

Does the Bachelor of Business curriculum reflect the sustainability paradigm shift? Interim results from a study of first-year subjects

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ABSTRACT

A shift away from the dominant economic growth paradigm built on unsustainable production and consumption levels towards the sustainability paradigm is a major challenge for University business education. This paper reports the preliminary results from an empirical study to determine the extent of sustainability embeddedness into the curriculum of an Australian university's undergraduate business school program at the first-year level. A two-step data collection process was followed over the first of two teaching periods, involving content analysis of curriculum and semi-structured in-depth interviews with subject and course coordinators. Initial results indicate that the paradigm shift is underway, whereby most subject coordinators conceptualise sustainability in a more sophisticated way than is reflected in the actual curriculum. We failed to uncover a genuinely significant level of embedded skills or content.

Keywords: sustainability, education for sustainability, curriculum, management education and development, interview method

INTRODUCTION

The study of education for sustainability (EfS) is attracting growing interest. In previous research, von der Heidt and Lamberton (2011) explained the sustainability imperative and the role of business in the transition to sustainability. In essence, it was argued that sustainability is emerging as a kind of overarching 'megatrend' (Lubin & Esty 2010), affecting corporate strategy, consumer decision making, government policy and education. The critical role of business entities in this transition is widely acknowledged. While commonly cited as the culprit of unsustainable consumption and its deleterious impacts, adoption of sustainable business practices can provide solutions to many of these problems (Ferraro & Sands 2009; Nidumolu, Prahalad & Rangaswami 2009), particularly when managers have the requisite education and motivation to implement such practices (Bridges & Wilhelm 2008).

The concept of sustainability offers a tremendous challenge for education in general. It requires educational institutions to rethink their missions and to restructure their courses, research priorities, community outreach, and campus operations. On the other hand, by preparing students – and the whole campus community – to be more adept decision makers in the increasingly complex, dynamic,

and uncertain future that we all face, integrating sustainability into all of the major activities of educational institutions also presents a tremendous opportunity (Glasser, Calder & Fadeeva 2005).

In terms of 'going green', business schools are lagging behind other disciplines and other business sustainability leaders (Barlett 2008; Bates, Silverblatt & Kleban 2009; Springett 2005). Universities are inherently conservative and highly fragmented institutions (James 2002), which tend to sustain and reinforce the dominant capitalist paradigm of production and consumption. Hence, conventional curricula of business schools may reproduce socially and ecologically unsustainable values of affluent consumer society.

Although the idea of sustainability is gaining increasingly widespread acceptance throughout society, there is no clear evidence within business education that either staff or students are increasing their engagement with or prioritising sustainability ideas. However the level of change required is considerable to enable business faculty to teach sustainability given that "*its relative newness (and hence uncertainty), its dependence on interdisciplinary thinking, its need to work with different stakeholders, its not-traditional operating approaches and so on, demands that we train our managers in wholly new ways*" (Galea 2007, p. 9). The need for business schools to act is becoming more pressing, as enrolments in the management and commerce discipline are high (one-third of students in Australia) and are growing considerably - at around 4% p.a. (Department of Education Employment and Work Relations 2008).

When benchmarked against current international best practice in sustainability, Australian business schools tend to come after their international counterparts (Tilbury, Crawley & Berry 2005), although Patterson (2009) observed considerable variation in a study of selected Commonwealth universities. This is despite awareness and action in relation to sustainability being at an early stage in many higher education institutions in the United States (Barlett 2008).

A big step forward was taken in April 2011, with the Australian Government, the Australian Learning and Teaching Council (ALTC) and University of Western Sydney joining forces to launch a sustainability website for Australia's higher education sector (www.sustainability.edu.au). It brings together sustainability courses offered across the nation into one single space, as well as providing a suite of resources on implementing programs in sustainability, staff development initiatives and embedding sustainability in policy. The Australian Research Institute for Environment and Sustainability (ARIES) was instrumental in compiling many of the practical tools and resources featured on the site. ARIES was established in 2003 by the Australian Government to undertake projects with government, community and business organisations to develop their capacity to achieve improvements in sustainability. The research institution has undertaken a suite of three projects on EfS in Australian Business Schools. The first project (Tilbury, Crawley & Berry 2005) examined

graduate business schools in Australia and overseas to identify and benchmark best practice in education in relation to sustainability in the MBA. Stage 2 (Hunting, May & Tilbury 2006) focused on driving change with seven leading Australian business schools that worked together to make changes to their MBA program using EfS action research. Building on these efforts, the final stage (Thomas & Benn 2009) aimed to create change for sustainability in the learning and teaching focus of five participating business schools and in their operations. Further, in its recent 'sustainability in the curriculum project', Macquarie University (2009) provides a faculty perspective on incorporating sustainability in the business curriculum.

