EDUCATION ABOUT AND FOR SUSTAINABILITY IN AUSTRALIAN BUSINESS SCHOOLS STAGE 3

An action research program
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CITATION


ARIES PROGRAM TEAM

Program Conception
This research program was framed and developed by the Australian Research Institute in Education for Sustainability (ARIES). Professor Daniella Tilbury (then Director of ARIES) framed the vision for this program and was responsible for seeking funds for its development. Daniella initiated the program and facilitated the initial workshop.

Program Leader
Janelle Thomas led this program.

Program Coordinator
Jeremy Mah coordinated the reporting against program deliverables and assisted with the development of the monitoring and evaluation framework.

Program Advisor
Wendy Goldstein provided ongoing advice on action research and education for sustainability.

Editorial Assistance
Jessica North
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Project participants
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Thank you to the following teams from the participating business schools:

Curtin University of Technology, Graduate School of Business
Project Research Leader
Dr Anna Lee Rowe
Senior Lecturer, Unit Controller
Graduate School of Business
Mentor
Professor Margaret Nowak
Director, Governance & Corporate Social Responsibility Research Unit, Curtin Business School
Co-researcher
Ms Gail Thomas
Research Fellow and Manager, Governance & Corporate Social Responsibility Research Unit
Curtin Business School

Griffith University, Griffith Business School
Project Research Leader
Dr Gayle Jennings
Associate Professor in Tourism Management
Course Convenor
Tourism Enterprise Management and Project
Co-Researcher
Dr Carl Cater
Co-Researcher, Course Convenor
Current Issues in Leisure Studies
Co-Researcher
Mr Rob Hales
Co-Researcher, Course Convenor
Ecotourism
Co-Researcher
Dr Glen Hornby
Co-Researcher
Co-Researcher Project assistant
Ms Sandra Kensbock
Macquarie University, Macquarie Graduate School of Management
Project Research Leader
Professor Robin Kramar
Deputy Dean and Director of Accreditation
Subject Convenor Human Resource Management
Joint Convenor Managing Sustainable Organisations
Professor Management
Project Research Leader
Dr Grant Jones
Subject Convenor Organisational Behaviour
Joint Convenor Managing Sustainable Organisations
Senior Lecturer Management

RMIT University, Graduate School of Business
Project Research Leader
Dr Michael Segon
Senior Lecturer
Associate Director Academic RMIT GSB
Co-Researcher
Ms Fiona Healy
GSB Adjunct Lecturer and Sustainability Researcher
Co-Researcher
Ms Peliwe Mnguni
GSB Adjunct Lecturer
Sustainability Researcher
Supporter
Caroline Bayliss
Director Global Sustainability Institute RMIT University

UTS Faculty of Business
Project Research Leader
Assoc. Prof. Suzanne Benn
Co-Researcher
Robert Perey

Enquiries
The Australian Research Institute in Education for Sustainability
Graduate School of the Environment
Macquarie University NSW 2109
ariescoordinator@gse.mq.edu.au
+ 61 2 9850 8597

This report is available at www.aries.mq.edu.au
PREFACE

This report provides the outcomes and recommendations emerging from an action research program which aimed to create change for sustainability in the learning and teaching focus of five Australian business schools and in the operations of the business schools and their partner corporations.

The program brought together sustainability champions from business schools and corporations across Australia in a collaborative process of learning-based change. Outcomes included changes in business schools pedagogy, resources and core curricula, the formation of communities of practice and the development of new organisational practices and policies around sustainability within both the business schools and their partner corporations.

The program was conducted by the Australian Research Institute in Education for Sustainability. It was funded by the Australian Government Department of the Environment, Water, Heritage and the Arts, and supported by Macquarie University. Participants included the project teams from five Australian universities and their contributing business partners.

This report has useful lessons for business and industry organisations, universities and governments who are interested in bringing about change through embedding sustainability in professional education and training.

Key terms

The following terms and role descriptions have these specific meanings within this document:

**Partners**
The corporate participants who collaborated with a business school to contribute to MBA curriculum reviews and host sustainability projects.

**Pedagogy**
General teaching and learning strategies, including adult learners. Interchangeable with ‘learning and teaching’.

**Program**
The entire ARIES program to mainstream education about and for sustainability across the five participating business schools and their partner organisations.

**Project**
Each project to mainstream education about and for sustainability at each of the five participating business schools. Within each business school, the project participants could also be running several ‘sub-projects’.

**Project Leader**
The person with primary responsibility for managing the project at each business school, attending ARIES meetings, and administering reporting and funding responsibilities. Typically there was one project leader at each business school. (Interchangeable with ‘change agent’.)

**Project Participant**
A member of the ‘project team’ of project leaders and their colleagues and champions who led the project at each business school and were named on the funding agreement.
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EXECUTIVE SUMMARY

At the alumni meeting it emerged that graduates now and in five years time would require capabilities around sustainability and corporate social responsibility. Other capabilities included visioning, “helicopter vision”, managing uncertainty, critical reflection and collaboration. All of these capabilities are consistent with the “principles of education for sustainability”. Our capacity to identify these principles and apply them is a direct outcome of mentorship by ARIES over the past two–three years.

Project Participant

This Report explores the outcomes and discusses the recommendations generated by the action research program: Education about and for Sustainability in Australian Business Schools Stage 3. The program aimed to create change for sustainability in the learning and teaching focus of the five participating Australian business schools and in the operations of the business schools and their partner corporations. It was conducted by the Australian Research Institute in Education for Sustainability (ARIES), funded by the Australian Government Department of the Environment, Water, Heritage and the Arts, and supported by Macquarie University. Participants included project teams from five Australian business schools who collaborated in a process of learning–based change with selected business or industry partners.

The program builds on Education about and for Sustainability in Australian Business Schools Stages 1 and 2. Stage 1 examined business schools in Australia and overseas to identify and benchmark best practice in education about and for sustainability in Masters of Business Administration (MBA) and Executive programs. Stage 2 focused on driving change within seven leading Australian business schools that worked together to make changes to their MBA program using Education for Sustainability and action research.

The specific objectives of the Education about and for Sustainability in Australian Business Schools Stage 3 program were to:

- generate changes in business school pedagogy, resources and core curricula which incorporate learning insights and resources derived from the program
- facilitate corporations moving from awareness to implementing improved corporate policies and practices
- engender changes in policy and practices leading to improved sustainability outcomes in the management of the organisations’ operations
- foster new and stronger partnerships among corporations and business schools to build engagement and capacity
- assist the formation of a Community of Practice involving participating corporations and business schools, which generates and shares knowledge and experience
• improve identification and dissemination of effective learning and management practices that generate organisational change for sustainability
• foster progress towards the eventual outcome of a collaborative MBA in Sustainability that would function across the Australian higher education sector.

The participating business schools interpreted these objectives according to their individual capacities and needs. Outcomes from the program related to the individual objectives. They demonstrate that the approach was successful in generating change towards sustainability in each of the target areas.

Of the five business schools that participated in the program, four enhanced education for sustainability in courses and/or introduced new post-graduate business programs in sustainability during the program. The fifth business school, already a leader in sustainability education, developed a new cross-disciplinary sustainability masters program which was submitted for approval. A number enhanced the education for sustainability pedagogies and content in their courses. There were also additional flow-on effects to undergraduate courses and through improving academic staff understanding and capacity.

All five business schools built networks and relationships with peers and corporations. Three conducted student action-learning research projects in corporations. They found the combination of these projects and the classroom education for sustainability exercises generated valuable lessons around deeper learning. Students were found to gain an appreciation of the relevance of sustainability to their role, and improved their capacity to engage with sustainability in the work environment.

Some students initiated sustainability projects or research at their workplaces. Although this approach to teaching and learning demanded more time and resources from the lecturers, the positive learning outcomes suggest that future projects will continue and that the experience gained through this project will make for easier implementation. Other important outcomes relate to enhanced understanding on the part of project leaders of the challenges associated with developing a cross-institutional postgraduate sustainability program.

The eventual outcome sought from this research was the establishment of a leading-edge Australian MBA course about and for sustainability. The learning insights, partnerships and resources generated by this program were intended to support this objective. However, the objective needed some clarification. The experience of these projects suggest that the market-based operational realities of the business schools would make it unlikely that a specialist MBA that placed sustainability on par or above other business concerns would be launched. Given that the MBA is now a mature product, competition is fierce and most innovation occurs as specialist degree offerings that fit within a business school’s pre-existing degree structure. An example would be a Masters of Management that offers specialist majors (subject streams) that play to the schools’ strengths.

In line with this, some of the business schools in this study did develop new specialist Masters degree programs. One business school took a more innovative approach by contributing to the development of a cross-disciplinary Masters in Sustainability degree that would be supported by several faculties, each offering a specialist major. It is not yet certain if this will be launched. One possible
This course was absolutely fabulous and the learning I received was highly valuable both personally and within my work environment. I found the course one of the most challenging I have done – intellectually and practically. If possible, this would be a great course to be run as a core – I believe everyone should have to do it!

**Student email**

approach to developing a leading edge Australian MBA course about and for sustainability would be as a collaborative effort, supported by several universities and perhaps also by government.

Specifically, the range of outcomes across the business schools and their business partners included:

- the introduction, revision and/or development of new specialist courses or programs on sustainability within business schools, and across disciplinary areas
- progress towards wider acceptance and embedding of pedagogies, such as critical thinking, systems-based and problem-solving approaches to learning, reflective practice, suitable for educating for sustainability in a business school context
- higher levels of engagement between corporate partners and their employees and the wider community
- review and revision by corporate partners of leadership, human resource management, supply chain management and corporate social responsibility strategies and practices
- improved understanding of appropriate change mechanisms for more sustainable social and environmental practices in the business schools and their business partners
- the introduction of innovative and participative cross-disciplinary processes and organisational structures to underpin the development of new sustainability teaching programs
- increased recognition of the learning benefits of linking operational practice in sustainability to teaching content
- generation of communities of practice to include business schools, business and industry that facilitated knowledge dissemination concerning effective learning and management practices around sustainability by means of various forums and publications
- stimulation of network formation that supported sustainability-related curriculum development
- identification of sources of resistance to change towards sustainability in the higher education and other industry sectors in Australia.
Drawing from the research program, recommendations for embedding sustainability at the level of the institution and the business school include:

- **Apply flexible approaches to leadership and change.** Leaders and change agents should be enabling rather than directive, supporting learning, adaptation and innovation. Strong support from senior management is also essential and transformational leadership can motivate wider faculty support.

- **Structural change**, such as the creation of new cross-disciplinary roles and responsibilities, may be necessary to overcome disciplinary silos at faculty or university level.

- **Ensure engagement and partnership.** Mapping stakeholders and monitoring network and stakeholder interaction is a key source of creativity and change. It is important to network and harness the power of champions, be they from institutes, senior management, alumni, businesses or international experts.

- **Establish the change program on holistic foundations.** Build on pre-existing strengths, mission statements, learning agreements, accreditation requirements, awards and other prior agreements.

- **Target sustainability principles to the specific workplace and industry sector** when implementing education for sustainability through professional development in the workplace.

- **Look for innovative opportunities** that have mutual advantages and invite collaboration. Collaboration among several business schools and other organisations is more likely to permit radical innovation, such as an Australian Sustainability MBA which is built around experiential and critically reflective capacity-building pedagogies for sustainability.

Recommendations for embedding sustainability in teaching and learning practices include:

- **Leaders and change agents are transparent** about the process being new, or a pilot, with lecturers and students acting as co-learners.

- **Communities of practice are formed** with other academics and business partners to provide mutual support and opportunities for reflection.

- **Planned learning experiences are aligned** with explicit learning outcomes and assessment activities.

- **Agreement is made with students** on safe learning rules or approaches to learning to create a safe environment, and these are referred back to occasionally.

- **Students are offered a choice** of project and assessments – standard, or in sustainability and action learning.

- **Students are encouraged to look for ways to make connections** between sustainability and their workplace, work experiences or functional roles.

- **Problem-based learning, complex cases, and learning from failure are utilised** as teaching and assessment approaches.

- **Case materials and resources are locally and culturally relevant.**
Executive Summary (Continued)

“It is worth noting from the key outcomes in the context of Partnering for Sustainability within a [state] business, that action research/learning does create opportunities for organisational/institutional and student and staff centred personal change and knowledge development consistent with sustainability.

Project Participant

• Businesses are invited to contribute to curriculum and case materials, to provide guest lectures, and to hold a critically reflective dialogue session.
• Reflective journaling is utilised by both lecturer and students – students can share insights from their journal as part of their assessment.
• Peer review is used to allow iterative learning, feedback and improvement.

The following are recommendations for obtaining effective co-learning from partnerships with business and industry:

• Communicate about expectations, logistics, roles and timing with corporate partners and course administrators.
• Introduce the action research/learning approach to business and students. Make expectations clear and explain its benefits to sustainability and its usefulness to link theory and practice.
• Allow time for an iterative cycle to have feedback between students and business partners on the outcomes and experience of the project.
• Select projects and students carefully.
• Pilot one project to begin with.
• Anticipate differences in capabilities and expectations between different student cohorts. Students may need a preparatory subject before undertaking an action learning experience in the workplace.
• Expect the unexpected and prepare to be flexible!

We suggest that this report has useful lessons for business and industry organisations, universities and governments who are interested in bringing about change through embedding sustainability in professional education and training.
Business and industry are key to any shift towards sustainability, given their role in the allocation, management and disposal of physical resources, and promoting consumption. For this reason, business is a focus of national education and capacity building efforts. For example, sustainability in business and industry is a priority in Living Sustainably, the Australian Government’s National Action Plan for Education for Sustainability (2009). The actions within this Plan represent Australia’s contribution to the United Nations Decade of Education for Sustainable Development, 2005–2014.

1.1 A NATIONAL PRIORITY

A key strategy of Living Sustainably is to foster sustainability in business and industry. Through education for sustainability (EFS), the intention is to build capacity in business and industry to plan, adopt appropriate frameworks and tools, and harness incentives to make changes for sustainability.

Building partnerships, which was a feature of this program, is one of the themes of the policy framework underpinning Living Sustainably (p. 13):

*Partnerships are a key feature of successful sustainability initiatives. Partnerships provide opportunities for learning and should be fostered within and between government, non-government, business, industry and other organisations. Effective partnerships value diversity and the new perspectives and opportunities they provide.*

The planned strategies and actions for change in Living Sustainably that align with this ARIES program are:

2.2.4 Sustainability for key professions

The Australian Government will work with appropriate partners to promote integration of sustainability into professional learning qualifications and university degree accreditation. This project will research incorporating sustainability into university courses for key professions such as engineering, accountancy, economics, law, architecture, planning and teaching. Priority will be given to those professions with the greatest and most immediate impact on sustainability outcomes. This work will build on the existing work of the Australian Research Institute in Education for Sustainability with business schools and teacher education institutions.

