**Education for the 'constellation of fragility': The role of Higher education in preparing graduates for an uncertain future.**

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## Abstract

In recent years, there has been a concerted focus on graduating students who are globally responsible and possess intercultural competence. Although definitions and opinions vary as to what constitutes global responsibility, it is generally agreed that students need to be aware of the social, cultural, environmental and economic factors which will impact on, and be impacted by the decisions they make. In other words, students must focus not only on the 'triple', but also the 'quadruple bottom line'. This paper will discuss, through the use of case studies, how four courses offered in a Business School at a metropolitan Australian university address issues of sustainability and prepare graduates for the future. Interviews undertaken with lecturers of these courses, in addition to responses to surveys completed by students enrolled in the courses will provide an insight into how issues of global responsibility are being addressed, and the effect of the courses on students enrolled in the courses. It will be illustrated that by engaging students in 'transformative' learning, students are encouraged to become personally (emotionally) involved in their learning, and that this enables them to enhance their critical thinking and reflection skills, which are necessary for future employment.

"It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change."
Charles Darwin, Naturalist and Author - "The Origin of Species"

## Introduction

Today's world is characterised by increased global mobility, rapid development and social change. This means that today's graduates need to be prepared for a workplace in which there are no prescribed solutions to problems faced on a day to day basis. Today's graduates must consider a range of social, cultural and environmental issues when making choices both in their personal and professional lives in shifting and slippery spaces. Graduates will face frequent ethical dilemmas when trying to make informed decisions in their professional lives. The education system has a responsibility to ensure that graduates are adequately prepared for this type of workplace environment. Barnett argues that today, at the apex of the transition from modernity to post-modernity, where 'the university' finds itself balancing precariously between its traditional role as the stalwart custodian of 'knowledge' and its newly found role as provider of education for the masses, students will find themselves entering a world characterised by changeability, contestability, uncertainty, turbulence, insecurity and risk- in short students will be faced by a world characterised by a 'constellation of fragility' (Barnett, 1998, p. 48). Teaching students in this environment can no longer simply be about the transmission of knowledge to students, but needs to focus on equipping students with the tools required to make sense of the knowledges and realities around them. The focus needs to be more on concepts and processes as well as critical analysis. This may be frustrating for those who want the 'one correct answer-the truth' or want to set multiple-choice items in exams which focus on memorisation.

In recent years, there has been a concerted focus on graduating students who are globally responsible and possess intercultural competence. Although definitions and opinions vary as to what constitutes 'global responsibility', it is generally agreed that students need to be aware of the social, cultural, environmental and economic factors which will both impact on, and be impacted by the decisions they make. In other words, students must focus not only on the 'triple bottom line' but on the 'quadruple bottom line'. This paper will discuss, through the use of case studies, how four courses/subjects offered in the Business School of a Queensland metropolitan

university address issues of sustainability and preparing future graduates. Two data sources are used. First, interviews were undertaken with lecturers teaching the four courses that comprise the case study. Second, responses to surveys completed by students enrolled in the courses will provide an insight into how issues of global responsibility are being addressed, and the effect of the courses on enrolled students. It will be illustrated that by engaging students in 'transformative' learning, students are encouraged to become personally (emotionally) involved in their learning, and that this enables them to enhance their critical thinking and reflection skills, which are necessary for future employment.

## Educating for the Future- the Emergence of the Globally Responsible Citizen

Increasingly, graduates need preparation for studying, living and working in a global environment characterised by diversity and change. Discussions about the implications of globalisation and the internationalisation of the tertiary education sector focus on the need for a society of 'global citizens'. The concept of global citizenship is widely contested and many frameworks have been proposed (Bowden, 2003; Ibrahim, 2005; Muetzelfeldt & Smith, 2002; Roman, 2003). In its broadest terms, global citizenship can refer to universal citizenship and universal human rights (Roche, 2002), and more specifically it can refer to the possession of knowledge, skills and values required to thrive in a world characterised by rapid social, cultural, environmental change and development (Ibrahim, 2005; Tarrant & Sessions, 2008). Views of global citizenship from an economic perspective focus on international trade, global competitiveness and the flow of goods, services and human capital. In a more person-centred conceptualisation, global citizenship can be seen as encompassing civil global responsibility and the ethics of ensuring equity and social justice for the global community (Falk, 1993; Roman, 2003).