Indeed, most business schools have started to incorporate sustainability at some level into their curriculum, though most of these courses are offered at the MBA level (Bridges & Wilhelm 2008). This head-start of graduate over undergraduate courses may be because graduate students have 'found' themselves and have greater professional commitment to the pursuit of sustainability (Greenspoon 2008). However, the abundance of EfS programs at primary, secondary and tertiary education levels suggests that sustainability courses are just as relevant - if not more relevant - at the undergraduate as at the graduate level. Sustainability can be incorporated into undergraduate and graduate higher education curricula through a dedicated core and specialized sustainability units (von der Heide & Lamberton 2011). Notwithstanding these initiatives, the extent to which sustainability has been embraced and embedded in throughout the entire curricula at degree level is under-researched. This paper reports on interim results from an exploratory study to assess the current uptake of sustainability concepts in first-year undergraduate business subjects at one Australian university. It starts by introducing the project and its aims. Next the research questions are articulated and the methodology outlined, followed by a discussion of results and conclusions.

Like many universities in Australia, Southern Cross University (SCU) has a strong commitment to sustainability and the 'triple bottom line'. Of the four recently articulated goals in the Strategic Plan (2011) to 2015, Goal 4 states "We will enhance our performance in a sustainable and responsible manner" with the corresponding strategy to "embed a commitment to the triple-bottom line to enhance the economic, social and environmental sustainability of the University" (p. 10). This project builds on this commitment, in its aim to audit and evaluate how 'sustainability' is embedded into the curriculum and assessment of the first year Bachelor of Business (BBus) and Bachelor of Business Tourism Management (BBusTM) courses. That is, there is much talk about how society and higher education have made a paradigm shift towards sustainability, but what evidence is there for this?

Sustainability concepts and tools can be integrated into current business curricula either as an add-on course (or degree) entirely devoted to sustainability or by integrating the subject into the various topics of current course offerings (Bridges & Wilhelm 2008; Macquarie University 2009). At

Southern Cross University, a signatory to the Talloires Declaration, sustainability has been integrated into the current undergraduate business curriculum in three ways:

1. A university-wide sustainability major, whereby students can choose eight of twelve sustainability-related units offered by six Schools.
2. A sustainability-specific first-year core unit, *Ethics and Sustainability*, and an elective unit, *Sustainable Business Management*.
3. The concepts of sustainability and environmental awareness have been conceptualised into the graduate attributes and values/skills across all subjects in both business and tourism schools.

The study reported here is concerned with assessing the success of the *third* means of embedding sustainability. That is, through their embedding in curricula and assessment as graduate attributes, sustainability skills can, potentially, be developed in all units in a truly interdisciplinary way, as envisaged in Education for Sustainable Development (ESD) (United Nations Educational Scientific and Cultural Organisation 2007) and Education for Sustainability (Hunting & Tilbury 2006). The study complements existing work on EfS in universities in two main ways:

- It examines EfS curriculum and assessment at a micro, individual unit level. Previous studies have not explored how sustainability is embedded in such depth, focusing more at the program rather than unit level.
- It focuses on the undergraduate Bachelor of Business, rather than the graduate (MBA) level, as was the case with the recent three-stage ARIES research project. Undergraduate units, in particular the core, are most effective at developing graduates with the capacity to achieve sustainability outcomes in their early careers. Moreover, the first-year undergraduate student cohort is of particular relevance to SCU, as demonstrated by SCU Teaching & Learning's current First Year @ SCU project. The first year is crucially important in terms of grounding students' critical awareness about sustainability and its role in business and tourism; this then provides a sound platform for developing EfS skills in later, more advanced units.