Strategy 3: Fostering sustainability in business and industry

3.3 Integrating education for sustainability in business schools

Given the impact business schools have on current and emerging business and industry leaders, integrating education for sustainability principles into the curricula of business schools, including Master of Business Administration programs and short courses, will be encouraged.

3.4 Industry and business school partnerships for sustainability

To promote the above integration and establish a demand, partnerships between business schools and business and industry will be fostered.
1.2 THE NEED FOR BUSINESS EDUCATION FOR SUSTAINABILITY

According to the recent CSIRO Report, ‘Growing the Green Collar Economy’:

Achieving the transition to a low carbon sustainable economy will require a massive mobilisation of skills and training – both to equip new workers and to enable appropriate changes in practices by the three million workers already employed in these key sectors influencing our environmental footprint. Current approaches do not appear sufficient for meeting these challenges (Hatfield Dodds et al. 2008, p. 1).

Further, there is now considerable evidence that a strategic commitment to sustainability is of rapidly increasing relevance to the business community. The Stern Report issued by the UK Government (Stern 2006) and numerous other reports and publications (e.g. Economist, 2 June 2007; Hatfield Dodds et al. 2008) attest to the growing importance of corporate environmental and social performance as determinants of future economic performance. The key question for business is how to move towards an approach where sustainability becomes an important part of the firm’s business strategy, embedded in the business model and incorporated into its core products and services. According to Dunphy et al. (2007), making this shift is dependent upon the organisation developing a range of skills and capabilities so that sustainability can be incorporated as a strategic consideration into daily business decisions.

There is clearly a need for skilled employees who have broad-based professional capacities to operate with each corporate function, and anticipate and lead change to respond to the complexities and dynamic nature of sustainability.

Professional skills and knowledge of sustainable development should be improved continuously and, consequently, be part of the lifelong learning of individuals including those in sectors such as public administration, the private sector, industry, transport and agriculture. The development of new knowledge and the need to introduce new skills in order to give more specific substance to the concept of sustainable development will remain a constant need, as many areas of expertise are constantly developing. (UNECE 2005a, p10)

The findings of the Education about and for Sustainability in Australian Business Schools Stage 1 and Stage 2 research programs, undertaken by ARIES, have highlighted the challenges in embedding sustainability across the curriculum in Australian business schools. Business schools that do teach sustainability often feature
a subset of issues or a particular focus, often ethics or corporate social responsibility, frequently in a specialist, elective course, or as a personal passion of a particular lecturer. The need is for business school graduates who have the skills and capabilities to respond across the full range of sustainability impacts and options such as risk management, social responsibility, reporting, ethics, governance, stakeholder interaction and relations, production/service systems, international business and regulations, emerging markets and employee satisfaction and retention. Importantly, there is a need to supplant these skills and capabilities with those of education for sustainability: the critical thinking, reflective practice and capacity building skills that will enable the business school graduate to act as an agent of change within their own workplace.

1.3 STATUS OF SUSTAINABILITY IN BUSINESS EDUCATION

Business schools in Australia are already promoting sustainability, but at the time of starting this program, few had sustainability embedded throughout their curriculum or as an explicit learning outcome. There are pressures on business schools as they are competing for the same pool of students, growth in demand for MBAs is steadying, and there is a need to increase revenues. In such an environment, it is more unlikely that business schools will take risks by emphasising a learning focus that may not attract sufficient student numbers.

Research shared between participants and ARIES during the program indicated that, of the Australian business schools that were leading sustainability, there was more of a focus on education about sustainability than on educative processes to build graduate capacities in sustainability in the workplace.

The imperative is that the current tertiary sector environment in Australia is characterised by increasing commodification, decreasing profits, supply exceeding demand and difficulties in differentiating brand.

Project Participant
This is evidenced by the fact that in the current ‘2007-08 Beyond Grey Pinstripes’ Global 100 ranking of social and environmental issues in MBA programs, only one Australian university is listed – Curtin University of Technology (Aspen CBE 2007).

Another finding of the Education about and for Sustainability in Australian Business Schools Stage 2 research program was that most business schools in Australia are lagging behind the discussion that is underway in the workplace. Researchers engaged in Stage 2 noted that the ‘how to’ sustainability debate is in fact at higher levels outside the traditional business teaching institutions. Business, industry and government organisations at all levels are clearly major sources of expertise that should be sourced for incorporation into strategic planning and curriculum development within the university context.

The Education about and for Sustainability in Australian Business Schools Stage 3 research program therefore brought together business and corporations in a collaborative program designed to bring about learning and change within both partner organisations.

The Graduate School of Business has “Responsibility” as one of its key themes. Many of the core courses in the MBA program refer to social responsibility yet specific content is often not reflected in the core program. The ARIES Stage 3 project provided a means by which the GSB could review some of the course offerings, both core and electives, and work towards a more definitive and demonstrable presence of CSR and Sustainability in the MBA. In this way the GSB would be addressing a need of business. By doing, so students would be exposed to these concepts throughout the core courses of the MBA. This may address some of the misunderstandings of CSR and Sustainability highlighted by the 2004 survey and as a result students may come to recognise the strategic importance of CSR and Sustainability to their organisations, thus increase demand for elective courses.

Project Participant
This report provides the outcomes and recommendations emerging from an action research program which aimed to create change for sustainability in the learning and teaching focus of five Australian business schools and in the operations of the business schools and their partner corporations. This program, to mainstream education about and for sustainability in five participating Australian business schools, was the third stage of an Australian Government funded program to improve sustainability in university business education.

This section provides an overview of the previous stages, and introduces the action research and action learning methodology and the principles of education about and for sustainability.

### 2.1 BACKGROUND TO THIS PROGRAM

This section gives an overview of the research and findings leading up to this program, and why partnerships between business schools and corporations are important in furthering the skills and capabilities needed for a more sustainable Australia.

#### Stage 1: Australia lagging international best practice

Education about and for Sustainability in Australian Business Schools Stage 1, undertaken by ARIES, benchmarked Australian business schools against current international best practice in sustainability. It showed that many Australian business schools are lagging behind their international counterparts and made a series of recommendations to remedy this shortfall. A series of key needs were identified, including the need to identify and build relationships with corporate champions; to provide incentives for business schools to develop new curricula and resources in line with sustainability and to develop industry partnerships (Tilbury, Crawley and Berry, 2005).

#### Stage 2: Introducing sustainability in MBA

Business school participants in Stage 2 engaged staff in developing their understanding and capacity in education about and for sustainability, and developed and implemented new course materials. Business schools built relationships with the corporate sector and researched business needs for sustainability. Stage 2 (Hunting, Mah and Tilbury, 2006) concluded:

*The seven business schools made significant steps towards incorporating education about and for sustainability into their MBA and executive programs ... (h)owever, they are still in the early stages of building corporate capacity for sustainability and capacity in education about and for sustainability within their own business schools.*
Stage 3: Embedding sustainability with corporate partners

This program (Stage 3) had a particular emphasis on mainstreaming sustainability in business education and partnering with corporations. The earlier Stage 2 program identified ‘multiple drivers for achieving change towards sustainability in MBA programs’ (Hunting, Mah and Tilbury 2006):

- **Internal drivers** such as building faculty support and gaining senior management buy-in are vital to build a business school culture which recognises the importance of education about and for sustainability for corporate managers and leaders.

- **External drivers** such as support from business, demand from organisations for MBA graduates educated in sustainability and a greater recognition amongst students that sustainability skills are necessary and valued.

The business schools in Stage 3 sought to address multiple drivers to embed education about and for sustainability throughout curriculum and teaching practice, and develop the capacity of graduates to assist businesses to improve their sustainability. The notions of mainstreaming, or embedding, seeks change that is relatively enduring and more pervasive/widespread than isolated pockets of good practice (e.g. one passionate lecturer or one elective subject). See 2.2 Program objectives for more details on the multiple objectives of Stage 3.

The active participation of corporations was an instrumental driver in Stage 3. Building “relationships with the corporate sector to decrease the gap between current ‘best practice’ in business and course material” was a recommendation of Stage 2. Corporate involvement is crucial to demonstrate the demand for sustainability to students and academic staff. In Stage 3, businesses hosted practical research projects for students, opened their sustainability projects for academic involvement, got involved in lectures and forums, and gave input into curriculum and course design.

2.2 PROGRAM OBJECTIVES

The objective of this program was to create change for sustainability in the learning and teaching focus of the five participating Australian business schools and in the operations of the business schools and their partner corporations. The indicative outcomes that were sought by the program included:

- Changes in business school pedagogy, resources and core curricula which incorporate learning insights and resources generated from this program
- Corporations moving from awareness to implementing improved corporate policies and practices
- Changed policy and practices leading to improved sustainability outcomes in the management of the organisations’ operations
- New and stronger partnerships among corporations and business schools to build engagement and capacity
• A Community of Practice involving participating corporations and business schools, which generates and shares knowledge and experience.

• Improved identification and dissemination of effective learning and management practices that generate organisational change for sustainability.

An eventual outcome sought from the ongoing program was the establishment of a leading edge Australian MBA course about and for sustainability. The learning insights, partnerships and resources generated by this program were intended to support this objective.

The following program level research question was posed:

• Does this action research and education for sustainability approach create systemic/organisational change for sustainability improvements in curriculum, teaching and learning, and business school and corporate practices and policies?

The results of this research question and the expected outcomes are discussed below in Section 4 and also in the separate business schools case study reports. Based on the experiences during the program of the business schools’ projects applying action research and education for sustainability, relevant insights and recommendations are discussed in Sections 5 and 6.

2.3 METHODOLOGY: ACTION RESEARCH AND EDUCATION FOR SUSTAINABILITY

The program of change drew upon action research and education for sustainability and incorporated a multiple-case-study approach (Yin 2003) to collect data concerning the sustainability changes resulting from partnerships between five business schools and their corporate partners. Action research provided a methodology for making practical changes in business schools and improving teaching and learning practices. Action researchers undertake action and research simultaneously to address a problem. Using this approach, project leaders and their participants initiated changes, then observed the situation and gathered data to assess if the change efforts were improving the situation. This approach supports more effective practice by building in feedback loops, faster signals, evidence, reflection and learning that allows the change practitioners to revise their plans and activities in line with the impacts.

The program involved academic, business and student participants in collaborative research and change, informed by education for sustainability and action research to build engagement and capacity. This learning-based approach to embedding systemic change generated both learnings and tangible outcomes that extend beyond the immediate participants and the project. Bringing participants together provided a valuable platform for dialogue, sharing and stimulating sustainability practice, and presented further opportunities for sustainability leadership to emerge. Action learning, whereby participants learnt by doing and sharing experiences in various forms of dialogue, was therefore a key plank of the research approach.

The ARIES team framed, led, coordinated and monitored the program according to the principles of education for sustainability.

2.3.1 Action research and iterative learning

There is international consensus that sustainability requires an ongoing process of learning (UNECE 2005b), which supports adaptive governance and leadership for sustainability thinking in corporations.
Core to the ARIES model for learning-based change are:

- envisioning alternative futures
- participation and partnership
- critically reflective thinking
- systemic practice
- iterative learning through social interactions.

Critical thinking and systemic practice help a group of people to better understand and make sense of a complex issue and the world around it so that they can act more effectively. An action learning methodology provides a basis for continual learning and adaptive management to respond more effectively to emerging issues of sustainability.

Figure 1 represents the action research phases (plan, act, observe, reflect, then learn and communicate) through the iterative cycles of this ARIES program. The figure also features elements of continuous monitoring and evaluation (plan, collect data, monitor activities and associated outcomes, evaluate and communicate).

There were variations in how this process was interpreted and applied in each of the business school’s projects. Following is a generalised overview of the process that informed each project.
Problem
At the outset there was shared recognition of a problem or an issue of concern. Drawing on facilitative processes, there was initially reflection and dialogue about the current situation, involving joint identification of the issue that the participants hold in common. Envisioning an alternative future at the outset assisted project participants to break out of business-as-usual habitual patterns of thinking and avoid projecting from the current situation.

Plan
Holding the shared vision for the future in mind, participants looked backwards from that future point to reflect on how the vision was achieved. This process assisted in revealing alternative options for action that linear forward-thinking might miss. Subsequent to this, participants reverted to diagnosing the issue in more detail (including systemic mapping) and forward planning, and merged the two ‘forwards’ and ‘backcasting’ perspectives, to develop a plan of critically informed action to innovate in the area of concern.

Act
Business participants excelled at this phase of implementing the plans. In the first action research cycle, the implementation phase consisted of engaging stakeholders in envisioning an outcome that differed from business as usual, in developing collaborative partnerships, and in critically reflective, systemic practice before concrete plans were devised and implemented.

For monitoring and evaluation purposes, this stage also included collecting information (baseline data, information from activities undertaken, and responses and indicators of change).

Observe
This stage involved observing the actions of the participants and stakeholders, and their associated responses, products and outcomes. As links between cause and effect were unlikely to be linear, or easily identified in social change and learning programs, the teams applied a systemic understanding drawing on multiple sources of information to identify emergent outcomes. The results were monitored while the team continued to collect information on processes, experiences and outcomes (including both successes and failures).

Reflect
At this stage the teams made the time and space to reflect on these observations. To improve praxis, reflections were made alone and then insights shared among participant researchers or co-learners. The actions and responses of the system were evaluated in line with expected improvements in the situation of concern.

Learn
Learning occurred from experience, and through sharing insights in meetings and discussing assumptions (for example, about power or control; or about expected results from a particular course of action).

Revise
Plans and practices were developed based on observed responses, insights and shared learnings. Plans were adjusted and implemented, and the cycle of learning in action was repeated.

In practice the phases are not neatly sequential or as clearly defined as the cycles above portray, but this model provides a useful structure for the process of learning, tied to more effective action. An action learning approach to systemic practice in complex sustainability issues can provide a basis for informed, flexible adaptive thinking for managing ‘messy’ or complex problems. By holding a vision of a more sustainable outcome and applying critical systemic thinking to the situation, the ARIES approach sought to identify the barriers and levers to change, within and between organisations.
3 OVERVIEW OF THE BUSINESS SCHOOL CASES

One of the requirements of action research is that the outcomes are written up and disseminated. Co-participants in participative action research should have a voice in communications about their project. In the interests of open communication, each participant business school in this program was asked to write their own case study. ARIES suggested a case study format with headings and content areas, but ultimately the choice of format was left to each project team. ARIES requested the addition of information sought by the funding body, questions or suggestions for the sake of clarity, and some minor edits. These changes were made or approved by each business school. The only other change made to the publicly available business school reports was to delete information that the business school had indicated was to be kept confidential.

Following is a brief introduction to each business school report, the full case studies can be accessed from the ARIES website (www.aries.mq.edu.au).
3.1 CURTIN GRADUATE SCHOOL OF BUSINESS, WESTERN AUSTRALIA

Partnering corporations and business schools

Objective:
To facilitate the mutual development of knowledge and insights through the sharing of experiences with an industry partner in embedding Education for Sustainability (EfS). Within the context of a learning partnership between [the corporation], Curtin staff and MBA students it was expected that incremental (and future transformational) change for corporate sustainability of relevance to the industry partner, along with student learning, reflection and development would be achieved. The ultimate goal in the project is the mainstreaming of EfS in the MBA and MLM (Master of Leadership Management) programs.