Due to the contested nature of the term 'global citizenship', for the purposes of this paper, the term 'globally responsible citizenship' will be utilised. The term encompasses the need to be aware of and respect important social, cultural, political and economic differences in the world. It is linked to the concept of triple bottom line reporting (Elkington, 1994) which is increasingly being adopted by business organisations around the world, in recognition of the need to build business

frameworks, where people and planet are important, not only profit (Laff, 2009). The 'quadruple' bottom line can refer to a combination of economic, ecological, environmental, social, cultural, legal-ethical, political and spiritual responsibility, depending on the viewpoint taken (Dalziel, Matunga, & Saunders, 2006; Inayatullah, 2005; Lumsden, 2003). In the university setting, globally responsible citizenship is achieved through an interactive process whereby students and staff from different socio-cultural backgrounds exchange knowledge, skills, attitudes and experiences so as to enhance their understanding and appreciation of, and capacity to operate successfully within local, national and international communities (Brownlie, 2001; Bryant, 2006; Edwards, Crosling, Petrovic-Lazarovic, & O'Neill, 2003; Edwards, Crosling, . Petrovic-Lazarovic, O' Neill, 2003; Tarrant & Sessions, 2008).

**Teaching for Sustainability**

The focus on sustainability within the tertiary education sector has become particularly concerted since 2003, with the declaration of the United Nations Decade of Education for Sustainable Development (Haigh, 2005). Increasingly it has been recognised that focusing on sustainable development is necessary within all faculties and discipline areas throughout the university, and that it can no longer be limited to the traditional environment-related disciplines (Haigh, 2005; Marshall & Harry, 2005). Universities are recognised as a key medium through which sustainability values and practices can be promoted and teaching for sustainability is recognised as one of the most important ways in which students can be made aware of their responsibilities as global citizens.

Sheeran (2006) draws on the work of the *University Leaders for a Sustainable Future* and argues that sustainable activities, and hence sustainability teaching, must be based on principles which are 'ecologically sound, socially just, economically viable and humane.' Universities must become models of sustainability through their praxis. The United Nations is leading the way in promoting education for sustainability, particularly through the Global Compact, which emphasises the need to focus on sustainability and responsible business practices.

A number of organisations have also taken on sustainability as a core value and goal, and are currently focusing strongly on promoting sustainable business practices and education in the tertiary sector. For example, the Globally Responsible Leadership

Initiative (GRLI), an international initiative which brings together companies, business schools and centres for leadership around the world in a working partnership. The GRLI focuses on the need to shift away from the current capitalist focus on profit margins towards the need to guarantee the 'common good' and provides an opportunity for stakeholders to work together to develop globally responsible graduates and employees. Additionally, and of particular relevance in the Australian context, the Asia Pacific Academy of Business in Society (APABIS) provides opportunities for business, education providers (public and private), governments and the not-for-profit sector to work together towards establishing and maintaining sustainability in business practices.