RESEARCH METHODOLOGY

Our profile of current embeddedness of sustainability in the first-year BBus curriculum is developed from ten main research questions developed from the literature. Many of the questions guiding the inquiry were drawn from the set of questions developed in an ARIES study (Tilbury, Crawley & Berry 2004) through an internet dialogue with four Australian (graduate) Business Schools (i.e. at MBA-level). The questions have been adapted (simplified and clarified) to suit the undergraduate BBus context at SCU. This paper is particularly concerned with the following three of the ten research questions in relation to sustainability in first-year business curriculum:

1. What does 'sustainability' mean to the lead academic (subject and course coordinators)?
2. Which meaning of sustainability is adopted by the teacher and how it is conceptualized in the subject or course? The Australian Learning & Teaching Council (ALTC) (2010) has advanced five conceptualizations of sustainability:
 - i. Sustainability is limited to the idea of 'keeping self or business going'.
 - ii. Sustainability is understood in terms of the environmental domain of sustainability.
 - iii. The three broad domains of economic, social and environmental are discerned and generational responsibility is acknowledged.
 - iv. Sustainability goes beyond the three domains, critically recognising the relevance of external authorities, societal rules and organisational agendas.
 - v. Sustainability is a complex process of adaptive management and systems thinking across disciplines and sub-disciplines. It calls for a critically reflective theorisation of the concept, which recognises its evolution in the public discourse, its controversial nature and its location within certain theoretical and disciplinary paradigms.
3. How important of sustainability to the subject or course? This will indicate the extent to which the teacher is committed to, or takes responsibility for, education for sustainability within the subject or course.

Qualitative analysis

The predominantly exploratory research questions in this study called primarily for qualitative methods. Very few studies have explored academic staff members' perceptions of and attitudes towards incorporating sustainability in a business-dominated curriculum. Thus, qualitative and, where possible, quantitative data in relation to all 14 first-year Bachelor of Business subjects were collected from two sources:

- Published curriculum available to students through unit information guides (containing syllabus, graduate attributes and assessment) and study guides (containing subject content material). This data was content analysed and partially scored.
- Subject and Course Coordinator views gained through semi-structured in-depth interviewing. The interview protocol is provided in the Appendix. Semi-structured interviews allowed the researchers to find out what academics and curriculum coordinators were thinking, feeling and 'doing' regarding EfS.

The interview research followed Kvale and Brinkmann's (2009) recommended systematic, seven-step progression to ensure that it lives up to scientific criteria, taking into account the ethical aspects of the investigation:

- (1) ***Thematising*** – The purpose of the interview investigation was to obtain empirical data to address the ten before-mentioned research questions.
- (2) ***Designing*** - Approval to undertake the interview study was obtained from the University's Human Research Ethics Committee. This included an ethical protocol comprising a research information sheet for the interviewee to keep and an interview consent form to be completed by the interviewee. Including all first-year subject and course coordinators in the sample provides a representative view.
- (3) ***Interviewing*** - The interviews were conducted by an experienced interviewer knowledgeable about the interview topic. The interviewer controlled the course of the interview, was sensitive to the nuances in meaning and sought to have these clarified, where possible. The interviews conducted were, in part, about obtaining factual information (interviewee background and knowledge of sustainability in relation to their discipline). For the most part, however, the interviews could be described as 'discursive'. The interviewers were active participants, rather than like speaking questionnaires. The interviewee was viewed as a co-researcher. In this discursive approach to interviewing, the production of meaning in a local and dynamic setting was highlighted.
- (4) ***Transcribing*** - Each recorded interview was transcribed by an experienced transcriber from oral speech to written text (the transcript) to prepare the interview material for analysis. Transcripts are the means or tools for the interpretation of what was said during the interviews.
- (5) ***Thematic analyzing*** – Drawing on Braun and Clarke (2006) and Attride-Stirling (2001), the following steps were undertaken to identify, analyse and report patterns (themes) within the data: (i) The four researchers familiarized themselves with the transcribed data. (ii) Given the relatively small data set and the theory-driven nature of the research, the material was coded manually on the basis of the research questions. Individual transcripts were dissected and reorganized in terms of the codes. (iii) Codes were analysed and combined to form broader themes. (iv) The themes were constructed into thematic networks - themes were reviewed at the level of (a) the coded extracts to ensure they appear in a coherent pattern and (b) the entire data set in terms of the validity of the individual themes in relation to the data set, i.e. does it accurately reflect the meanings evident in the data set as a whole (Braun & Clarke 2006). (v) The thematic networks were described, explored and summarised (Attride-Stirling 2001). Themes were defined and named, i.e. the essence of what each theme is about was identified – what it is and what it is not (Braun & Clarke 2006). For each individual theme, a detailed analysis was conducted.
- (6) ***Verifying and interpreting patterns*** - The knowledge produced in the interviews is not necessarily subjective. Qualitative interviews may, in principle, be an objective mode of inquiry with respect to several key meanings of objectivity (Kvale & Brinkmann, 2009). For instance, in checking, controlling and not distorting by personal bias and prejudice the knowledge