The case study report by Curtin Graduate School of Business explains the experiences of conducting action research/learning projects with a major corporation within a challenging timeframe. It includes the challenges and rewards involved in selecting students and projects, the process of mentoring student experiential learning projects, and involving the corporation in seminars and student projects. The project team describe how they bridged theory and practice in applying a theoretically guided iterative action research approach to sustainability, and insights that resulted for both staff and students.

The project team at Curtin share their frustrating and rewarding experiences of mapping sustainability content throughout the MBA, and engaging the faculty in embedding education for sustainability. Their report addresses the question of whether, in the context of partnering for sustainability with Western Australian business and embedding education for sustainability, action research/learning creates opportunities for organisational and personal change, together with knowledge development, consistent with sustainability.
3.2 GRIFFITH BUSINESS SCHOOL, QUEENSLAND

Engendering and enhancing sustainability principles and practices for small tourism business enterprises

Objective:
To partner with micro, small and medium tourism enterprises located in the south eastern corner of Queensland and northern New South Wales in order to engender and/or further enhance sustainability principles associated with such enterprises’ tourism operations.

To improve pedagogy, andragogy, ethnogogy, as well as the curriculum content of four courses in the GBS, in addition to enhancing educational praxis associated with Education about Sustainability/for Sustainability within the GBS.

The co-researchers from Griffith Business School provide a rich account of their experiences of implementing education for sustainability processes into their own teaching and learning practices in postgraduate and undergraduate business courses, and complementary activities to advance sustainability in the business school. The report explains how they approached reflective praxis, the challenges of facilitating student research projects with a number of local tourism and hospitality enterprises, and the resulting learning outcomes.

In the report, the project team discuss how they utilised a community of practice approach in conjunction with action research cycles and action learning, experiential learning, profession-based learning, dialogue and critical reflection. The methods discussed include:
- lived experience
- reflexive team conversations
- team digital journals and reflexive journals
- interviews and focus groups
- student learning materials
- industry engagement, and
- industry reflexive conversations with students and convenors.

3.3 MACQUARIE GRADUATE SCHOOL OF MANAGEMENT, NEW SOUTH WALES

Action Research to Build Innovative Leadership

Objective:
To engage a number of organisations who are, or aim to be, leaders in three-fold sustainability, but which differ operationally and culturally, in action research to implement mechanisms for more advanced forms of sustainable leadership.

The report by Macquarie Graduate School of Management (MGSM) focuses on the practice and development of human resource capabilities and social practices to support sustainability. In particular, the project leaders studied and commenced building a model of sustainability leadership competencies. This report provides a comprehensive case study for each sub-project and organisation:
• MGSM:
  – Improving human resource management practices in MGSM’s operations and modelling authentic leadership.
  – Embedding education for sustainability throughout the MBA curriculum.
  – Launching a new sustainability degree program.
  – Piloting education for sustainability pedagogies and whole person learning in the classroom.
• Corporate partners (FOXTEL and NAB) that aimed to be leaders in sustainability, in which the project leaders:
  – were co-participants, facilitators and observers in corporate change projects
  – researched capabilities for leading sustainability.

Each case study is organised as a series of action research phases. They present reflective accounts from the project leaders, and both the expected and unexpected outcomes.

3.4 ROYAL MELBOURNE INSTITUTE OF TECHNOLOGY GRADUATE SCHOOL OF BUSINESS, VICTORIA

Building Sustainable Business Practices

Objective:
The opportunity to be involved in ARIES Stage 3 with its theme of directly engaging with the business community in an action learning-based research project was seen as consistent with the educational strategy of the Graduate School. Furthermore the GSB has stated themes for both the School and its MBA Executive of ‘Responsibility’ and ‘Corporate Responsibility and Ethical Practice’. Involvement in Stage 3 was seen as an opportunity to directly address these issues within the context of the MBA (Executive).

The purpose of the project was to also further connections between business and the Graduate School of Business with a particular objective of engaging in an action based research project that would lead to meaningful change in an area of CSR-Sustainability for the organisation and the Graduate School of Business.

This report encapsulates the iterative action research process in which a project strategy and plans are completely revised mid-way through the project period. It describes the difficulties of institutional change, the uncertainties that can result, and the persistence and sources of influence that ultimately turn the project around.

The Royal Melbourne Institute of Technology Graduate School of Business initially sought to host student action research projects with a local business partner and students’ own organisations. Ultimately, the project instead mainstreamed education for sustainability, corporate social responsibility (CSR) and ethics throughout the MBA and MBA Executive core courses. This report contains honest reflections about initial assumptions regarding what was involved, the unexpected circumstances that arose, the range of difficulties encountered, and the process of re-examining the entire project and readjusting it so that it still addressed the core issue of mainstreaming education for sustainability in MBA education.
3.5 UNIVERSITY OF TECHNOLOGY SYDNEY, GRADUATE SCHOOL OF BUSINESS, NEW SOUTH WALES

Towards a Masters in Sustainable Business: A Partnership Approach

Objective:
The expected outcomes from the ARIES program included changes to mainstream sustainability in business school pedagogy, resources and core curricula, and the operations of the business schools and their corporate partners. UTS Graduate School of Business had already established sustainability education in much of its curriculum, teaching practices and resources, so the primary focus of this project was for UTS to move closer to the longer-term goal of establishing a leading MBA course in education about and for sustainability.

This case by University of Technology Graduate School of Business contains observations from exploring a participative approach to developing a new cross-faculty degree program in sustainability, and incorporating business as a core aspect of the curriculum. This was a new product: a cross-disciplinary Masters in Sustainability. The project leader joined the steering committee for the new program, and contributed the major in Sustainable Business, to be developed with the cooperation of industry partners.

This report captures influences and events that occurred within the university in the course of developing a cross-disciplinary degree program. It discusses the business partnership approach, and makes practical recommendations for leading education for sustainability and running student projects with corporations to develop work-ready graduate skills. The report also considers the process of developing an innovative new degree program and the decision making processes in light of the Blue Ocean Strategy model. It recommends how a more radical innovation in business education for sustainability might be introduced collaboratively. The findings from this project have implications for the long-term aim of this research program: to facilitate the development of an Australian cross-institution MBA in Sustainability.
4 OUTCOMES FROM THE PROGRAM

Each business school interpreted and applied the objectives of the program according to its relative capacities, needs, contextual influences and opportunities. For example, some were already practising education for sustainability, others had business school-wide pedagogical approaches that were consistent with education for sustainability, but needed to increase the sustainability content. Therefore, every business school was not expected to achieve every objective of the program – the stated objectives were indicative outcomes because action research is an emergent process.

Each business school nominated which objectives it would target, and these were modified during the program to best create change for sustainability in the learning and teaching focus of each of the business schools, and in the operations of the business schools and their partner corporations.

4.1 BUSINESS SCHOOL OUTCOMES

The achievements of each business school are briefly discussed below. The outcomes are grouped and summarised under the following three sub-headings:

Pedagogy, resources and curricula

A core goal of the program was to mainstream and enhance education about and for sustainability in business school courses, particularly MBA programs. There was particular emphasis on experiential student projects and other learning exchanges with partner corporations, and updating case materials. The expected outcomes were:

- changes in business school pedagogy, resources and core curricula which incorporate learning insights and resources generated from this program
- moves to establish new programs or a leading MBA course about and for sustainability.

Partnering and communities of practice

The program had a particular focus on partnering and developing communities of practice with corporations, academics and other stakeholders so they could contribute to education for sustainability in curriculum design and delivery. Many of the business schools saw mutual reinforcing benefits in combining corporate partnerships and student projects. The following results were anticipated:

- new and stronger partnerships among corporations and business schools to build engagement and capacity
- a Community of Practice involving participating corporations and business schools, to generate and share knowledge and experience
- improved identification and dissemination of effective learning and management practices that generate organisational change for sustainability.
Organisational policies and practices

Through the program activities, it was expected that:

- corporations would move from awareness to implementing improved corporate policies and practices
- changed policy and practices would lead to improved sustainability outcomes in the management of the organisations’ operations.

Following is a summary of the outcomes achieved by each business school during the program timeframe of approximately one year.

4.1.1 Curtin Graduate School of Business, Western Australia

Pedagogy, resources and curricula

Education about and for sustainability was embedded in the MBA program of the Curtin Graduate School of Business (Curtin) through the ARIES project. Action research and principles of education for sustainability, particularly critical reflection, were introduced into student projects and assessments; and case materials from a joint student action research project were used to supplement teaching resources.

In terms of teaching content, pedagogy and student assessment, sustainability was:

- introduced into two courses for the first time:
  - the capstone course in Business Strategy & International Business (core)
  - Reasoning Skills for Leaders (elective)
- updated in two courses:
  - Financial Management (core)
  - Environmental Management Strategy (elective) – renamed Sustainability Management Strategy
- being embedded in three courses the following trimester:
  - Strategic Management for Leaders (core)
  - Strategic Cost Management (alternative core)
  - Business Research Project.

Additional changes in teaching and learning resulted from Curtin’s project. For example:

- Academics involved in these units had their awareness and practical knowledge of sustainability enhanced.
- Faculty members who had never been exposed to sustainability issues have now been recruited to work on a current project in Corporate Sustainability Reporting.
- A new Graduate Business Certificate in Sustainable Futures was approved by the Teaching and Learning Committee.
- A trickle-down effect was observed. Interest in introducing Education for sustainability to undergraduate degrees was expressed by faculties such as the School of Law, School of Management and School of Accounting.
- A sustainability mapping tool developed in Stage 2 of this program has been adapted by other faculties (e.g., Education and Humanities) to discover the coverage of teaching in education for sustainability.
- As an indication of transformative learning enabled by the program, one of the student participants helped to launch the Western Australia Green IT Special Interest Group (initiated by the Australian Computer Society).
Partnering and communities of practice
The Curtin project team facilitated an action learning project for students with CSBP Ltd, a large division of Wesfarmers Ltd (top 15 ASX listed corporation). Through project meetings with Curtin’s partner corporation, the most significant social responsibility themes were identified. These were community volunteering, staff attraction and retention, and supply chains. The project gave business school participants direct experience of the enormity of the social, economic and environmental issues now faced by business and the wider community.

Curtin’s project team also built trust and learning interactions with several other major corporations, and there are indications this will lead to future collaborative ventures. A community of practice developed joint activities with the corporate partner and other members of the Western Australian business community. They presented at Curtin’s public forums, gave guest lectures and expressed interest in hosting future student projects.

Collaborative activities and communication about embedding education for sustainability in the MBA included:

- conducting an MBA Leadership in Sustainability Forum, with attendance by local businesses and media, and an address by Professor Richard Welford (a sustainability expert from the University of Hong Kong)
- authoring a paper in the refereed *Journal of the Asia-Pacific Centre for Environmental Accountability*
- authoring a paper on action learning and partnering with industry which was delivered at the Annual Australian and New Zealand Academy of Management Conference
- Project Leader, Dr Anna Rowe, addressing ProSPER.Net1 members in Bangkok
- contributing to the curriculum review of the Master of Leadership program
- sharing with other business schools their research into community volunteering, and interviews about sustainability in UK MBAs.

Organisational policies and practices
Curtin reported that, from the process of continuous learning and improvement with the partner corporation, came incremental cultural change towards sustainability that, if continued, could become transformational change. The action learning project gave the partner corporation an appreciation of the scope of its employees’ community volunteering activities and how they can contribute to organisational sustainability. Employees considered social, economic and environmental aspects of their work, and how the company operates in terms of its relationships and responsibilities to its employees, the wider community and geographical locality. This may help to integrate sustainability into the way it does business. The corporate participants had a change of attitude from which they saw that human resources policy can support community volunteering.

The insights that came from partnering with the corporation were transferable to Curtin’s own organisation. As a result, the project team started to look

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1 The network for the Promotion of Sustainability in Postgraduate Education and Research (ProSPER.Net) is a network of several leading higher education institutions in Asia and the Pacific that have committed to work together to integrate Sustainable Development into postgraduate courses and curricula.
beyond curricula to consider the place of sustainability across the entire school and into the future. Furthermore, staff and students gained an improved understanding of local corporate social and environmental practice. They realised the importance of aligning strategy and sustainability initiatives in practice.

4.1.2 Griffith Business School, Queensland

Pedagogy, resources and curricula

At Griffith Business School (Griffith), the project team made significant changes in their teaching and learning engagements to embed education about and for sustainability and action learning in their courses. The team infused sustainability in student projects and introduced activities to stimulate holistic thinking and critical reflection inside and outside the classroom, together with iterative assessment and profession-based action learning processes. The changes were made in the following three courses:

- Contemporary Issues in Leisure, Postgraduate Core: Graduate Certificate in Business (Tourism and Hospitality pathway)
- Ecotourism Undergraduate, Bachelor (Tourism and Hospitality suite of degrees)
- Tourism Enterprise Management, Undergraduate, Bachelor (Tourism and Hospitality suite of degrees)

This also flowed into other courses, such as:

- A research-based project (optional core):
  - A student who sought further challenge undertook a special project to critically review and evaluate a selection of sustainability indices for business in general and to develop a sustainability scorecard or index.
- Information Systems for the Services Industries:
  - Critical thinking was introduced into tutorial discussion rather than the usual computer-based pedagogy.

As a result of these changes in teaching and learning practices, students became more critically engaged with projects and guest speakers. They displayed deeper learning, iterative development of interrelated sustainability concepts, and improved retention.

The Griffith project emphasised effective teaching programs that involved industry partners to facilitate change in curriculum and the business sector. There were also mutual learning exchanges between businesses and Griffith. Business participants contributed their industry knowledge and expectations for graduate attributes to the business courses, and received recommendations from student projects. Students’ engagements with industry helped to develop their practical, contextual knowledge as well as their research skills and reporting strategies.

Partnering and communities of practice

Griffith partnered with a number of small tourism enterprises to provide practice-based student action learning assignments. The final output was student reports and presentations, followed by feedback from the businesses on the students’ reports. The businesses found this process beneficial and appreciated the input and thought provoking questions from the students. They indicated that linking with students and assisting their professional development was important, and were willing to participate in the courses in the future – several offered field trips to their enterprises to enhance learning.

In addition to establishing a mutual learning environment with partner
organisations, the project team also contributed to awareness and sustainable praxis among their business school colleagues. In addition, a network developed among the project team and other interested peers and colleagues.

**Organisational policies and practices**

In its project, Griffith developed and applied a practical learning-based model of change for application by business, students and corporations. Experiential learning improved the capacity of staff involved in the project and partner organisations to positively enact institutional change. Members of the Griffith project team became actively engaged within the university in systemic changes towards sustainability: ‘Our involvement changed from a passive recipient of policy and cog in the systems to policy informers and developer of new systems’.