Teaching for sustainability implies that students not only learn *about* sustainability, but are educated to *think in a sustainable way* (Barrett, 2006). University teaching must embrace 'sustainable literacy', whereby students are empowered to actively engage with the social, environmental and economic aspects of sustainability (Murray & Murray, 2007). Education for sustainable development has been identified as having a responsibility:

> '…not only to acquire and generate knowledge, but also to reflect on the further effects and the complexity of behaviour and decisions in a future-oriented and global perspective of responsibility.' (Barth, Godemann, Rieckmann, & Stoltenberg, 2007)

Sustainability can be viewed as a concept, a goal and a strategy that must be supported and promoted by universities, in recognition of the important leadership role they play in the movement for change to achieve a more sustainable future:

> 'The concept speaks to the reconciliation of social justice, ecological integrity and the well-being of all living systems on the planet. The goal is to create an ecologically and socially just world within the means of nature without compromising future generations. Sustainability also refers to the process or strategy of moving towards a sustainable future.' (Moore, 2005a)

Teaching for sustainability requires a move away from the 'traditional' curriculum, with its focus on epistemology, towards 'emerging' curricula, which encompass three domains - knowledge, action and self (Barnett, Parry and Coate, (2001). Learning for globally responsible citizenship calls for an ontological focus, that engages students as whole persons and develops 'critical thinking for critical being' (Barnett, 1997). Research has indicated that there exists a 'learning gap' between what people are

taught about sustainability and how this actually impacts on their practices (Fenwick & Bierema, 2008). The importance of empowering students to *implement* the values that they learn about has been highlighted in particular by the Aspen Institute, through their 'Giving Voice to Values' (GVV) curriculum. The aim of the GVV curriculum is to make students aware of what constitutes ethically sound behaviour, and to provide them with the tools to put their values and beliefs into practice. This approach to learning is commonly known as 'transformative learning'.

**Transformative Learning for Globally Responsible Citizenship**

The term 'transformative learning' originated with Mezirow's seminal publications of the late 1970s (Mezirow, 1978). Mezirow was strongly influenced by the works of prominent sociologists, including Thomas Kuhn and Jürgen Habermas, in the development of his theory of transformative learning (Kitchenham, 2008). Since its inception, the term has been developed and is seen in various guises, including 'transformational learning'(Clark, 1993; Clark & Wilson, 1991; Merriam, 2004) and 'transformation theory' (Mezirow, 1994). Most recently, however, the term 'transformative learning has emerged (Mezirow, 1997, 2003).

Transformative learning is learning which effects a change in a frame of reference or in a person's 'habit of mind' (Cunningham, 1998; Mezirow, 1997; Moore, 2005a). In emphasising changes in *individual* values, beliefs and behaviours, Mezirow differs from other approaches to emancipatory education, such as Freire's, which emphasise collective action (Hanson, 2010, p. 76)The aim of transformative learning is to enable learners to move towards a frame of reference that is 'more inclusive, discriminating, self- reflective and integrative of experience' (Mezirow, 1997). Mezirow states that a 'defining condition of being human is that we have to understand the meaning of our experience': students must not only understand the meaning of their experiences, but also the *underlying assumptions* that inform those experiences. Students should be challenged to question the values, beliefs and rationales that underlie the decisions they make. Transformations in a frame of reference happen through a process of critical reflection upon the assumptions on which our points of view, values and beliefs are based. By being empowered to shape the frame of reference which will guide their future careers, students become key players in shaping what it means to be a professional in their chosen careers.

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As alluded to above, transformative learning can also hold a *social function*, in that it contributes towards the creation of a more egalitarian society, achieved by the preparation of graduates who are more socially and culturally aware. Cunningham poses a significant question when she asks: *'Do we educate participants to perform in the workplace or do we educate participants for engagement in constructing a more democratic and egalitarian society?'* (Cunningham, 1998). We argue that a balance can be struck between the two issues which Cunningham identifies as alternatives; i.e. it is possible to educate students who both function effectively in the workplace, and who also contribute towards an egalitarian society. Transformative learning, in this conceptualisation, is central to the development of graduates who are not only ready for local and global workplaces, but also graduates who are aware of their social and environmental responsibilities.