produced, it is objective in the sense that it is *free from bias*. To the extent that research results are evident and the conclusions of the study intrinsically convincing, research validity (the extent to which the research investigates what it purports to) has been demonstrated. All interview transcripts were checked by interviewees after the interview, thereby providing additional proof of validity. Furthermore, all efforts were undertaken to ensure that interviewing, transcribing and analysing were carried out as consistently as possible to ensure the reliability and trustworthiness of the research accounts. The reader ultimately decides whether the results are primarily of local interest or whether they are generalisable to other subjects and situations. While this research does not pretend to provide an exhaustive overview of academics' opinions on sustainability, it does provide a sample that might be regarded as broadly representative of the salient views held by those charged with teaching first-year business students..

- (7) **Reporting** – This paper provides a snapshot of some key interim findings of our study. Further dissemination of results will be undertaken after the second phase of data collection. We attempt to communicate the findings of the study and the methods applied in a readable form to facilitate consumption and possible decision making by the reader. Interview quotes are used as appropriately as possible to assist the reader's understanding. For instance, the participants' own words have been contextualised to aid understanding, carefully chosen to ensure inclusion of the best quotes only, expressed as concisely as possible and interpreted by the researchers. To ensure confidentiality, the document does not identify individuals by name. The quotations have been made anonymous. Research participants are referred to as cases and identified only in terms of their academic position (subject or course coordinator) and discipline (subject name).

5. FINDINGS

Phase one of the research yielded nine transcripts, each six to eight typed pages in length. From these transcripts over 140 distinct comments were collected. Findings pertaining to the first three research questions are presented in this paper.

1. Meaning of sustainability to academics

All nine participants reflected an understanding that sustainability is grounded in environmental concerns. This was reflected in statements, such as “*the term [sustainability] these days is synonymous with environment and making sure we preserve environment for future generations*” (Participant 1); “*Primarily I think about it like environmental sustainability*” (Participant 3); “*I usually think of it more in the environmental contingent to survive on this planet*” (Participant 4); “*I actually look at it more from the environmental aspect of sustainability*” (Participant 8).

However, the social, ethical and cultural aspects of sustainability were also acknowledged by all participants and emphasised by four, such as “*I focus more on the cultural and social sustainability... without that you’re not going to get the environmental sustainability*” (Participant 6) and “*Sustainability to me is balancing the economic, social and environmental aspects of something. I know ‘sustainable’ is often aligned with just environmental impacts, but to me it’s broader than that*” (Participant 7). These comments reflect participants’ understanding of the broader definition encompassing environmental, social and cultural dimensions or ‘triple-bottom line’ thinking. Economic aspects were acknowledged by six participants, but not emphasised by any, although each participant teaches exclusively in business programs.

2. Academic’s conceptualisation of sustainability in terms of ALTC’s definitions

Drawing on the ALTC’s (2010) five conceptualisations of sustainability in higher education, this question distinguished between the conception (a) most consistent with participants’ own beliefs and (b) which the participant feels is most consistent with how sustainability features in the subject taught.

Responses to the first part of the question were surprising. Five of the nine participants chose the highest-order conceptualisation of sustainability (option 5) which was

Sustainability is a complex process of adaptive management and systems thinking across disciplines and sub-disciplines. It calls for a critically reflective theorisation of the concept, which recognises its evolution in the public discourse, its controversial nature and its location within certain theoretical and disciplinary paradigms.

This conceptualisation does not provide any indication of the actual meaning of sustainability. Rather, it suggests a dynamic and complex process of discovering what sustainability might be within a systems management framework. Participant 2 (Tourism) explained her choice as follows: “*That’s about systems thinking. Just because I am a systems thinker, my study’s been grounded in systems thinking, and that’s what I teach.*” Of the remaining four participants, one chose option 4, two chose option 3 (*The three broad domains of economic, social and environmental are discerned and generational responsibility is acknowledged*) and one chose option 3 and 4 (*Sustainability goes beyond the three domains, critically recognising the relevance of external authorities, societal rules and organisational agendas*).