Activities included applying for grants, sustainability retreats, and program planning, review and innovation. The project participants also kept material use to a minimum and recycled wherever possible.

Industry contributed to sustainability in curricula development and design. Through the experiences with the courses and projects, the enterprises increased their sustainability expertise. Some businesses indicated they might introduce some of the innovations that were suggested by the students in their project reports. Some operators were also stimulated to achieve eco accreditation. This was validating for the project leaders. As noted in the report: ‘It is heartening to see that students can actually contribute to the operation of an organisation that prides itself on its sustainability credentials.’

**4.1.3 Macquarie Graduate School of Management, New South Wales**

**Pedagogy, resources and curricula**

As the Project Leader at the Macquarie Graduate School of Management (MGSM) was serving as Deputy Dean, the project team was in an ideal position to instigate change in pedagogy, resources and core curricula. The project was also timely for MGSM as it was able to introduce education for sustainability as a core focus in its MBA curriculum review. As a result, the MBA Review recommended a new sequence of courses in sustainable leadership practice. This led to the development of a new Masters of Management in Sustainable Leadership which is approved for start in 2010.

The MGSM project team also introduced and revised sustainability content and pedagogical processes in its courses:

- A new course, Valuing Sustainability (Accounting and Finance).
- Managing Sustainable Organisations (a course developed under Stage 2 of this program), had education for sustainability and action learning intensified in its pedagogical methods and assessment.
  - Course resources were supplemented with materials from the partner organisations.
  - Due to its positive response, the course has been scheduled for an extra delivery.
- Lecturers improved their understanding of education for sustainability and action learning.

Students were interested and inspired by education for sustainability to the extent that they were keen to meet again after their course. One student requested supervision for a project in sustainability and human resources to prepare for undertaking a PhD. Others demonstrated initiative by raising projects in their own business. Students rated human resource related matters as important as environmental issues, which is a successful outcome for the holistic nature of sustainability.
Partnering and communities of practice

The MGSM project leaders strengthened their relationships with several large corporations. They became co-participants in corporate learning and change projects, in which they introduced principles of education for sustainability and action learning. For example:

- They facilitated company-wide employee engagement in the development of a community volunteering program.
- They worked with senior managers to identify leadership capabilities for sustainability.

These relationships are continuing. One business has already invited MGSM back for a feedback session on the community volunteering program. The MGSM project leaders also initiated cooperative research with members of the Globally Responsible Leadership Initiative GRL². MGSM intends to further these interactions and study leadership capabilities for sustainability, and compare these with those identified with corporate partners in Australia.

Interested faculty and PhD students became involved in a reflective practice group in which they shared information on how they addressed education for sustainability. This resulted in collaboration on research, sharing of resources and running seminars. This was an emergent result, rather than a planned outcome. The Dean stated that the Project Leader needed to ‘recreate that culture’ at the other MGSM campus.

MGSM’s dissemination activities, forums and media coverage about education for sustainability in the MBA included:

- a presentation to the Australian Business Deans Council
- hosting a function with an inspirational address by international expert on Sustainability, Lord Michael Hastings (Director for Sustainability at KPMG)
- an article in the Australian Financial Review magazine, BOSS
- sharing resources and developing ARC Linkage grant applications with participants from other business schools.

Organisational policies and practices

With the Project Leader at a very senior level of management within MGSM, the team was well placed to instigate structural and operational changes in line with project objectives. Strengthening education about and for sustainability led to the establishment of a new Institute of Sustainable Leadership at MGSM, which will be a hub for research on human sustainability. It is anticipated this research will be integrated in MGSM courses.

MGSM’s efforts to simultaneously improve sustainability through its human resources management and operations bore fruit, and its mission statement now mentions sustainability. Staff comments indicated that communication had improved and relationships were improving among staff, including the academics. During the project, MGSM developed a policy and implemented practices to reduce resource use and waste. Resource efficiency and recycling was made a standing item for the Operations Committee.

At the start of the project, one of the partner corporations decided...

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² The Globally Responsible Leadership Initiative was set up by the UN Global Compact and the European Foundation for Management Development to link large businesses and leading business schools to generate global change and develop leadership skills for sustainability.
to introduce sustainability. It now has an operational volunteering and gifting strategy that was iteratively developed with staff input and is aligned with its wider CSR strategy. The corporation has been exposed to action learning as a means of innovative development and change management. It has also shown some understanding of the significance of action inquiry for sustainable leadership.

4.1.4 Royal Melbourne Institute of Technology Graduate School of Business, Victoria

Pedagogy, resources and curricula

Through this project, Royal Melbourne Institute of Technology Graduate School of Business (RMIT) embedded education about and for sustainability throughout its MBA and MBA Executive. Academic staff and the head of school agreed to include ethics, corporate social responsibility (CSR) or sustainability in each core unit of the MBA. All MBA and MBA Executive students at RMIT will experience a reflective, facilitative learning environment and study topics that build a range of capabilities in business and sustainability.

With the input of the course coordinators, each MBA course (including the 12 weekly topics and assessment) was reviewed to establish if key themes of Corporate Social Responsibility and Sustainable Practice were evident. The review determined whether topics and learning experiences were aligned with defined learning outcomes. As a result of the review, the Project Leader identified priority areas to improve education about and for sustainability. An unexpected benefit was that the recommendations would remove duplication between courses and so provide more coherent education for sustainability across the MBA.

Some of these changes couldn’t be made until after the project’s time period. However, changes to MBA courses made during the project timeframe include:

- greater attention to CSR and sustainability issues in Implementing Strategy, the capstone course in the MBA.
- reorienting the Professionalism unit in the Leadership and Management course to focus on responsible and ethical leadership. This course did not previously address responsible practice or leading organisations in a sustainable way.
- the addition of personal responsibility, empathy and trust as key capabilities in the course Managing People, Relationships and Performance.

The MBA Executive program was also redesigned to accommodate education about and for sustainability – the Project Leader wrote new units on individual responsibility, CSR and sustainability in the course, Global Business Context. This means that students commencing the MBA Executive degree program will address specific topics in CSR and sustainability within their first semester. The head of school also approved the inclusion of ethics, CSR and sustainability in each core unit of the MBA Executive degree.

Organisational policies and practices

The changes described above required structural changes to embed CSR and sustainability and align curriculum and teaching throughout the MBA and the MBA Executive degree programs. They required course outlines, units and assessment to be modified or rewritten, plus the provision of support (such as subject-matter expertise or guest lecturing) to some of the academic staff. This new focus on CSR, ethics and sustainability was supported by senior management and most of the academic staff. This is a significant shift in the focus for the business school.
These changes also sought to reposition CSR and sustainability among the student body and change their attitudes towards it, in order to facilitate recognition of their strategic importance and increase student demand. It is too early to determine if this objective has been achieved.

Partnering and communities of practice

The exercise to map CSR and sustainability in the MBA courses opened up faculty discussion about what was being taught, how it contributed to students’ capabilities, whether CSR and sustainability should be more dominant as teaching and learning themes, and what opportunities existed. This allowed a more integrated approach to updating and mainstreaming education about and for sustainability across the MBA and it minimised duplication between subjects.

The activities undertaken by RMIT to network and disseminate information about the project included the following:

- The Project Leader championed the project at the MBA Directors’ forum, at which sustainability and ethics were featured. He arranged for ARIES to represent the program to embed education for sustainability in MBAs. Communications will be issued directly to the student body and through the press to promote the ethics, CSR and sustainability focus of the MBA programs.
- The Project Leader prepared a major paper for delivery at the 2nd World Business Ethics Forum in Hong Kong, December 2008.
- Discussions are continuing to foster greater links around CSR-Sustainability between the school of business and organisations, including activities such as guest lectures, student projects and joint research.

4.1.5 University of Technology Sydney, Graduate School of Business, New South Wales.

Pedagogy, resources and curricula

UTS developed an outline structure for a new cross-disciplinary Masters in Sustainability degree. During the time of the project, the framework for the degree was developed using participatory consultation processes and subsequently submitted for review. Under the ARIES project, the Project Leader from the Graduate School of Business:

- contributed to the development of the proposed new postgraduate degree
- became an active member of the five-person steering committee
- championed education for sustainability and action learning projects
- collaborated in the development of the structure for sustainability business major
- obtained industry input on expected graduate capabilities, curriculum content, assessment and student mentoring and action learning projects.

The proposed program is innovative in content and delivery. It includes new interdisciplinary subject areas and teaching approaches that are informed by education for sustainability, such as systems and futures thinking, ethics, and reflective learning such as practice and problem-based learning. The proposed new degree is structured so that all students undertake interdisciplinary core subjects in their first year. This is followed by specialised disciplinary streams. The specialist majors are offered by the faculties of engineering, the humanities, information technology, architecture and business.

The project also reinforced education about and for sustainability and student work-based projects in MBA courses. The Project Leader joined a Wiki Working Group aiming to
link student work practices with sustainability subjects. Students were also encouraged to conduct sustainability research projects in their own corporations.

**Partnering and communities of practice**

Senior management at UTS agreed to the suggestion by the Project Leader that industry provide input on specific subject content. Several major corporations nominated the attributes they seek in work-ready graduates and suggested sustainability projects that could be undertaken by students.

The steering committee for the new degree included representatives from each faculty that would support the cross-disciplinary Masters program. Cross-faculty delivery of a joint program can be difficult to coordinate at universities due to mismatched interests. Regular workshops used whole-systems approaches to participatory decision-making and were well attended (with up to 30 people). Specialists from other universities such as RMIT and Murdoch gave presentations and provided expert advice at these workshops.

Insights and experiences with interdisciplinary teaching programs and sustainability were shared. This facilitated the identification of shared concerns and needs, such as the need to support staff to undertake new ways of teaching, including practice-based exercises, problem-based learning and interdisciplinary teaching. It was also agreed that the academic community needed a clear understanding of the core concept and holistic nature of the degree.

**Organisational policies and practices**

Development and top-level management support for a participative cross-disciplinary process to develop a new program format that is supported by different faculties and research institutes represented a significant organisational change at UTS. It presented the project team with a number of learnings which need to be taken into account if the collaborative cross-campus MBA program is to be implemented successfully.

Such initiatives are reliant upon the collaborative effort of different interest groups and disciplines. The involvement of the Project Leader contributed to making this change and the take-up of teaching approaches and curriculum that were informed by education for sustainability and action learning projects with corporate partners.

Although very senior management support enabled the participatory planning processes, final decisions on a suitable faculty home for the degree had not been made by the completion of the ARIES research program. Despite the Project Leader’s initial expectations, there were no senior faculty staff within the Faculty of Business who had the time to coordinate and take ownership of the degree. The Project Leader was not in a position to do so and other staff were already stretched in delivering their existing teaching program.

Surveys and interviews with students, staff and corporations, conducted under the ARIES project contributed to the new degree program. This revealed:

- that sustainability decision making should be made relevant to students’ workplaces
- ways to modify courses in the new Masters program and the MBA according to principles of education for sustainability
- suitable practice-based learning strategies
- a number of priority focus areas for projects with partner corporations
- a recommended role for UTS to assist businesses with change management techniques in return for their involvement in supporting student projects.
Some impact on corporations was achieved through student research projects and discussions. For example, one student presented his CSR ideas to his CEO, who subsequently put the student in charge of a CSR change program.

The university management decision-making processes for the new Masters degree were considered in light of the Blue Ocean model (Kim & Mauborgne, 2005) (for achieving an uncontested market lead). This led the ARIES project team to realise that disciplinary silos and divisions, different understandings of sustainability across these divisions and risk aversion in relation to student supply and demand were likely to constrain any single university from launching an interdisciplinary degree program in sustainability. As well, the UTS team noted that senior management support is necessary for the Blue Ocean model to succeed and at the time of the ARIES project, leadership capacity was already overstretched within key disciplinary areas at UTS. It was noted that a new structure, independent of disciplinary interests, may be necessary to implement the new degree. A more innovative sustainability degree may be more likely to arise through a collaborative MBA program that combines specialisations from across different universities.

4.2 SUMMARY OF PROGRAM OUTCOMES

The program research question sought to establish whether the program approach would produce change for sustainability. More specifically, did the combined approach of action research and education for sustainability create systemic or organisational change and sustainability improvements in curriculum, teaching and learning, and business school and corporate practices and policies?

Did the program generate change for sustainability?

The outcomes from the program demonstrate that the approach was successful in generating change towards sustainability in each of the target areas. Of the five business schools that participated in the program, four improved education for sustainability in courses and/or introduced new post-graduate business programs in sustainability during the program. The fifth business school, already a leader in sustainability education, developed a new cross-disciplinary sustainability masters program which was submitted for approval. All five business schools built networks and relationships with peers and corporations.

In the words of one project team:

[It is worth noting from the key outcomes in the context of Partnering for Sustainability within a [state] business, that action research/learning does create opportunities for organisational/institutional and student and staff centred personal change and knowledge development consistent with sustainability.]

The changes that occurred in the key areas of pedagogy and curriculum, partnering and communities of practice, and organisational policies and practices as a result of this program are summarised below.

4.2.1 Pedagogy, resources and curricula

All of the participating business schools made significant progress in enhancing education about and for sustainability in their MBA programs and other post-graduate and undergraduate courses and programs. Three business schools successfully made changes to mainstream education about and for sustainability throughout the major disciplines of their MBA programs. During the program, three business schools developed new graduate programs in sustainability. Two of these were approved for delivery and the third is still pending.
The changes that were commonly introduced to curriculum, teaching and learning revolved around the introduction or enhancement of:

- critical thinking and reflective practice
- systems or holistic approaches to sustainability dilemmas
- iterative learning
- practice-based and problem-based learning
- personal development, including responsibility, ethics and leadership
- action learning associated with profession-based, workplace projects
- linked arrangements with partner organisations concerning student learning activities and case-study materials
- processes, procedures and policies for aligning sustainability throughout university or business school objectives, learning statements, curriculum outlines, teaching activities, resources and assessment
- scaffolded student learning experiences, for example, to introduce core or foundations in sustainability in various courses or to build capacity to conduct action learning projects in a subsequent course.

The business schools that were able to implement education for sustainability in courses within the program timeframe found that it resulted in many of the students being more critically engaged and interested, learning more deeply and drawing new connections with their work roles. Similarly, the student action learning projects with corporate partners built the practical understanding and skills of the students and staff. The corporate projects provided students with a real challenge, and developed their work-readiness to grapple with complex sustainability issues.

These outcomes are intended results from the capacity building approach of education for sustainability that seeks to equip and motivate people to improve sustainability in their own situations. The participating business schools had students that initiated sustainability projects to research a topic of interest or introduce changes at their own workplace. In some cases, special sustainability research projects were provided within traditional courses.