The use of transformative learning in the discussion of issues of sustainability and globally responsible citizenship has many benefits. Employers, universities and governments seek to instil a number of key competencies in graduates, including team work, problem solving and cultural understandings. The rationale behind developing graduates with these key competencies is summated by Mezirow:

> "The essential learning required to prepare a productive and responsible worker for the twenty-first century must empower the individual to think as an autonomous agent in a collaborative context rather than to uncritically act on the received ideas and judgements of others." (Mezirow, 1997)

## The Study: Sustainability and Globally Responsible Citizenship in Practice

The discussion below will outline four case studies from a business faculty, within a large metropolitan Australian university (hereafter referred to as the Business School) and how these courses attempt to use transformative learning strategies to enable students to develop the required knowledge, skills and attitudes for living as 'globally responsible citizens'. The discussion will also focus on how transformative learning is embodied in assessment items in the courses. The first section will provide a discussion on how sustainability and global citizenship are currently defined by the university, and in the Business School in particular. Next, a brief discussion will be provided on the course content for the four courses which made up part of this study.

Finally, a discussion of how the lecturers in each of these courses promote globally responsible citizenship will be provided.

**Background**

Sustainability and global citizenship are major areas of focus in the university used in the case study. The Mission Statement highlights the important emphasis placed on sustainability and globally responsible citizenship, and values in particular the university's role in contributing to a robust, equitable and environmentally sustainable society; and tolerance and understanding of diversity in society.

The Graduate Statement also highlights this strong focus on sustainability, and includes a commitment to developing graduates who are 'Socially Responsible and Engaged in Their Communities'. This includes a commitment to ensuring that graduates possess an understanding of their social and civic responsibilities and the need to focus on human rights and sustainability. Graduates will also be 'Competent in Culturally Diverse and International Environments', respecting other peoples and cultures, and being aware of the skills to operate effectively in culturally diverse environments. As part of the University's Learning and Teaching principles, a commitment is made to providing learning experiences that develop 'inter-culturally capable graduates who can make a difference as socially and ethically responsible global citizens'. The Learning and Teaching Principles also include a commitment to 'value and recognise individual and cultural diversity through the provision of an inclusive context of support and respect for all students.'

The Business School has a strong focus on sustainability and values responsible leadership, sustainable business practices, and a global orientation. The mission of the Business School indicates that it seeks to excel as a provider of high quality, cross-disciplinary and internationally relevant business and public policy education, and in particular will focus on promoting sustainable enterprises and communities.

**Methodology**

A qualitative study of two undergraduate and two post-graduate courses (subjects) was conducted. Two undergraduate (*Ecotourism* and *Tourism Planning and Development*) and two postgraduate courses (*Sustainable Event Management* and

*Strategic Management in Tourism, Event and Sport.)* were chosen because of their strong emphasis on sustainability.

Interviews undertaken with course convenors aimed to discover the extent to which sustainability and global citizenship knowledges (cognitive), values (affective) and practices (behavioural) were integrated into their courses, and how this was achieved. In addition, students from one undergraduate (*Ecotourism*) and one postgraduate course (*Sustainable Event Management*) were invited to complete short questionnaires. Students who participated in the research project were asked questions centring on globally responsible citizenship, sustainability and how the learning environment had led to personal changes. Surveys were distributed during scheduled class time by a member of the research team who was available to answer student queries while they completed the surveys. Demographic data from surveys was entered in SPSS for analysis, while qualitative responses were analysed using NVivo data analysis software.

A total of 56 students completed the survey. Respondents ranged in age from 20 to 42, with a mean age of 24.5. Females accounted for 74.7% (n=41) of the sample, with males accounting for the remaining 25.3% (n= 15). Chinese students accounted for 30% (n=17) of the sample, with Australian students accounting for 16% (n= 9). Students from over 17 countries were represented, including Thailand, Taiwan, South Korea, Finland and Ecuador.