This strong preference toward a higher-order conceptualisation of sustainability in higher education suggests the standard three or four dimensional conceptualisation of sustainability, which is more commonly found in business programs, is an incomplete or insufficient conceptualisation of sustainability. This is surprising, as triple bottom line thinking is well established within the social science literature.

By contrast, the responses to the second part of the question “*Which conception is most consistent with how sustainability is featured in the unit*” were skewed toward a more conventional understanding of sustainability. Most (seven of nine) participants chose the familiar option 3. Participant 7 (a course coordinator) observed as follows: “*(in first year it’s about) introducing students to that notion of economic, social, environmental issues, external environments that individuals and businesses have to operate within. By the time the students are getting to their third year and a subject like strategic management, its getting more towards (option) five, and getting them to appreciate the complexity of actually operating in that more complex environment.*” Apart from the perceived need to initially defer or scaffold sustainability learning, curriculum crowding emerged as another issue. Participant 5 commented that “*it’s not that there’s no need, there’s just no room for it*”.

Option 5 appeared twice in responses (Participants 2 and 7) but only as part of a dual response (i.e. in combination with option 3 or 4). Together these responses suggest participants believe sustainability is something more dynamic and complex than what is actually featured in the subjects they teach. The fifth conceptualisation is extremely challenging for university educators to embed in undergraduate programs, given it provides a process of discovery and a critique of a concept which would not be expected to be clearly understood by first year students. The quote above suggests this complexity is currently thought to best be handled in advanced subjects where strategic thinking is central to the course of study.

The content analysis of study guide and subject information guide to determine the level at which participants actually incorporated sustainability in their subjects also highlighted the gap between intentions and practice of teaching academics. In contrast to the views expressed by academics in the interviews, none of the subject curricula presented sustainability as the highest-order option 5. Two subjects conceptualised sustainability at level 4 (going beyond the three domains). In one subject (that of Participant 2), this was evident by an intensive topic devoted to sustainability pertinent to that discipline. In another subject (taught by Participant 3), concepts of environment, social and cultural awareness as well as ethics and social responsibility were covered throughout. Two further subjects were assessed as providing a triple bottom line conceptualisation of sustainability. In these cases, there was some limited reference to sustainability in the subject content and some reference to developing skills for sustainability, as envisaged by Tilbury et al. (2004). In the remaining three subjects’ curricula, sustainability was conceptualised at level 1 (keeping business going) or not at all, with no mention of sustainability or attention given to developing sustainability-related graduate attributes.

Table 1 summarises the key findings in terms of the two parametric scales used to supplement the qualitative interview data and the content analysis. While for question 2(b) the range of responses is similar in spread, the mean (assuming the conceptualisation of sustainability is viewed as a continuous scale) is notably lower in the actual curriculum as per the content analysis (2.4) than as per the lead academics' views (3.2). In turn, both means are considerably lower than the mean for academics' self-reported beliefs about sustainability (4.3). This result points to the differences between a teaching academic's actions (the way a person teaches), intentions (what the person is trying to accomplish) and beliefs (why those actions and intentions are reasonable, important or justifiable) (Pratt & Collins 1998).

3. Importance of sustainability

Responses to the question *"How central/important would you say sustainability – in its broad sense – is to this unit"* were varied. Two respondents recorded zero (not at all important). Participant 9 (a course coordinator) volunteered this view: *"Some unit assessors would say 'this is rubbish and we should be teaching (business curriculum)...' and it's unimportant..."* On the other hand, Participant 1 stated that sustainability is *"very important (to the subject) if we're talking about successful business in the long term."* Three respondents recorded scores of 7 or above out of 10, indicating a high level of perceived importance.

This result does not necessarily indicate varying beliefs as to the general relevance of sustainability to business curriculum. Rather it may only reflect its differing level of relevance to the various sub business disciplines included in the first year core business program. However, a general theme in these responses was it would be desirable for sustainability to feature more prominently in first year curriculum if this were possible without the trade off of reducing important business content. This observation reinforces the importance of teaching sustainable business theory and practice as an integrated body of knowledge, instead of traditional business theory and unsustainable practice and then treating sustainability as an alternative agenda.