As an example of how pedagogical methods and assessment were enhanced in one course, exercises and activities in sustainability topics were used to develop:

- critical thinking
- systems thinking
- stakeholder engagement
- participation in decision making
- awareness in how values and assumptions influence interpretation of case material
- visioning.

These exercises and activities included:

- discourse and debates addressing values and assumptions, and scenario development
- reflection on how they were using the above skills and how they influenced their decision-making
- applying education for sustainability processes to a case study exercise
- writing a learning diary on what they learnt, what they would take back into the workplace and what would they do differently in their own lives
- conducting action learning projects in students’ own organisations.
Course resources were supplemented with materials from the partner corporations.

Students had a choice of project or assessment (standard essay, or action learning project).

### 4.2.2 Partnering and communities of practice

**New and stronger partnerships among corporations and business schools to build engagement and capacity**

The business schools all engaged businesses in their projects. There were a diverse range of organisations and industries represented, from small and micro enterprises to major corporations, including media, chemicals, banking and tourism. Their involvement included:

- suggesting future student project possibilities and arranging practicalities
- hosting student projects
- communicating about industry developments and the sustainability attributes they seek in graduates
- providing student guest lectures and speaking at public forums
- collaborative learning-based change and research projects with academic participants.

These interactions were successful in building relationships, as well as enabling co-learning, mutual understanding and trust between the corporate partners and academics. As could be expected from action learning projects, the relationships were strengthened between individuals more so than between formal institutions. As some corporate contacts changed roles, there were indications that future research projects could be conducted at their new businesses or in their new roles, circumstances permitting.

The business schools sought to identify ‘win-wins’ in their relationships. Program success according to this aim was demonstrated in that a number of corporate partners expressed their interest in continuing the relationship with their business school partner. Businesses indicated that helping to build graduate capabilities in sustainability was important, and indicated areas where students conducting research in their organisations could give them specific assistance. Some found that student questions and project reports were thought provoking.

**A Community of Practice involving participating corporations and business schools, which generates and shares knowledge and experience**

Every business school formed some sort of community of practice. The participating business schools together formed a community, working together to advance education for sustainability in business education. To that end, they shared experiences, insights and information. By working together they were more likely to be successful, and felt less isolated in their education for sustainability endeavours. Many of the business schools developed networks, forums and meetings in which business, academic and student stakeholders could come together to develop sustainability in the business school curricula. Several developed informal practice groups through which lecturers and PhD research students could share reflective practices in educating for sustainability. In a few cases, these interactions led to the identification of potential collaborative research efforts in sustainability.
Improved identification and dissemination of effective learning and management practices that generate organisational change for sustainability

The business schools all took advantage of and engaged in opportunities to promote education for sustainability in MBA and with relevant stakeholders. Their initiatives included:

- conducting internal forums and networks to champion education for sustainability and share experiences
- building relationships with institutions and forums
- hosting/running seminars and forums, including talks by renowned sustainability experts
- publishing papers that can reach other business school academics who may be inspired to launch a similar project or apply the learnings.

ARIES and one of the project leaders also shared information on the program approach and experiences of embedding education for sustainability in MBA education with ProSPER.Net (an Asia-Pacific network for the Promotion of Sustainability in Postgraduate Education and Research).

4.2.3 Organisational policies and practices

Corporations moving from awareness to implementing improved corporate policies and practices

The business schools’ projects assisted their corporate partners to make changes towards improved sustainability outcomes. The time period and resources available were too limited to expect corporations to make major changes, however there were indeed tangible results.

- A few projects found that businesses achieved incremental changes and increased their understanding of sustainability issues, including realisations, for example, about the role that human resource policies could play in encouraging and supporting employee activities that supported their CSR policy.
- Corporate employees were also engaged in critical reflection on the interconnected nature of some facets of sustainability and their roles and corporate responsibilities.
- Some businesses indicated that they may implement some of the suggestions made by students in their project recommendations.
- A couple of the students were inspired to instigate projects in their workplaces to make sustainability improvements.

Changed policy and practices leading to improved sustainability outcomes in management of the business schools’ operations

The participating business schools changed policies and practices to make structural changes in their business school to accommodate operational changes, curriculum, teaching practices and professional development. Each business school embedded education for sustainability throughout its MBA and/or developed new degree programs in sustainability. Some schools made changes such as aligning sustainability throughout formal statements of learning, curriculum and assessment, and introducing more coherence across the core courses. These changes required substantial changes to the institutional practices and culture of each school.
5 PROGRAM EXPERIENCES AND INSIGHTS

The project conducted by [the project leaders] demonstrated the importance of drivers and enablers operating simultaneously for the implementation of education for and about sustainability.

Project participant

This section captures the insights and practices that were deemed helpful in mainstreaming education for sustainability in a business school’s operations, curriculum and projects with partner corporations. These insights are based on the dominant themes in the business schools’ reports and also on ARIES’s observations.

This is not a comprehensive account of the entire process, nor a complete set of guidelines or recommendations for mainstreaming sustainability, because each situation differs contextually, so the process needs to be adapted. Rather, this section introduces key experiences and insights, reoccurring factors and prominent influences relevant at the systemic level of institutional and organisational change as well as to teaching and learning practices.

5.1 LEADERSHIP FOR SYSTEMIC CHANGE

5.1.1 Complexity leadership

Leadership for change is a key factor in the success of the program.

Change does occur through self-organising entities, which coalesce due to shared agendas that become collective actions as represented by complexity theory. With specific regard to this project, this in turn resulted in engendering and enhancing sustainable change regarding education about and for sustainability. The use of complexity theory is recommended as one of the strategies to engender change.

As this project participant notes, it is most useful to conceive of the leadership and change strategies associated with this program through the lens of complexity theory. Focusing on learning and adaptation – and allowing for, rather than reducing, diversity and uncertainty – complexity leadership can facilitate creativity and innovation (Uhl-Bien et al, 2007). Leadership skills that facilitate change according to this model include network and stakeholder interaction and follower engagement. Complexity leaders are highly facilitative and enabling, and support the emergence of new ideas, practices and leaders across the system. It is this form
of leadership that appeared to be most critical to the success of the project leaders in the MBA 3 program.

Within their organisations, the various project leaders faced an intricate series of challenges. They had multi-faceted roles, working to mainstream principles and practices in education for sustainability at many dimensions of their business school, across their university and with their partner corporation. The project leaders were attempting to mainstream a learning-based approach to sustainability within their own academic roles as well as in the teaching and learning practices of their colleagues, in the policies and operations of their academic institution, and in their partner corporations. Their role was not only as an advocate for sustainability; as complexity leaders, they were influencing through example and through their facilitation of learning and capacity building processes. Each project leader took the ‘role of helping the organisation build a capacity for change’ (Graetz et al., 2006: 218). Complexity leadership was also shown to be an appropriate form of leadership for the implementation of action research and action learning, emergent processes whose outcomes can be unpredictable. The project leaders juggled these fresh demands whilst performing their everyday role within their organisation.

During this project, the principles identified as processes for “education for sustainability” and those described as whole person learning were applied to the review of the MBA and other programs and also incorporated into the role of Deputy Dean. Broad stakeholder engagement, involvement of stakeholders in decision making, visioning, systemic thinking and critical reflection were used. In addition, with an interest in being more authentic in her leadership capacity, [the project leader] attempted to become more self aware in her role as Deputy Dean by attempting to identify the assumptions which underpinned her interpretations of events and material, explicitly acknowledge how she felt about particular people’s behavior and attitudes to collegiality.

Project participant
The emphasis on criticality involving this iterative cycling process enabled us to critically reflect and to carry out reflexive change actions in Education for Sustainability. This MBA3 project has been an illuminating experiential learning process that is profoundly rewarding – knowing that we, in our humble participation have contributed to the aims of the UN Decade of Education for Sustainability Development.

Project participant

The project leader: a multi-faceted role
The multiple layers of the project leaders’ activities included:

- their own classroom teaching practices in which they engaged students, immediate colleagues and guest lecturers in education for sustainability
- their business school/department, and a range of academic and administrative staff roles, policies and other university structures
- partnership activities and sustainability forums with various personnel, managers, speakers
- projects with business partners, dealing with corporate structures in their business partnerships
- interactions with ARIES and, through ARIES, the expectations of the funding body.

In addition to working across the many levels mentioned above, the role of the Project Leader included:

- managing the entire project for their business school
- modelling and advocating good pedagogical practices in education for sustainability
- engaging senior champions, collegial change agents and corporate partners
- leading processes of action research and action learning
- establishing communities of practice and facilitating meetings
- simultaneously monitoring and reflecting on activities and outcomes, reporting to the funding body and disseminating information about the program
- incorporating the various values, beliefs, world views, cultures, institutional norms and social networks distributed among the above.
The influence of the project leaders was crucial to instigating complex cultural changes from the inside. Sustainability issues are complex and dynamic, requiring changes in worldviews and mental models, habitual patterns of consumption and ways of doing business, that may involve trade-offs being made between social, environmental and economic sustainability imperatives. This requires adaptive learning, which makes action research an appropriate methodology to mainstream education about and for sustainability. Although participatory action research is non-expert based and all participants are co-learners, the facilitative and highly adaptive role of the project leaders in engaging stakeholders in learning-based change was key to the success of the business schools’ projects.

To adapt to the changing context, the project team needs to be aware of and monitor responses and events/changes that occur among the various institutional levels, stakeholders and structure. If these changes present significant new opportunities or threats, the change agents may need to be flexible and respond. The project leaders deployed skills of network interaction to engage stakeholders in systemically exploring the issue of concern and making sense of responses to the change agenda, which assisted them to anticipate and respond more effectively to changing circumstances.

At the start, the project leaders had varying degrees of awareness of the implications of their project, requiring them to lead and facilitate processes that enable institutional and personal change. Few had sufficient time to deliberate on theories of leadership or change, or incorporate them into their project plans. The funding agreement did not explicitly specify expertise in leadership and change as part of their role, yet broadscale changes were expected – in curriculum, pedagogies, corporate policies, operations, and through the identification and dissemination of effective learning and management practices that generate organisational change for sustainability. It was expected that these ambitious changes would occur through a learning-based approach and collaborative research; that is, through the participative engagement, of action research and applying principles of education for sustainability, and through partnerships between corporations and business.

“This project has enabled us to change our involvement by becoming actively engaged in systemic changes within the university for and about sustainability.”

Project participant
Following consultation with ARIES, the provision of advice that the original project objectives would not be met, a revised strategy was proposed that moved the primary focus of the project from an Action Research and engagement in a change project within business to a development of an increased focus of CSR/ Sustainability curriculum in the core courses of the MBA Executive.

Project participant

As the projects took shape, some project leaders found it was necessary to accept sudden and diverse shifts in their own role in the project, unexpectedly finding themselves in the role of change agent and sustainability champion, or having to lead change in an unexpected area (for example, having to become knowledgeable on a subject such as community volunteering that was not a core focus of the project, but instrumental to their business partnership). Even though they were aware that sustainability is a holistic concept, the project leaders discovered that leading change also required a holistic approach. To embed sustainability in their business school, they needed to meet the complex demands associated with simultaneously championing for congruent changes that would support education for sustainability, or mitigating challenges and barriers to its implementation. For example, reviewing the entire MBA curriculum, not only its sustainability content; or making general improvements in human resources practices that would improve communication, a sense of shared purpose and satisfaction, and thereby support communities of practice on sustainability.

Through the cyclical nature of action research/learning, participants act to address the situation of concern, observe the outcomes and revise plans and activities accordingly to ensure that actions are improving that situation. Complexity leadership can be thought of in the same terms as action learning, as ‘enacting an ongoing series of local innovations that embellish the original structure, respond to spontaneous departures and unexpected opportunities, and iterate and build on each other over time’. (McLoughlin, et al, 2000).

As information, results and assumptions surfaced, some project leaders found that they needed to adjust their approaches. This included such adaptations as completely revising their project strategy and expected outcomes, or changing their response to a given situation. Willingness to challenge oneself and adapt to the ambiguous and dynamic role of complexity leader and change agent is evident as a key success factor in the business schools achieving their objectives.
5.1.2 Other leadership capabilities

Authentic leadership was also called upon for program success and operated in parallel to the complexity approach. Authentic leadership, where a leader’s behaviour is seen to be true to themselves (Walumbwa et al., 2008), was effective in the case where a project leader was also a member of senior faculty management and could therefore exert influence. In some cases, as a project moved through the cycles of action research and plans were revised, it became apparent that more deliberate, reward-based or transactional leadership activities were required to exert influence and facilitate change.

The response was often to use new tactics to exert influence, particularly by recruiting supporters who had complementary sources of power and influence to exert, or connecting to external incentives such as funding. The research also highlighted instances where transformational leadership (Yuki, 1999) would have been appropriate to gear an organisation-wide response and to motivate and unite staff behind, for example, the implementation of the cross-faculty and interdisciplinary MBA. It was evident in the UTS case study, that the diverse and contested nature of the sustainability concept itself was a source of division across the disciplinary areas and that their overall project was in need of a more transformational approach so that a shared vision of the innovative new degree could be developed and realised.

Only in this one project was a leadership for change methodology explicitly planned to supplement the action research processes. This was built into the project design, on the advice of senior management, as a means to challenge normal business practices and reveal possible new directions. However, there was insufficient senior support for this new methodology during the project, so decisions were made without reference to it. Overall, resistance to change observed across the various projects could have been lessened if more attention had been given to a selection and guided understanding of appropriate system-level leadership and change methodologies. This point is discussed further in Section 5.2 below.

“...I discussed the situation with the MBA Administrative Manager and identified that a significant amount of funding supplied by ARIES was linked to the course and as such it needed to be offered, this time with the additional information or we risk losing the funding.”

Project participant
5.2 CHANGE IN TEACHING AND LEARNING PRACTICES

The business school project leaders had a complex role, as they were promoting and modelling education for sustainability across their school and partner organisations as well as in their own classrooms.

As facilitators and enablers, the project leaders applied the following teaching and learning practices at varying times, with academic and administrative colleagues, students, businesses and other stakeholders to simultaneously build capacity and make changes:

- Envisioning an alternative future
- Maintaining the focus on the future vision, and allowing different stakeholders to interpret and apply that vision as best fitted their circumstances and ability or willingness to make changes
- Mentoring and coaching as a co-learner
- Establishing a safe learning environment and holding open dialogue
- Facilitating systemic thinking and mapping exercises
- Piloting iterative learning an action research/learning approach within the business school and within student and corporate projects
- Being transparent about what was uncertain or being trialled for the first time
- Making space for critical reflexivity and allowing critical questioning
- Individually and collectively acknowledging and examining assumptions, values, habits and expectations
- Inviting voluntary participation
- Initiating learning networks that have a loose enough agenda to allows learning exchanges to emerge
- Being as flexible in timing and expectations as circumstances demanded and permitted
- Participative decision making
- Situating oneself as a non-expert co-learner with complementary contributions
- Balancing how to make space and allow time for reflective, experimental learning practices whilst maintaining political awareness and monitoring outcomes.