**Findings**

Findings from the interviews and surveys indicated that many students enrolled in the courses experiences personal transformations as a result of participation in the courses. From the perspective of the teaching staff, all but one lecturer stated that they felt their course did impact on students cognitively, affectively and behaviourally. One lecturer spoke in particular about the need to focus on how education can help students develop sustainability-conscious values:

> *"A lot of what I talk to the students about does relate to their own personal development and awarenesses and value systems....and I really feel that it's essential for the individuals to find themselves-values, their priorities- so that will influence how they approach what*

*they will do in their employment later on, and this is feeding into that*
*thing the greater good, or the common good."* (Respondent 1)

This comment is reminiscent of Mezirow's conceptualisation of 'communicative' learning, which he opposes to 'instrumental' learning (Mezirow, 2003). With the latter, students are required to determine if something is 'true' or 'false', whereas with the former students to go beyond this to judge if something is ethically or morally 'right' or 'wrong'. Communicative learning emphasises critical reflection and self-reflection and includes discussion of not only facts, but feelings, beliefs and values.

Students were asked a number of questions in relation to personal and professional changes they underwent as a result of participation in the courses examined. Data analysis carried out using NVivo software on the student surveys indicated that students enrolled in both courses felt that they had undergone significant personal changes in relation to their attitudes and behaviours toward environmental sustainability, but less so in other areas of sustainability, such as in the social, cultural and political spheres. Students highlighted practical ways in which their behaviours had changed, including decreasing usage of water and electricity, and switching to recyclable or bio-degradable products. Table 1 shows the 15 most frequently occurring words in relation to 'personal changes' in both cohorts combined.

**Table 1: Word Frequency Count- Personal Changes**

| Word | Count | Percentage (%) |
|---|---|---|
| more | 44 | 3.57 |
| environment | 38 | 3.08 |
| about | 25 | 2.03 |
| global | 22 | 1.78 |
| friendly | 21 | 1.70 |
| aware | 20 | 1.62 |
| water | 20 | 1.62 |
| ecotourism | 18 | 1.46 |
| environmentally | 18 | 1.46 |
| knowledge | 18 | 1.46 |
| environmental | 17 | 1.38 |
| energy | 16 | 1.30 |
| sustainability | 16 | 1.30 |
| sustainable | 15 | 1.22 |
| save | 14 | 1.13 |

As indicated in Table 1, discounting common words, such as 'more' and 'about', the majority of words centred on 'sustainable' (2.52%) and its derivatives or 'environment' and its derivitaves (5.92%). Some students did mention that they had a more 'global' (1.78%) perspective, however, none of the responses included reference to 'social', 'cultural' or 'economic' issues.

The data seems to indicate that students equate sustainability with environmental sustainability, rather than a broader focus encompassing social, cultural and economic sustainability.. This mirrors findings from previous research, such as that of Kawaga, who found that although there was a broad consensus among students that sustainability was 'a good thing' their views on what was included in 'sustainability' as a concept were limited. Most students focused on the environmental, rather than social and economic aspects of sustainability and although they believed that they were committed to sustainability practices most were only involved in what Kawaga describes as 'light green' activities (Kagawa, 2007) Similarly, a study undertaken at the Faculty of Education at Griffith University found that although student were keen to focus on sustainability, awareness of sustainability specifically in the social, cultural and economic spheres was at best superficial (Stir, 2006). The discussion below of student responses to questions centred on 'global citizenship' indicate that students are aware of the various social, cultural, economic and environmental issues which need to be considered and addressed in today's world. This may indicate that the lack of focus on these domains in the discussion of 'sustainability' is due to the lack of association made between the two terms- sustainability and global citizenship. This is an issue which may require further examination in the context of the provision of education for sustainability to University students.