Responses to the question about whether the teaching team shares the lead academic's view (about the importance of sustainability to the subject taught) indicated that members of teaching teams were believed to have a widely diverse views as to the importance of sustainability to business curriculum. Four participants were unsure about their teaching team's views, two were certain the team would *not* consider sustainability to be important, while the remaining three felt the opposite: *"Most of them would. We've been together as a teaching team for quite some time. I myself personally, as well as our school, invests a lot of energy, time and effort in creating a good holistic team who are well supported financially and in terms of opportunities, in terms of training – any training that get paid for. Their time gets paid for"* (Participant 6). In summary, Participant 9 suggested that *"it would*

depend on which unit assessor and which units... there's varied views in the school about the importance of sustainability and how much we should actually cover it."

On the question *'how important do you think sustainability is to business/tourism students in their business degrees overall?'* students were thought to attach a fairly low to moderate level of importance to sustainability in curriculum, being more focused on degree completion and job opportunities. The following response by Participant 3 shows a perceived disconnect between business and sustainability: *"I don't think they're too concerned about sustainability. I think they choose a discipline that teaches them more about numbers and finance and economics"*. This response suggests that 'hard' business skills (often quantitative-based) are seen to be separate from sustainability. This perception is problematic and represents a barrier to attempts to embed sustainability throughout business curriculum.

4. Barriers and opportunities

Student perceptions of sustainability being separate to and of lesser importance than 'hard business skills' is not the only barrier to the sustainability paradigm shift in business education. One respondent felt this attitude was also evident amongst academic staff who teach in the business programs, who given their conservative business backgrounds support the dominance of the economic growth paradigm ahead of sustainability. Other barriers identified in the study focused on resource constraints, complex teaching environments, lack of knowledge of sustainability amongst academics, academic independence and difficulty experienced by first year students. Resource constraints not only included limited faculty budgets, but already crowded curriculums delivered over short teaching sessions with insufficient space to teach new ideas.

A recurring theme was the significant pressure placed on academic staff by an increasingly complex teaching environment with large numbers of international students who bring a different cultural understanding of sustainability issues; as well as the need to continually introduce new teaching and learning innovations to improve the learning experience for the large number of off campus students studying business. Academic staff members responsible for teaching intermediate and advanced units require knowledge as to how to embed sustainability in units for which they are responsible. This knowledge in some cases is insufficient and given the level of freedom provided to academics to develop courses for which they are responsible, it is unlikely substantial change towards sustainability will be made without some form of managerial coercion, incentive or epiphanal change.

A further barrier identified was first year students, many of whom are already struggling with university studies may find it difficult to deal conceptually and philosophically with the sustainability paradigm. Given they do yet fully understand the theory of conventional business it may be too

difficult to critique the mainstream paradigm and comprehend the alternative sustainability agenda. Although there are significant barriers to overcome to enable the sustainability paradigm shift in business education, respondents in this research identified some opportunities presented by this challenge. Recognising the transdisciplinary nature of sustainability they felt there is a need for co-operation across the various university faculties to address the economic, environmental and social aspects of sustainability, and that preferably this process needed to grow organically amongst academic staff rather than being a directive from higher management. Such interaction could be encouraged by building platforms within the university which facilitate cross faculty collaboration on multidisciplinary teaching and research projects. As a regional university with a strong local presence one respondent suggested the sustainability challenge provides the opportunity to connect with the regional community and specifically the local growing green business movement. Connecting students to more sustainable business practice may provide the inspiration needed to further engage their interest.

A limitation of this research is that the small number of academic staff interviewed are predominantly engaged teaching first-year students. Given that the barriers identified include resource allocation, university management need to be interviewed to determine their support for the paradigm shift. Further, if sustainability is to be embedded throughout business program, academics of advanced subjects need to be included in the next stage of the research. Their attitudes towards and knowledge of sustainability is a critical success factor in the transition to the sustainable business paradigm. A further limitation of this research is the focus on changes to curriculum and teacher objectives rather than learning outcomes - a difference crucial in education (Ryan 2005). Further research is needed to determine if the course provides students with the opportunity to acquire generic skills for sustainability as articulated by ARIES (Tilbury, Crawley & Berry 2004) and to meet the future needs of business and industry in sustainability, as this goes to the heart of the paradigm shift.