The final ARIES workshop highlighted the common experience was the political resistance to sustainability coming from within all the business schools (and maybe the universities) represented. From the ARIES position, this would be an opportunity to do research into resistance to change within the learning institutions that have carriage to deliver Education for sustainability/EE.

Project participant
5.3 RESISTANCE TO CHANGE

5.3.1 Political factors

Resistance to change was frequently observed by the project leaders, particularly among the business schools that were trying to effect organisation-wide changes. Most of the leadership and change literature is directed at people in formal roles of power who can rely on their position in the management hierarchy as a source of power (often supplemented by other sources of power, such as charisma). Those recommendations may be less relevant to critically reflective action research processes that are facilitated by complexity leaders and educators. Change agents who are initiating an inside-out approach to change may need to explore the range of sources of power and values that can constrain and enable their project activities. Given that it is widely claimed that achieving a state of sustainability will require a fundamental shift in our worldviews, our ways of doing business and our patterns of living and consumption, it can be expected that change efforts to move towards sustainability will generate resistance and political activity.

The business schools encountered resistance from academic and administrative staff of varying levels of seniority. Self-interests and political in-fighting were often seen to drive agendas that, at times, were to the detriment of the broader interests of the business school. In some cases the project leaders noted that covert tactics were employed as deliberate mechanisms for control and causing delays, such as tight adherence to bureaucratic processes or participative consultation.

Resistance can have many underlying causes and explanations, and it can arise directly or indirectly in response to any number of aspects of the change effort. The resistance may be as passive as disinterest or as active as covert blocking tactics and direct challenges in public. Any process of change requires effort and resources, and this reallocation of resources or increase in workload may not be a priority for other interest groups. It should be noted that time itself is a source of resistance which frequently noted in this research program. The change that is sought may also be felt as a challenge to someone’s position or their personal worldview.

“This was the first suggestion that the [business school] system or individuals were not able or willing to change their normal practice in order to facilitate my request…”

Project participant
Some of the experiences of resistance in these projects were:

- Senior management allocates resources under competing pressures and sets priorities that attempt to optimise a range of interests and incentives. Business-as-usual and dominant interests can derail sustainability.
- Course administrators/coordinators may be reluctant to give what they consider to be special treatment – for example by communicating about innovative offerings in education about and for sustainability – because it departs from standard process. The underlying reason/s may be as diverse as:
  - giving priority to established procedures and performance objectives
  - perceiving a risk that one episode of special treatment opens the door to a barrage of exceptional processes
  - running out of time
  - not realising the link to larger goals that would justify the activity
  - holding a grudge and seeking to exert power.

Sites of resistance are multiple and manifold and may be identified, for example, in structural processes, such as, lead times to process changes to course outlines or implement new degree programs. They may also be identified in colleagues’ attitudes to changes and/or students attitudes to sustainability as a value itself. […] Furthermore, systemic change bought on by a critical approach often results in changes in the power structures.

Project participant

As events played out, most faculty members who came to the initial workshops just wanted to be kept informed. They did not [want] to get down to the level of involvement required to actually work on developing and implementing a new program.

Project participant
• Some academics may be ideologically opposed to sustainability, dismiss it due to its ambiguity, or be sceptical about its underlying values and assumptions.

• Colleagues may suspect that giving emphasis to sustainability would pose risks to the reputation and profitability of the school, the prominence of their discipline area, or their share of resources.

• A lecturer may:
  – struggle with a curriculum that is already full
  – be occupied by competing professional demands (such as meeting research quotients)
  – not feel comfortable with sustainability or how to bring it into their teaching practice in their discipline.

The student body may generally be disinterested or only have a passive interest. In a client-driven model, this doesn’t encourage education for sustainability in business schools.

The disciplines of economics and accounting faculties attract the greatest number of students and high-fee-paying students and thus have considerable power. On the whole, these students are not yet demanding sustainability education. There are also professional constraints; for example, accounting schools need professional accreditation and there is not yet an accounting standard for environmental or sustainability accounting. These disciplines also have special teaching needs such as more concise, relevant cases and resources for students who speak English as a second language. As they receive most of the resources, these disciplines can influence the priorities of the business schools.

5.3.2 Cultural factors

Participants reported that the culture of business schools was competitive and conservative and generally lagging behind the sustainability culture of business partners. A lack of student interest was a problem in some business schools, particularly for elective courses. Disinterest and resistance among students and academics can mean that educators for sustainability don’t have an opportunity to engage them in processes that clarify values, develop visions for the future and introduce critical and systemic thinking – which can act as a

However, there is some political pressure to shift the emphasis away from Business and CSR in particular, with some colleagues fearing that the agenda will be hijacked by ‘organisational sustainability’.

Project participant

One faculty member said “[Name] we know where you’re coming from and you want people to collaborate, but we’re interested in the business and making lots of money”.

Project participant, journal note

As a result, a view emerged during the program that senior leadership, formal statements of learning and mainstreaming education for sustainability throughout all of the subject offerings in all disciplines, was essential to bring about culture change. The difference in the cultures across the various disciplinary groups and faculty silos was a major source of resistance in the case of the business school attempting to bridge these silos with a cross or interdisciplinary degree. Linked to this point, is the resistance to change caused by the different interpretations around sustainability – there was some suspicion, for instance, that business academics may be interpreting sustainability in financial rather than holistic terms.

Some project leaders also recommended that corporate involvement was important to motivate the business schools and the students. The more active involvement of leading corporations may encourage student receptiveness. But it may not increase demand if sustainability is still perceived as an add-on and as a specialist role. These changes will co-evolve and resistance can be expected to emerge if any change effort is seen as departing too far from the present culture.

This [lack of response by faculty and students] was extremely disappointing and frustrating and to some extent somewhat perplexing as issues dealing with CSR, Sustainability, Global warming etc had become far more prevalent in mainstream and business media…

Project participant

It is clear that one must accept the political nature of organisations and individuals. If I were to undertake this project again I would negotiate clear responsibility and decision bound areas so that strategies such as the promotion occurred according to timeframes. In addition I would have engaged in greater negotiation to ensure a clear commitment from the [business school] to introduce course content across the MBA with specific Units and timeframes.

Project participant
5.4 OVERCOMING RESISTANCE TO CHANGE

Education for sustainability promotes voluntary participation and engagement of stakeholders to explore and address sustainability by clarifying their values, envisioning an alternative future, being critically reflective, and through systemic thinking and practice. Such a process can enhance understanding of sustainability and empower action, even among participants who are initially apathetic or resistant – but not always. It can also be a stimulus for political opposition.

In this program the project leaders were acting under a funding agreement that required them to deliver tangible organisational changes within a pre-defined time that shrunk due to delays establishing the funding agreements. The challenge for leaders is how to achieve a critical mass if, despite attempting to mainstream education for sustainability for some months or even years, participation is absent or persistently passive, or if colleagues deny there is a problem or actively resist the change effort.

There may only be small pockets of education for sustainability that are gaining traction and yet are vulnerable to the departure of passionate lecturers. The one business school that incorporated a specific change methodology into their original project design discovered that although the methodology generated intense political activity, it made no suggestions how to deal with resistance and other barriers. Project leaders needed to anticipate barriers, cultivate innovative responses, resilience and persistence – even when requiring a degree of patience that didn’t conform to the program’s milestone dates.

The process of facilitating learning-based change for sustainability requires the project leaders to combine persistence and flexibility:

- Persistence with the learning process – the resilience to persist with situations that are ambiguous and challenging at times, and allow space for learning exchanges and time for people to experiment, make sense of sustainability and how they might start to integrate it into their teaching and learning.
- Persist with the learning process and encourage reflection on learning that helps to build capacity in continual learning and responsiveness to sustainability issues.

The sense of urgency with the project did not seem to be shared by others within the School, which was another bone of contention.

Project participant
On reflection, due to timing constraints, it was not always convenient to expect unit controllers to change their assessments to allow for students to undertake this exciting ‘hands-in’ action research project in the field. In fact, even one of us lead researchers found it difficult to adjust our project assignments and assessments (Organisational Change and Development) for Education for sustainability with [the business school] within the project timeframe.

Project participant

- Flexibility and resourcefulness – to alter the repertoire. Flexibility to reflect on activities and outcomes, then revise plans if necessary, even if implementation is underway. This may require different techniques, networks, lobbying and other tactics to assist the change process. Discernment to know when to alternate or substitute the chosen approach to change in a given situation with a different approach.

There is little point persisting with a process to the extent that it is increasing resistance and the change agent is risking isolation, alienation and burnout.

Consequently, some of the leaders realised that their projects could benefit from supplementary strategies to make sense of resistance and power plays, exert influence and lead change in politically charged arenas where ambiguous interpretations of sustainability allow various interest groups to manipulate meaning making and action, and hence impede development of shared values. The political agendas and cultural differences that present obstacles can at times invite the use of tactics that may contradict some aspects of the principles and assumptions underpinning education for sustainability.

The project team faced with the difficulty of bringing together a coherent understanding of sustainability and how it could be operationalised in teaching could probably have benefited from structural interventions in the form of new and independent structures to implement the new Masters program, supported by a strong leadership (such as transformational) from the top.
This section concludes the report with a discussion on some key points and recommendations arising from ARIES’s observations and the business schools responses and learnings. Many of these lessons correspond with frequently heard recommendations about leading change; however, the vignettes provided below may illuminate the challenges for other educators or change agents who are seeking to introduce education for sustainability in business, industry or government organisations.

6.1 IDENTIFY STAKEHOLDERS, INTERESTS AND SOURCES OF POWER

It should be anticipated that mainstreaming education about and for sustainability will encounter some resistance and even efforts to block the change. It may help to hold group dialogues or facilitate processes to critically reflect and make sense of the structural and socio-cultural factors underpinning the perceived resistance. Once a system has been mapped and its power structures analysed, the project team can maintain a ‘sensitivity’ to detect signals of emerging resistance or competing agendas, and treat these as opportunities to learn about multiple perspectives, and as potential sources of leverage.

From the outset, a range of approaches can be used to reveal contextual influences, potential politics, sources of power, and constraints and enablers. These same processes can simultaneously facilitate socio-cultural learning interactions and shared understanding about sustainability issues and mainstreaming education about and for sustainability. Such approaches can include the following:

- Create a ‘safe’ space for dialogue and critical reflection, for example, by establishing learning agreements or principles at the start. Expect that it may take time to establish sufficient trust and a sense of mutual purpose.
- Early in meetings, invite everyone to declare their position in the meeting – ‘put your interests on the table’ and suspend judgment.
- A facilitated session to share personal values and visions for an alternative future. A common vision and set of values has the added advantage of keeping dialogue (loosely) focused and relevant to the issue at hand, so participants are less likely to lose interest. If the vision/s and also the values are captured for later reference, keep it flexible and ‘living’, not prescriptive. Visions
Unfortunately only 10 students enrolled in [the] Managing Personal and Corporate Responsibility course. The [business school] specifies that a minimum of 15 students must be enrolled in any class for it to be considered economical. Unfortunately the course was not permitted to run. Despite requests for the course to be re-offered as first semester 2008 course, and publicised to students in December 2007 (re-enrolment period) this was not done. It is unclear as to why the Administrative Manager responsible for timetabling did not accede to the request. Instead the course was scheduled for semester 2. The Administrative manager was made aware of the need to reschedule and readvertise this course as a semester 1, 2008 offering and the fact that ARIES funding was linked in part to this course.

Project participant

are worth revisiting as they may adapt as understanding and experience deepens, or they can serve to keep activities aligned with the situation of concern.

- Identify pre-existing sustainability commitments, knowledge bases and activities such as teaching sustainability that already exist. Also acknowledge pockets of expertise, institutes and other connections. Build on and next to these foundations.

- Use critical systems mapping, with participation by a diverse range of stakeholders, to explore the influences on education for sustainability in the business schools. Factors may include financial and other resources, formal roles, courses and subjects, exchanges of information, processes, external drivers.
  - Several maps can be drawn up, from different perspectives, to develop a more comprehensive systemic perspective.

- As change agents, identify your own personal sources of formal and informal power.
• Analyse the administrative requirements and rules of relevant bureaucratic systems, such as deadlines, chains of command, minimum class numbers, and standard operating procedures that the project innovation may threaten or disrupt.
  
  – It can help to deal with bureaucratic constraints by tying funding to project objectives, roles and timelines, as long as funding arrangements remain flexible enough to respond to iterative revisions of project plans.
  
• From the outset, disseminate plans and invite feedback, even anonymously. Welcome criticism and dissent as this can expose your assumptions and weaknesses in the plans.

The apparent sources of resistance and political action can be opportunities for critically reflective engagement, sharing different perspectives of the ‘problem’ and involving stakeholders in making sense of the system/s. Some common political factors encountered in this program included:

• differences/similarities in interpretation and understanding of education and sustainability concepts and use of conceptual labels and nomenclature, informed by such background (lenses) as values and disciplinary influences
• conflicts/consistencies among the formal and informal goals of individuals and organisations, messages, role definitions, and priorities for levels of support and resources
• suspicions/opportunism over teaching responsibilities, control of courses, resource development, numbers of students and other perceived sources of influence
• formal positions and perceived status in areas such as research rankings, academic titles and roles, and credibility/experience in a given field
• funding and government support, and institutional alliances.

We also sought staff from all levels as important to the longterm success of the degree. Workshops were facilitated by staff skilled in this area. Working groups at each workshop developed curriculum and teaching strategy suggestions.

Project participant
Senior management were a stakeholder in the process, but chose to stand back to allow the participative elements free reign. They exerted their influence through private consultations […] We were then able to introduce their ideas in a way that was disconnected from the power of hierarchy.

Project participant

Ensuring that critical approaches to education do not shy away from difficult topics/issues help reveal power and offers opportunities for critical exploration. Critically exploring the relationships between people, systems and physical elements expose sites of resistance and thus are potential sites to achieve systemic or structural change.

Project participant

6.2 STAKEHOLDER INTERACTION

Each business school project leader started the project with a letter of support from management, supportive colleagues and other prospective corporate partners and networks. As political obstacles or resistance arose, the project leaders found that they needed to respond with tactics to communicate their intentions and reasons, advocate, strengthen networks, tiptoe through politically sensitive areas, find alternate pathways or revise their project plans. Following is a discussion of some of the effective working operational strategies and tactics.

6.2.1 Structural drivers

The project leaders who were instigating change across their business school found that they needed to be aware of the social and institutional structures. This required an understanding of the prevailing culture and its fit with the project aims and methods. Mainstreaming education for sustainability requires flexibility and resourcefulness to build bridges across functional and disciplinary silos. Some of the project leaders needed to lobby, and recruit champions, to ensure that adequate representation and resources were provided by management, even where official support and congruent organisational objectives were already in place.
6.2.2 Communicating and networking

Ongoing communication and networking was a key factor in project success. The project leaders encouraged dialogue, learning and exploration about sustainability issues and appropriate teaching strategies. Open discourse can allow critical exploration, disagreements, time for reflection, and revisiting the shared vision for an alternative future. But to accelerate progress, leaders and change agents will need to keep focused on the big picture perspective of sustainability in management education, communicate about the need and impart a sense of urgency. Project leaders discovered that they also needed to respond to colleagues’ requests for information, share resources and contacts, and even provide subject expertise and lecturing support in sustainability.