Students were asked about how their course helped prepare them for a global workplace as 'global citizens'. Students surveyed recognised that globally responsible citizenship consists of being both aware of environmental issues, in addition to social cultural and economic concerns. Students recognised the importance of seeing things from an international perspective, being aware of current worldwide issues and the global environment. They also demonstrated an understanding of the need for cultural awareness and the ability to adapt to work in multicultural environments. Students frequently mentioned the important role of local communities, indicating that they had

become more aware of the need to focus not only on the global, but also the local aspects of development. Table 2 below includes the 15 most frequently occurring words in response to a question which asked students about characteristics of a global citizen:

**Table 2: Global Citizenship Characteristics**

| Word | Count | Percentage (%) |
|---|---|---|
| friendly | 11 | 3.00 |
| environment | 10 | 2.72 |
| environmentally | 9 | 2.45 |
| knowledge | 9 | 2.45 |
| about | 8 | 2.18 |
| aware | 7 | 1.91 |
| cultures | 7 | 1.91 |
| global | 7 | 1.91 |
| issues | 7 | 1.91 |
| other | 6 | 1.63 |
| environmental | 5 | 1.36 |
| knowledgable | 5 | 1.36 |
| sustainability | 5 | 1.36 |
| sustainable | 5 | 1.36 |
| cultural | 4 | 1.09 |

As with Table 1, many students focused on the environment and sustainability. However, culture and its derivatives (3%) was also included as one of the most frequently occurring words, as was global (1.91%), indicating that students did have an awareness of the various issues which need to be addressed in relation to global citizenship. The sample of responses below highlights the range of issues which students focused on in the surveys.

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**Figure 1: Sample responses to 'global citizenship' characteristics question**

> *Open mind to accept different ways to protect environment*
> *Importance of conservation to sustain business*
> *Knowledge about global economic and social trends*
> *Meet needs of social change in global workplaces*
> *Aware of respecting communities and cultural heritage*
> *Cultural diversity*
> *Patient and understanding of different cultures*
> *Understand and respect cultural diversity*
> *Believes and takes part in sustainable practices*
> *Care about global environment sacrifice personal convenience*
> *Deliver message to broader audience while following good behaviour*

Significantly, in each of these courses, assessment was designed to foster transformative learning. Innovative strategies were utilised by all lecturers involved in the study to ensure that students were not only personally involved in their learning, but that the assessment items were relevant for their future careers. The use of such assessment items, which include experiential learning or work-integrated learning (WIL) components, is integral to ensuring that students engage with their learning and have opportunities to put into practice the knowledges, values and ethical standpoints they learn about in the classroom. The case studies below highlight how transformational learning was achieved through experiential learning:

**Case Study 1: Ecotourism**

In this course students were required to conduct an environmental assessment of an actual Ecotourism venture. This assessment item required students to go out 'in the field' and experience the venture that they were assessing. Students were expected to conduct the assessment in a professional manner and make recommendations for how the venture could be improved in terms of sustainability (social, economic, environmental or cultural). The lecturer for this course felt that the assessment item helped students 'connect' with the real world:

> *"We talk about student engagement all the time...but for me I prefer the word connect- rather than engaging students you need to demonstrate how they can connect with issues... things that are likely to be important to them personally and in the future business world."*

The concept of 'connecting' is central to transforming students. Students need to feel that what they are doing is personally relevant and important for their future lives, both personally and professionally.

**Case Study 2: Sustainable Event Management**

In this course, students were required to develop a hypothetical sustainability-conscious event, which took into account marketing, promotion and sponsorship considerations. Responses from students enrolled in this course indicated that they were personally changed as a result of the course. One respondent stated that one benefit of the course was '*understanding sustainability in a deeper way*', while another respondent stated '*I can think more critically when evaluating events*'. Developing critical thinking skills and gaining a deeper understanding of the subject matter of the course is of critical importance in the desire to transform the way students think about sustainability and develop as globally responsible citizens.