6. CONCLUSION

This is the first study in Australia to profile education about and for sustainability in first-year Bachelor of Business course curriculum. Our interim results show a clear preference for the majority of subject and course coordinators to conceptualise learning about sustainability in higher education as a dynamic and complex systems management process, rather than specified content which conforms to the environmental, social and economic dimensions of sustainability. Teaching academics exhibit a strong sense of respect for the concept of sustainability. However, in terms of the actual business curriculum, respondents indicated that sustainability was underrepresented. This became even more evident in an independent content analysis of study materials and curriculum.

This gap between many subject coordinators' strong sustainability beliefs and their actions to translate this into the curriculum is of some concern. The limited take-up of sustainability in the undergraduate business curriculum suggests we are failing to prepare our graduates for the inevitable and, potentially imminent, shift to a sustainable future. Further, given considerable diversity in responses to the importance of sustainability to first year subjects and a feeling that sustainability is separate to business the challenge of shifting to a new sustainable business paradigm is significant. Overall, while the sustainability paradigm shift is acknowledged by the first-year academics with leading roles in teaching and most aspire to higher-order conceptualisations of sustainability, the reality in terms of current curriculum design is lagging.

To progress the uptake of sustainability in business schools, the impediments to achieving EfS identified in this study and by others (e.g. McKeown 2002) need to be understood and addressed. Our initial results suggest that curriculum crowding and perceived difficulty (or lack of knowledge) in appropriately conceptualising sustainability in introductory subjects account for the 'considered omission' of education for sustainability in first-year subject curricula. Further, skepticism prevails amongst some students and staff with regard to the relevance of exploring within a business program the broader political, social, cultural and environmental context in which business takes place. As observed by Stephen Chen (Macquarie University 2009), business students tend to prefer a results-oriented teaching style to a discursive, philosophical mode of enquiry. This reinforces the need to have a strong rationale for sustainability curriculum design within business programs and a willingness to continually explain and justify this rationale. Such justification as well as 'fitting' teaching and curriculum within a university's 'sustainable operating system', as envisaged by Blackburn (2007), would help reduce the gap between academics' beliefs (ideal curriculum) and their actions (actual curriculum).

This audit of current EfS curriculum and assessments in first-year BBus subjects is important for generating much needed knowledge and understanding regarding current EfS practices in business curriculum and assessment. It provides a starting point for sustainability-oriented curriculum renewal within this university. At a minimum, the initial audit of first-year subjects will serve as a useful repository of EfS practices on which academics can draw in framing future curriculum and assessments. The exercise would then be extended through a future project to an audit of sustainability content and assessment to the entire undergraduate business program and, potentially, the MBA program at the University and at one or more partner institutions. This wider project would also develop a model of best-practice for embedding sustainability into business higher education pedagogy, which could then be expanded to other disciplines (e.g. arts, engineering, science, education).

Table 1. Summary of key quantitative findings

Question	N = 9	Scale	Interviews		Content analysis	
			Mean	Range	Mean	Range
2(a)	Conceptualisation consistent with academics beliefs	5 points – based on 5 levels of ALTC sustainability conceptualisation	4.3	3 to 5	-	-
2(b)	Conceptualisation featured in the subject taught		3.2	.5 to 4.5	2.4	0.5 to 4
3(a)	Importance to subject	10 points – 0 = not at all to 10 = extremely so	5.2	0 to 9.5		
3(b)	Importance perceived by teaching team		3.9	0 to 9.5		
3(c)	Importance perceived by students		3.3	0 to 5		

APPENDICES

In-depth interview Guide: Subject Assessors

INTRODUCTION: Thank you for meeting with me today. As you are aware, this project is about exploring **how ‘sustainability’ is incorporated into 1st year BBus subjects in both the business and tourism schools.** [Remind about signing informed consent form if not yet done]

QUESTIONS (AND PROMPTS)

Warm-up

1. C
Can you tell me a little bit about how you came to be teaching /UA for this subject [give name of subject]?
2. a
a. How long have you been involved in teaching (or been UA for) this subject?

b. How many people belong to the academic team teaching or marking this subject?