Participants built networks of champions, enthusiasts and ‘do-ers’ from a variety of roles, including including academic communities of practice, corporate partners, professional bodies and student networks. They found it was useful to build on prior relationships, and identify pre-existing strengths and experiences that could provide foundations for this project. It was also good practice to ask for advice, look for win-wins, and be attentive to the concerns and interests of stakeholders.

In some of the projects it became clear that ‘sustainability’ issues were systemically interdependent with ‘other’ issues and could not be effectively addressed in isolation from associated interests. Enhancing education about and for sustainability could also entail improvements in human resource management practices, an entire curriculum review, degree accreditation and organisational profitability.

6.2.3 Systemic links

To reinforce project objectives, it may be useful to make sense of the relevant systems, including interest groups and external pressures, and interconnections among sub-systems. The participants drew upon knowledge of the activities and priorities of other universities and corporations. This can be a powerful force because many business schools compete directly. Discussions among the business schools and ARIES assisted the participants by sharing experiences and contextual information, providing collegial support and reinforcing successful strategies.

Mapping systemic influences is a useful technique to assist change agents to identify, prioritise and

The university developed an environmental and sustainability policy during the term of this project and such a policy gave the presence of items on sustainability on the Operations Committees agendas credibility and legitimacy. It also provided a reference point for curriculum development and the use of materials in [the business school].

Project participant

We think it has brought home for us the value of having a champion – both within the research process, but also within business if that business is to be truly sustainable.

Project participant
In working with our industry partners in developing these activities, we reflected that while [the university] promotes itself as delivering work-ready graduates, in fact it is still industry that needs to direct us in what that means. This is too often forgotten in those business schools with a strong tendency to emphasise highly theoretical research areas. The tension between research and workplace-relevant teaching is more evident in business schools than in other aspects of the university, with many business schools having a culture divided into two camps: applied business subjects such as operations management in one and highly theoretical organisation studies specialists in another.

Project participant

We believe, however, that this resistance will be overcome by the pressure from industry for cross-disciplinary and specialized sustainability skills combined with the high levels of faculty awareness of the emergent Education for sustainability discourse.

Project participant

respond to multiple socio-economic factors that could constrain or enable the shift to sustainability. Project leaders also looked for opportunities or events to connect to and communicate about their project to stakeholders.

Project leaders sought to identify other systemic drivers and congruent activities that would lend support to education about and for sustainability and help to overcome resistance. Some examples include business school and professional accreditation, identifying membership of collective action groups such as business leaders forums or global/regional compacts, and supporting statements in organisational mission statements or statements of learning. To help lead the agenda, corporate partners were invited as guest lecturers, presenters at forums and to communicate their expectations for graduate capabilities in sustainability.
6.2.4 Corporate partners

Corporate involvement had a particular focus in this program. It was seen as key to nudging the business schools out of lagging behind best practice. The activities would be mutually reinforcing as involving business could help drive interest in sustainability in academics and students, which in turn could lead to its introduction into courses, in turn again increasing corporate acceptance and driving further demand.

6.2.5 Innovation

In terms of innovating new courses and degrees, a path of ‘moderate resistance’ (sufficient to make change without encountering overwhelming resistance) can seek alignment among dominant interests, university or school priorities and other powerful drivers. It was unlikely that any of the participating business schools would be able to mainstream sustainability to the extent that it was held on par with accounting or marketing. Therefore, the project teams mainstreamed sustainability into as many core and elective courses in as many degree programs as they practically could, and developed sustainability majors within existing degree courses.

Participants observed that the likely conditions to support a radical ‘Green MBA’ or a degree in ‘business and sustainability’ could be:

- an innovative business school that is smaller, regional, with niche markets, more innovative and not in direct competition with the dominant business schools. This is unlikely to reshape the standard mould of business as usual.
- an innovative product form: a new degree that is a collaborative offering by several business schools. This unusual approach would attract a host of issues.
- a radical offering that innovates on product and delivery, for example a Sustainability MBA introduced by a new institution. This would lack the credibility of the traditional business school, but may open the door to copycat offerings and mainstream acceptance.

Although it would be a unique offering in Australia because of this unique combination of strengths, the learning is that more radical innovation in the form of a specialised Sustainability MBA may need to come from a cross-campus initiative. We reflected that the sustainability agenda is so broad that there may be room in the market for many versions of the sustainability product.

Project participant
The long term aim of progress towards the development of a leading edge MBA course about and for sustainability that could be delivered through a number of centres of excellence throughout Australia is still far off, although the resistance […] indicates that a combined approach across the Business Schools may be the only option available.

Overall, our project highlights the different worlds that sustainability represents across the university and how little linkage there is between the areas. Perhaps interdisciplinarity is not the answer and better to keep to some degree of multi-disciplinarity. Integration may not be wholly appropriate and we need to retain a considerable amount of specialization. Very few jobs where sustainability is not taken up with a high degree of professional specialisation. Does the university change the workplace or does the workplace change the university?

Project Participant

6.3 EDUCATING FOR SUSTAINABILITY: TEACHING AND LEARNING PRACTICES

Beyond mere technical proficiency and skills in their discipline, graduates need capabilities to manage uncertainty, engage their community and stakeholders, collaborate across disciplines and organisations, form learning networks, develop cross-cultural perspectives, envision, act as a global citizen, be critically reflective and make ethical decisions. Following is a discussion on some of the key findings drawn from the experiences of the participants as they attempted to mainstream teaching and learning practices that develop work-ready graduate capabilities for sustainability.

6.3.1 Pedagogies and experiential learning

The project participants developed new teaching and learning practices, and reflected and shared insights on educating for sustainability. The full depth of experiences and insights in this crucial focus of the program cannot be fully captured in this section. Instead, an overview is given into the range of approaches taken by the participants. More detail is available in each of the business schools’ own case study reports.
Teaching and learning experiences

The teaching activities in courses and learning exchanges among the lecturers were informed by education for sustainability, action learning, and good practices and theories of pedagogy. Following is an overview of the approaches to educating for sustainability that the project participants found to be valuable.

The participants drew upon and modelled principles of education for sustainability in their classrooms, in redesigning curriculum, and in facilitated workshops involving their colleagues and partners. This included:

• envisioning alternative futures, including future scenarios techniques
• participative learning, including the teacher as co-learner
• diversity in participation, cross-disciplinary learning, exploring cultural differences, and acknowledging interests
• critical reflection on assumptions, habitual practices, involving dialogue, private diaries, sharing journal insights, and reflexive practice by both students and teachers
• systemic thinking and practices, such as mapping exercises
• partnering with stakeholders and corporations in projects and seminars.

The learning/teaching engagements of the project were informed by pedagogy (the science of teaching), andragogy (the science of teaching adult learners) and ethnogogy (the science of teaching students from different cultural backgrounds). In particular, from pedagogical and andragogical perspectives, the principles of action learning (Revans, 1980), experiential learning (Kolb, 1984), communities of practice (Wenger, 1998), profession-based learning (Jennings et al. 2007), critical reflection and reflexivity (Hertz, 1997) were utilised.

Why these principles? Because each of these requires active engagement by learners in:

• critical thinking regarding individual and/or group learning needs
• knowledge and skills development
• devising own/group learning experiences; and
• iterative evaluation processes.

Project Participant
Exercises and activities were used to develop skills such as critical thinking, systems thinking, stakeholder engagement, participation in decision making, awareness in how values and assumptions influence interpretation of material and visioning. An exercise was designed to enable students to develop scenarios, and while they were developing these scenarios they were asked to reflect on how they were using the above skills and how it influenced their discussion.

Project Participant

[Students] were also urged to use the processes of education for sustainability while they were undertaking an exercise […] It was emphasised at the end of each topic and activity that students write in their learning diary what they learnt, what they would take back into the workplace and what would they do differently in their own lives.

Project Participant

To tailor the principles of education for sustainability to the context of their business courses, the participants also used a range of complementary teaching activities. Some of these were being piloted for the first time. These included:

- allowing students to establish their own principles for effective learning that would be applied by lecturer and students for the duration of the course
- running action learning projects and simultaneously facilitating classroom activities that allow progressive learning through iterative cycles that relate theory with real practice experiences
- work-based experiential learning projects in the student’s own business or a corporation that cooperated with the business school
- dialogue circles, debates and role-plays – for example, role-playing community engagement and students participating in panel discussions
- giving students a choice of project or assessment, such as a choice between action learning or a standard essay research project, or a choice between the normal curriculum stream for that subject, or the sustainability stream
• peer review and feedback between students, and two-way feedback between students projects (presentation) and corporation (response).

Through the range of pedagogical approaches mentioned above, the lecturers found benefits: students understanding the relevance of sustainability to their workplace; having a real experience through projects and an action learning approach that can help to develop capacity in adaptive learning; and deeper learning that was more effective than last-minute cramming for an exam.

Some lecturers noticed that through these pedagogical strategies, in addition to learning about sustainability topics and examining their assumptions and habitual ways of working, students were also taking note of how they learned and interacted with others and how this changed through iterations of topics. The development of the awareness of learning processes and its practice can provide a foundation for continual learning, stakeholder engagement and adaptive management to respond meaningfully to the dynamic and interrelated challenges of sustainability.

[The students] were finding the course’s approach more useful for their learning and that they were retaining more rather than having a big rush two weeks before the exam trying to get it together and then just get it out and drop it out so the transference between practice and theory and practice is important and the guest speakers are indeed reinforcing that theory into practice as well.

Project Participant

The students are engaged in experiential learning. The learning engagements adopt a progressive improvement perspective rather than you’re either right or wrong and that is the end of the assessment. They’ve got the opportunity to improve. […] We also incorporated informal written peer review of the students as well. Students in the audience provide feedback to the students presenting. This helps the students to be reflexive on their own and others’ presentations.

Project Participant
Relevance to the workplace

The importance of relating sustainability to the students’ own experiences and current workplace activities was a shared finding among the projects. The program’s emphasis on partnerships encouraged lecturers to create projects with partner corporations that were foreign to the students. Regardless, the participants found that there was great learning value for students to relate the lessons to their own work context. This led some students to relate the lessons to their own work context. This led some students to instigate proposals and projects in their own companies.

Some lecturers found that students were initially unable to see the relevance of sustainability to their workplace. As a course proceeded, students learnt new sustainability concepts and were encouraged to reflect, discuss and think systemically, which enabled them to see new connections, problems and opportunities. This led some students to rethink their roles and even propose changes at their workplace. Such a response satisfies the intention of education for sustainability to equip and motivate participants with the capacity to take action to enhance sustainability. It’s also beneficial to have case studies and other learning resources that are contextually and culturally relevant (for example, featuring Asian-Pacific corporations).

Indeed, once the cycles were commenced, I really felt that I was there only as a guide, as students began to take ownership over their learning process. This was particularly apparent when I took the students for their first meeting with the industry partner. I felt that I needed to contribute little to the discussion, for the students and the industry were beginning to create their own community of practice with a two-way flow of ideas and observations.

Project Participant

Getting students to actively research and voice their experiences in their own organisation revealed some interesting cases of impact. For example, one student doing the subject related the example of his own workplace initiative as an employee in a large food industry company. He made an appointment to see the CEO, and although he had never heard anybody in the organisation talk about CSR before, the CEO knew what he was talking about, asked for his ideas and subsequently has put him in charge of the CSR change program.

Project Participant
Problem-based learning

Many of the case studies used in MBA programs have American content and emphasise the important role of the (hero) leader who analyses the information, makes a decision and delegates the execution. The complex challenges of sustainability require a different approach in which the manager is a co-learner among diverse stakeholders who participate in developing a shared, systemic understanding of the problem together with feasible responses. Therefore participants suggested that appropriate resources would have locally and culturally relevant content and present a complex problematic for class activities. The presentation of complex challenges can gain students’ attention and help them to realise the need to shift away from business as usual (as indicated above, many students don’t initially see the relevance of sustainability). Conducting exercises with multi-faceted problems can also aid the development of skills in dealing with complex challenges.

According to this lecturer, students often don’t initially understand the relevance of sustainability to their workplace but this is modified as the subject progresses. Providing students with a range of strategies helps them realize they can do things they have not tried before. The things that really got them interested in this subject were the principles of natural capitalism and biomimicry. They then started to think about things that were already happening in their own workplace.

Project Participant

The reflection for us was to turn the class talk away from technical terms of leadership, change, strategic proactivity etc and move it towards the everyday workplace, where there may never be a sustainability manager per se, but dispersed responsibility across general management roles.

Project Participant
The introduction of complex problem-based learning activities needs to be carefully timed. To make sense of the issues and respond effectively, students require sufficient understanding of the key concepts, and familiarity with possible approaches or guidance to deal with the issue. Otherwise students may be overwhelmed by the magnitude and intractable nature of sustainability problems.

This was the experience in one course where the lecturers invited a high-profile environmentalist to talk to the class. The problem-focused talk led to feelings of hopelessness and even depression among the students. Using locally relevant problems that simulate the messiness and uncertainty of the real world offer valuable learning, provided that the students have some base understanding of how to approach the problem, and adequate classroom support to foster resilience and perseverance despite uncertainty.

Corporate action learning projects

Considerable learning benefit came from the student action learning projects that took place in real corporations. These projects can help to prepare graduates for a work role by giving authentic experiences, moderating over-enthusiasm or excessive idealism, balancing trade-offs and revealing the urgent need for sustainability gains. Being an emergent and dynamic field, sustainability lends itself to action learning projects because it bridges experience and theory, and encourages iterative learning, observation and reflection. Such projects build capacity to manage sustainability challenges in the workplace.

To mitigate the confidentiality concerns of some corporations, student projects can address new and emerging sustainability challenges that a corporation hasn’t yet investigated or that might be outside the skill set of the sustainability manager. The rapidly changing nature of sustainability offers fresh opportunities for research. This can simplify the research arrangement if the student has less need to access pre-existing internal information that may be commercially confidential, and can expose the student to the leading edge of sustainability.
The business schools had diverse experiences establishing experiential projects. Project leaders either had too many or too few suitable students, interested lecturers or corporate projects. Students needed to be selected carefully so that they were capable of conducting a business project. Some lecturers are now introducing the foundations of sustainability and action learning in a preliminary course to build capacity for students to undertake a real action learning project later. Corporate expectations needed to be managed as well.

I must admit that the project was not “a walk in the park” or “a piece of cake” as I originally assumed. As I delved deeper into the various concepts and theories, the more I realised the inadequacies in my knowledge and the need for further review and investigation. I guess what I enjoyed so much is the ability to see where academic theories met world reality :-) It has been a pleasant journey applying the theories learnt to a real world situation.

