a critical part of strategies for sustainability integration; however, these strategies are made explicit by a minority of business schools only. To enhance the purpose of the SIP reports to foster mutual learning the business schools should be encouraged to balance within the report information on what they have achieved and how they achieved the integration of sustainability.

Overall, the analysis reveals that there is no one 'recipe' for the integration of sustainability into business schools. Every business school has chosen its own way to integrate the UN PRME and to report their achievements. This in part reflects the SIP design which encourages a stress upon individual accounts of progress rather than bench-marking – for better or for worse. Nevertheless, the SIPs have enabled, through the medium of this report, progress in providing an overview of the implementation of the UN PRME principles worldwide as well as raising key opportunities for further reflection, development and discussion.

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