Not only did the courses improve critical thinking skills, and 'deep learning', but responses by students indicated that the course also impacted on them in their personal lives, and on their relationships with others. Comments on surveys indicated that students felt passionate about the subject matter or content, to the extent that they strived to make others more knowledgeable and change other peoples' behaviours, as the quotes below illustrate:

> '*I want to make other people aware of sustainable practices*'
> '*Influence family and friends*'
> '*Introduce sustainability to workmates*'
> '*Be a good citizen by influencing more people at work or through events*'

One lecturer stated it is imperative that students believe in and practice what they are taught if they are to have an influence on the wider community - something which is of critical importance for the future promotion of the sustainability agenda:

> *"What we are trying to achieve is the greatest good for the greatest number... we're trying to make the world a better place...and also for them themselves to think about their own value systems... because if they're going to be effective in terms of trying to convince other people in terms of more sustainable ways to go about their business and their*

*lives they do also have to believe the stuff....they've got to be given an opportunity to examine their own values and perspectives".* (Respondent 1)

The idea of life-long learning, and the long term impacts of education on students is also relevant here, and the research indicated that students were indeed influenced by their learning after completion of their course, as one lecturer outlines:

> *"I know just one student...she's hoping to actually build an Ecotourism adventure company when she finishes the program...she's told me that she's actually seeing things quite differently now, so when she goes and tries to open her own business with an Ecotourism focus she's more aware [about] the people they're hoping to bring in... what it means to them as tourists, the locals, the business people, the residents and the communities, and the political powers... I felt I was actually making some difference and making her aware, and think about 'oh, this is what I want to do when I finish and yeah, this actually has some relevance"* (Respondent 2)

Evidence such as this which highlights the impact on some students enrolled in the course bodes well for the future of the sustainability agenda.

## Implications for Teaching for Sustainability

The evidence suggests that some level of transformative learning is occurring in these courses. Fostering transformation however is not an easy task. Outlined below are a number of factors which need to be in place for transformative learning to occur.

## Committed Teachers

Findings from the research indicate that the lecturers involved in teaching these courses are very committed to ensuring that students are prepared for a global workplace, as highlighted in this comment by one of the respondents:

> *"The idea of sustainability- I like to make the point that it's not really an option, it's an imperative. It's not something that's a fad or a trend- it's absolutely essential, it's critical for human survival but it's critical from a deeper ecological perspective."* (Respondent 1)

Respondents consistently referred to the need for sustainability and focused on its multidimensional nature. The notion of the 'triple bottom line' (i.e. the need to focus not only on profit, but on planet and people) was raised by a number of respondents, indicating an awareness of the need to not only focus on environmental sustainability,

but also on economic issues and '*people and communities and society*'. Additionally, one respondent stated that they focused on the 'quadruple bottom line':

> "*I guess I do focus on this triple bottom line, or even quadruple bottom line of sustainability...I mean there are ... a whole range of multiple components associated with sustainability*" (Respondent 1)

Most respondents felt that sustainability did have a place among the attributes of a 'global citizen' and that the two concepts could not be separated. One respondent expressed the opinion that in order for students to be successful in the course it was necessary to focus on both global citizenship and sustainability:

> "*... the whole notion to me is very much the universal human value: do the right thing by other human beings, by the environment we live in- they're very interrelated.*" (Respondent 2)

In order to ensure that students undergo transformations it is imperative that their mentors believe in what they are teaching and 'practice what they preach.'

**Experiential Learning**

An examination of the types of learning activities and assessment items utilised in these courses provides an indication of how students can be transformed through teaching. Both of the courses in which students were surveyed utilised a form of 'experiential learning'. Experiential learning encompasses all learning activities in which students are personally involved in real life projects. This was achieved in the courses examined involved in this study through the use of innovative and interesting approaches to assessment whereby students were involved in sustainability relevant enterprises.

It has been argued that experiential learning is strongly linked to self-efficacy and that by involving students in projects and activities which exceed their perceived capabilities students' self-efficacy and hence their capacity for critical thinking and decision making are increased (McCarthy & McCarthy, 2006). Not only did the courses involved in this study enable students to learn more about sustainability, but they also enabled students to become personally involved in their learning.