Student email

The final course structure should have a student selected ‘real world’ project which forms the basis of the subject (along with classroom based supporting information).

Project Participant

This means that students commencing the MBA Executive will address specific topics in CSR and Sustainability within their first semester.

Project Participant
6.3.2 Meeting the demands of educating for sustainability

Mainstreaming education about and for sustainability in the business school placed demands on all involved. Challenges and uncertainties were experienced by lecturers, champions, students and administrative staff. How the leaders and change agents met these demands is described in this section.

Competing demands on teaching staff

The project participants utilised a variety of the pedagogies described above and introduced student action learning projects into their courses. The most notable challenges to educating for sustainability were that it is time consuming, challenged people to the limits of their knowledge or experience, and required more intensive mentoring and emotional support for students and colleagues. It also placed emotional and ethical pressures on the role of the lecturers to lead education for sustainability in a context in which courses are demand driven and the students are ‘clients’ or ‘products.’

For these reasons, without government funding, the project leaders indicated that they could not have embedded education for sustainability.

Educating about sustainability subject content is challenging enough, because the field is so broad and rapidly changing. The project leaders found that their colleagues and corporate partners expected them to be subject matter experts. The field of sustainability changes so quickly that a textbook can’t be set and resources need to be constantly updated. Lecturers and course coordinators already operate under intense time pressures.

Educating for sustainability demands more of the course lecturer or convener, especially in the early stages of piloting a new pedagogy, which can be confronting. The lecturers may need to ease students into new learning activities. For example, some students can be reluctant to engage in critical reflection or give peer review. One new and innovative course had two co-lecturers who were honest with students in declaring that they had never done this before so they would all be learning together. They supported each other, had frank discussions with ARIES staff, and also requested critically reflective feedback from the students and lecturers on the course.

Due to the uncertainties and time involved, participants noted that they were unlikely to have enhanced education for sustainability without...
This raises an issue around the purpose and function of business schools. If they are run as businesses, then they will only tend to offer subject matter that businesses and business students demand. In economic terms this is responding to a want rather than a need. Universities need to consider whether they have a responsibility to also address the needs of business and not just their wants. If education is about sharing and enhancing knowledge it must also include teaching people what they need to know and not just what they want to know.

Project Participant

In his reflections, one of our students expressed his nervousness at managing the focus group at [the corporate partner], even though he is a confident professional who regularly delivered presentations for a large multinational company. For instance, the student’s reflection journal revealed that: “Looks like they are quite keen to get a lot of people involved… their optimism scares me…” Part of that nervousness was recognition that he would be working with people who are experts in their field and that he would be putting his own learning into practice. The students’ interaction with [the corporate partner] was not a casual exposure, but a rather structured interaction which emerged as part of the action research process.

Project Participant
In our initial thinking about the student research project, we envisaged involving several students rather than just the final two. However, as the project progressed, it became obvious that we would have had great difficulty dealing with more than just those two students and it would also have increased the amount of time committed by the company. The pilot has been extremely valuable in identifying the factors which would need to be considered in the development of future experiential work based projects. These are discussed in more depth in the next section, but probably the most significant requirement would be the need for adequate resourcing. The pilot provided assistance with staff resources (thanks to ARIES funding) which would not necessarily be available if projects such as these were incorporated into regular MBA units. Conversely, some of the staff time in the ARIES pilot was taken up by contract negotiations, reporting requirements, meetings, etc which would not be needed if projects were incorporated into regular MBA units.

**Project Participant**

The funding for teaching relief and support that was provided through the program. The learnings from the initial pilots would mean that lecturers could run education for sustainability processes and action learning projects more efficiently in the future. The amount of organisation within the business school, with corporate partners and providing support for students, is more demanding than standard teaching practices.

**Need for flexibility**

The project participants realised that they needed to be very flexible and responsive to accommodate the needs of students and stakeholders. The administrative requirements of the school and the funding and reporting cycles of the funding body don’t often give much leeway. Participants introduced flexibility in the following ways:

- providing students with options such as a choice between:
  - two curriculum streams
    - one normal, one sustainability stream
  - normal essay assignment or an action learning project
  - individual or group work
  - a project with student’s employer or a business school corporate partner
• changing the semester or the format of the course (such as intensive mode) to meet requirements from administration, the corporate partner, or the funding body
• allowing the timing of project and assignment work to fit with the availability of staff from the partner company and student’s own workload
• allowing students to delay their projects to another semester or focus on it as a special assignment within the course on the major project
• revising and updating course materials during the course, and feeding in content from corporate projects
• adjusting assessment tasks to allow iterative learning and community learning exchanges and avoid having examination pressures encourage students to develop habits of memorising content
• rewording course outlines and statements of learning to make explicit the expectations and nature of the projects and assessment.

Choice
The students were allowed to choose their own assignment topics and if they wanted to they could negotiate with [the lecturers] about the particular form the major assignment took, that is, whether it was more standard assignment (investigating an issue and preparing a report) or an action learning assignment. Two students commented that “This was the first time at [the business school] there had been any flexibility about assessment”. This process was informed by Jan Orrell’s presentation provided by ARIES. It was also an application of Whole of Person Learning.

Project Participant

Assessment
The other interesting presentation to us at the ARIES workshop in May was the principles of setting learning outcomes and redesigning assessment tasks. This is not only relevant to sustainability but to any postgraduate teaching. The emphasis was on peer evaluation by students with light supervision by tutors and lecturers. This approach suits an action learning design that would suit an emerging field better than an established field.

Project Participant
Firstly, new ways of teaching are needed, including practice and problem-based trans or interdisciplinary teaching for the core subjects. Most staff will not be familiar with these teaching modes and will need support. Secondly, staff need a clear understanding of the core concept of the degree – is it to be environmental sustainability, environmental studies or sustainability? Overall, the key expectations most generally expressed are that it should be holistic and should address a market niche.

Project Participant

One of the areas of need identified in this project was the capacity of the teacher to bring together process-orientated skills and knowledge that helped coordinate as many practices previously undertaken in separation. As teachers, we need to be able to be critical and reflective of our own teaching practices, not only of how they affect students and the industry we engage in, but also other teachers. As well as this, we need knowledge and skills to enable systemic change within our own institutions, and communicate these effectively to other team members.

Project Participant

Professional development

The project participants challenged themselves by teaching unfamiliar content education about sustainability, piloting processes that aimed to build capacity and undertaking learning-based change for sustainability in their own courses, their own practices and promoting it in those of their colleagues. They were also involving students and other organisations in real change projects and community of practice forums. This required them to build their own capacity as well as providing support and guidance to their colleagues and partners.

There was a danger that by introducing sustainability, the project leaders simply added more to a full curriculum, workloads and challenging staff capacity. They had to get to know their background, comfort level and understanding of the topic, or ensure that sufficient professional development opportunities were provided. This requires enough time to establish collegial rapport and trust – time that the project leaders lacked. They found that they needed to coach, mentor, support or subvert the activities of some of their colleagues. Some of the interim measures included:

- acting as a subject matter expert and writing sustainability units for courses
Seeking support to integrate that subject matter across the whole curriculum to ensure logical learning progression through the concepts, and to avoid duplication.

Teaming with existing subject coordinators to assist with their needs.

Providing guest lectures on sustainability topics (reciprocal arrangements) until the lecturer’s understanding had developed.

Business schools that seek to mainstream education for sustainability across their curriculum can expect to provide professional development in the subject matter and appropriate pedagogies to develop graduate capacities to be effective sustainability managers.

Professional development activities can include participative forums that engage a broader range of stakeholders, simultaneously delivering value for businesses partners.

Interpersonal and emotional development

Innovative pedagogies that involve open dialogue, clarifying values, sharing visions for the future, critical reflexivity, exploring assumptions and examining one’s own role can bring out personal emotions and group conflicts.

Given that sustainability involves issues such as social justice, wellbeing, inequalities, human rights and world views, making a shift entails personal and emotional development. Lecturers found that education for sustainability required more personal (one on one) involvement than standard business teaching methods.

It also altered the nature of the academic’s role – at times being more of a coach or facilitating emotional and aspirational work. Some interpersonal conflicts arose in one course. It can help to create a safe learning environment if ‘process guidelines’ or ‘rules for learning’ are established and agreed upon at the start, and referred back to on occasion.

There is a need for all students, convenors, and industry members involved in the project to be reflexive by critically examining outcomes of actions, considering the effectiveness of such actions, and adjusting future applications and usage.

Project Participant
It builds on other aspects of the course with an emphasis on trust through the development of the competency of empathy and its role in establishing and maintaining relationships in an ethical manner, between colleagues, managers, superiors, direct reports and other stakeholders. [...] It is clear that effective corporate social responsibility requires people to respect the rights of individuals, communities and those of the future. In requires people to treat each other with respect and dignity. It is argued that empathy and trust are fundamental, as without trust, relationships cannot be formed and maintained.

Project Participant

Two of the groups experienced tensions and conflict when discussing some topics. This was unexpected

Project Participant
7 RECOMMENDATIONS

7.1 SYSTEM LEVEL: EMBEDDING SUSTAINABILITY IN BUSINESS EDUCATION

The following key points summarise the recommendations drawn from this research program.

Flexible approaches to leadership and change
- Leaders and change agents should be enabling rather than directive, supporting learning, adaptation and innovation. Strong support from senior management is also essential and enabling. Facilitative leadership can be supplanted usefully with other leadership models, and may need to be accompanied by structural change.
- Treat the process of change as learning-based, emergent, unpredictable and holistic. This means that principles of education for sustainability cannot be implemented in isolation. If there are overlapping concerns, needs or interests, then these will need to be addressed simultaneously. For example, embedding sustainability in the curriculum may require a full curriculum review and allocation of resources, particularly of time.
- Take a complexity leadership, action research and learning approach to the entire change effort and try to model the principles of education for sustainability throughout. It helps to dedicate an entire action research cycle to engaging stakeholders.

Engagement and partnership
- Map stakeholders and monitor network and stakeholder interaction as a key source of creativity and change. Network and harness the power of champions be they from institutes, senior management, alumni, businesses or international experts.
- Expect resistance, political opposition and risk avoidance. Strong support from senior management and others with formal sources of power is crucial and can require ongoing lobbying on shifting sands.
- Invite diverse stakeholders to join a community of practice with the purpose of sharing practices and furthering education for sustainability. Businesses and external institutes and associations can play a crucial role in fostering student demand and academic acceptance for sustainability.
- Take advantage of media opportunities, internal small grants and opportunities to host forums on sustainability.

Holistic foundations
- Build on pre-existing strengths, mission statements, learning agreements, accreditation requirements, awards and other prior agreements (e.g. signatories to Tallories or membership of sustainability round tables and the like).
- Treat sustainability as a holistic concept that needs to be an essential part of business, not an optional add on. Therefore it needs to be explicitly mainstreamed through all disciplines of a business degree program. As a concept, it is ambiguous and therefore requires processes of critical thinking, continual learning and adaptation if it is to emerge as a shared value across and organisation.

Professional development
- Implementing education for sustainability in the workplace requires new approaches to teaching and learning. Specialist workshopin in ‘Teaching for Sustainability’ may be necessary for educators in the higher education and VET sectors.
as well as for those responsible for training and development in other types of organisations in order to guide understanding of the pedagogies of education for sustainability.

- Workplace facilitators may need to act as subject matter experts to supply content, contacts and guest lectures so that sustainability principles can be targeted to the specific workplace and industry sector. Professional organisations such as accountancy are an important focus for the future.

Innovative opportunities

- Look for innovative opportunities that have mutual advantages and invite collaboration. Collaboration among several business schools and other organisations is more likely to permit radical innovation, such as an Australian Sustainability MBA which is built around experiential and critically reflective capacity-building pedagogies for sustainability.

- Faculty and business stakeholders can reflect upon the following:
  - Are there opportunities to simultaneously deliver on research objectives and education for sustainability?
  - What internal specialisations and strengths exist that could be developed into a specialist stream on sustainability?
  - Are there external business associations, roundtable forums or other tertiary institutions that could collaborate to deliver a new sustainability program?

Summary findings: educating for sustainability?

It is recommended that:

- lecturers and coordinators introduce these changes gradually
- leaders and change agents are transparent about the process being new, or a pilot, with lecturers and students as co-learners
- communities of practice are formed with other academics and business partners to provide mutual support and opportunities for reflection
- planned learning experiences are aligned with explicit learning outcomes and assessment activities.
- agreement is made with the group on safe learning rules or approaches to learning to create a safe environment, and these are referred back to occasionally
- students are offered a choice of project and assessments – standard, or in sustainability and action learning
- students are encouraged to look for ways to make connections between sustainability and their workplace, work experiences or functional roles

7.2 EMBEDDING SUSTAINABILITY IN TEACHING AND LEARNING PRACTICES

The combination of education for sustainability and profession-based action learning projects appears to be an effective way to engage students, assist them to see the relevance of sustainability to their work roles and build their capacity to respond more effectively to sustainability challenges in the workplace.

Piloting teaching and learning practices that modelled and facilitated development and engagement with sustainability concepts were found to result in deeper learning and improved retention.
• problem-based learning, complex cases, and learning from failure are utilised as teaching and assessment approaches
• case materials and resources are locally and culturally relevant
• businesses are invited to contribute to curriculum and case materials, to provide guest lectures, and to hold a critically reflective dialogue session
• reflective journaling is utilised by both lecturer and students – students can share insights from their journal as part of their assessment
• peer review is used to allow iterative learning, feedback and improvement.

The research program outcomes show that experiential action learning projects with corporate partners, although demanding of lecturer time can create beneficial learning exchanges for businesses, students and academic staff.

The following are recommendations for obtaining effective co-learning from partnerships:
• Communicate about expectations, logistics, roles and timing with corporate partners and course administrators.
• Introduce the action research/learning approach to business and students. Make expectations clear and explain its benefits to sustainability and its usefulness to link theory and practice.
• Allow time for an iterative cycle to have feedback between students and business partners on the outcomes and experience of the project.
• Select projects and students carefully.
• Pilot one project to begin with.
• Anticipate differences in capabilities and expectations between different student cohorts. Students may need a preparatory subject before undertaking an action learning experience in the workplace.
• Expect the unexpected and prepare to be flexible!

7.3 Reflections and Implications for Future Research

Recommendations from this research program need to be viewed in the context of the outcomes from the three research programs that have been conducted by ARIES, Education about and for Sustainability in Australian Business Schools Stages 1, 2 and 3. Overall, the research highlights the need for business schools to develop and maintain key contacts in the business community. It underscores the need for ongoing renewal and maintenance of the principles of Education for Sustainability in an organisational context, characterised by ongoing change in curriculum management and coordination personnel, conservative cultures, structural disciplinary silos and political tensions both within business schools and across the universities. Given these barriers, it cannot be assumed that current achievements are permanent unless further institutionalised. How to implement more permanent and institutional change could be the subject for further research.
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