Conception of sustainability

3. W
What does ‘sustainability’ mean to you?
4. T
Here are **five conceptualisations of sustainability in higher education** as per the Australian Learning & Teaching Council (ALTC) [show respondent card with options]:
 1. Sustainability is limited to the idea of ‘keeping self or business going’.
 2. Sustainability is understood in terms of the environmental domain of sustainability.
 3. The three broad domains of economic, social and environmental are discerned and generational responsibility is acknowledged.
 4. Sustainability goes beyond the three domains, critically recognising the relevance of external authorities, societal rules and organisational agendas.
 5. Sustainability is a complex process of adaptive management and systems thinking across disciplines and sub-disciplines. It calls for a critically reflective theorisation of the concept, which recognises its evolution in the public discourse, its controversial nature and its location within certain theoretical and disciplinary paradigms.
 - a. Which conception is most consistent with your **own beliefs**? Why?
 - b. Which conception is most consistent with how sustainability is featured in the **subject**? [Tell UA that there are more specific questions on this later.]
5. a
How central/**important** would you say sustainability – in its broad sense – is **to this subject**? [Ask for response on scale from 0 to 10, with 5 indicating a moderate degree of agreement and explain answers.]

<i>Not at all</i>											<i>Extremely so</i>										
0	1	2	3	4	5	6	7	8	9	10											

(For Subjects where Sustainability is not a big focus, this may limit further questioning, but important to go ahead)

- b. Would you say your **teaching team also shares your view** (about importance of sustainability to this subject)? [Do not probe too much.]
- c. Further, how important do you think sustainability is **to business [tourism] students** in their business degrees overall? [Ask for response on 0-11 scale.] Why?

Teaching for sustainability

6.

ave you heard of the terms ‘**education about**’ and ‘**education for**’ sustainability? What do they mean to you? Do you see any difference in the terms?

H
7.

ow do you approach **sustainability** in the **context of your teaching and curriculum design**, i.e.
 - 1. do you see them as *separate* - teaching and sustainability are two completely unrelated areas?
 - 2. do they *overlap* – specific ideas, such as environmental sustainability or green consumerism, are incorporated in your teaching?.
 - 3. are they *integrated* – sustainability in all its guises is an essential component of your teaching?

H
8.

How are issues of sustainability featured in various components of your **subject curriculum**, i.e.
 - a. in aims & objectives?
 - b. in graduate attributes?
 - c. in syllabus, text/readings
 - d. in assessment – is there an opportunity for students to address issues of sustainability within assessments?
 - e. Other, e.g. extra-curricular and student-initiated activities, field trips, guest speakers?[Accompany the UA through the UIG page-by-page.]
9.

high **discipline-specific sustainability topics** are covered in your subject? (Refer to generic and discipline-specific lists and ask UA to add any others that are covered in the subject.)

W
10.

hinking about your **students** now. To what extent do they acquire the following generic **skills for sustainability** (as per the Australian Research Institute for Education in Sustainability, ARIES) in your subject [Show UA respondent card with options. Ask UA to rate using 0-10 scale and explain answers.]

T

<i>Not at all</i>					<i>Extremely so</i>					
0	1	2	3	4	5	6	7	8	9	10

- a. **Futures thinking** (being active in envisioning a preferred future)? ____
- b. **Critical thinking and reflection** (becoming actively conscious of and critically questioning assumptions in the mental models that have traditionally guided our thinking and action, and recognising bias and interests behind institutions, governments, media, etc)? ____
- c. **Participating** (being self-reliant and self-organised; being able to recognise the rights of others to participate; being confident to participate in groups, particularly those that are marginalised)? ____
- d. **Partnering** (creating synergies; bringing together different individuals or groups with diverse knowledge and skills to build collective knowledge)? ____
- e. **Systemic thinking** (an innovative approach to looking at the world and issues of sustainability in a broader, more relational way; resisting the tendency to simplify problems and solutions; accepting uncertainty and ambiguity)? ____
- f. **Actioning** (being able to motivate and manage change)? ____
- g. **Practical problem-solving and managing a project**? ____

11.

D

o you think this subject is effectively educating students in sustainability to meet the **future needs of business and industry** in sustainability?. [Ask UA to rate using 0-10 scale and explain answer.]

<i>Not at all</i>	<i>Extremely so</i>
0 1 2 3 4 5 6 7 8 9 10	

Looking ahead

12.

W

hat **barriers and challenges** do you think there are for incorporating sustainability (or EfS) in the business curriculum? Or for you as a teacher trying to incorporate sustainability?

13.

F

inally, are there any **opportunities** for enhancing education about and for sustainability in the subject? In the degree overall? [Explore the UAs recommendations.]

Do you have any final thoughts or comments?

THANK THE PARTICPANT!

REMIND OF CONFIDENTIALITY, ANONYMITY AND CHANCE TO READ
TRANSCRIPT

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