**Development of Critical Thinking Skills**

Each of the lecturers involved in the research indicated that they used activities that encouraged students to utilise their critical thinking skills. This was achieved through the use of real life case studies which students were required to critically reflect on. Students were also required to undertake self-reflection in relation to the issues discussed in the course. Respondents stated that the use of real-life examples and student discussion of their own personal experiences helped make the concepts more real for students. The use of these types of learning activities follows Mezirow's (1997) model of transformative learning. In particular, Mezirow focuses on encouraging critically reflective thought in the classroom and the utilisation of interactive and participatory learning and teaching strategies, in which students are invited and encouraged to reflect on their own experiences and discuss with others the reasons for their points of view. Through these methods Mezirow believes that students can help each other to critically reflect on the values, and assumptions that inform their decisions and beliefs.

**Transforming Behaviours**

Transformative learning principles focus on the transformation of a person's frame of reference (Cunningham, 1998; Moore, 2005a). However, it moves beyond simply transforming how we think, to how this impacts on our behaviours. The lecturers interviewed as part of this study were asked about how their courses impacted on student behaviours and whether there was a noticeable change in behaviours as a result of participation in the course. Some very positive examples of how behaviours had been influenced in a positive way were provided, including the example above of one student who began to 'see things differently' in relation to how she would start an Ecotourism business. Another student, after completing his studies, returned to his home country to set up an ecotourism resort with his father. These early indications of changes to student behaviour beg further investigation through a longitudinal study – not only to look at the longer term impact of transformative learning on individual students, but also on their communities.

**Conclusion**

This research has demonstrated that it is possible to transform not only what students know, but how they think and what they do. Indications from the interviews regarding the cognitive, affective and behavioural changes that were seen in students as a result

of participation in these courses indicates that all of the courses at least involved some element of transformative learning. The use of assessment items in which students become personally involved, and in which real life issues were discussed and teased out helped move the learning experience beyond a simple transfer of knowledge towards a transformation in students' thoughts, beliefs and actions. The utilisation of such assessment items enabled students to develop their critical thinking skills and helped build their capacity for critical evaluation and decision making; skills which will be vital for success a future workplace characterised by uncertainty, risk, rapid development and change.

One issue which emerged through the research was that although students did undergo significant personal changes in terms of their focus on environmental sustainability, and although they were aware of the various attributes which would be important for 'global citizenship', their responses seemed to indicate that the two concepts were distinct from each other. Although it has been acknowledged that teaching for sustainability and global citizenship are strongly linked, it is important to ensure that students are aware of these important linkages and that they are made explicit to them. Additionally, it is recognised that the courses examined as part of this project provided best practice examples of courses dealing with issues of sustainability within the Business School. Hence, the results from this study, although promising, cannot be used as a fair representation of the knowledge and attitudes of students in the Business School, in general, with regard to sustainability and global citizenship.

We also recognise that although it is necessary to ensure that teaching strategies and practices move beyond a simple transfer of knowledge it is important to point out that this may not be an easy task. It is widely recognised that curricula are often crowded and that the introduction of additional requirements of academic staff is often met with resistance (Dawe, 2005). We argue that teaching for sustainability does not require the addition of new material, but rather a refocusing of how current material is taught. A new holistic view of education is required, whereby broader social, cultural, economic and environmental issues which impact on the day to day lives of all citizens of the world are incorporated into the teaching. This new approach will require that staff are provided with opportunities for participation in adequate and relevant professional development programs to develop these new teaching skills.

In order to ensure that students become globally responsible citizens, who possess an awareness and appreciation of the importance of sustainable development and who have the ability to cope with rapid social change it is vital to ensure that academic staff are on-board and possess the necessary skills to further the agenda. Further, it is imperative that all actors within the institution are committed and that a 'whole- of-University' approach is taken within the context of a mobile world influenced by rapid and often turbulent political, social, economic and environmental change. If this can be achieved then we will be well placed to ensure that our future workforce will be equipped to cope with, and even succeed in, a world symbolised by a 'constellation of fragility'.

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