

# Critical Reflections on Professional Education for the Environment

## Volume 2

BY

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## Foreword

The theme of my research is an investigation into theories and practices focussing on my own experiences and practice in professional environmental education and considerations of the roles that the development of an Australian land ethic or land ethics might play in reconciling my theories and practices. I wanted to explore the tensions between how I present professional environmental education, as experienced at the University of Ballarat, and what I consider could be professional environmental education. Volume 1 of the thesis is the dissertation and Volume 2 consists of three electives.

*Elective 1* is a vignette of the ‘state of the art’ of professional environmental education in Australian universities. From material collected from public information I conclude that many Australian environmental courses are technically and scientifically orientated and supportive of the dominant social paradigm.

*Elective 2* identifies the cultures experienced within higher education. I suggest that this culture is dominated by an increasing corporatisation of universities, which encourages vocationalisation of learning. This technical orientation impacts on perceptions of professional environmental education. I link this technical perspective dominating higher education to the difficulties experienced by environmental professionals in implementing environmental policy in current social and political contexts.

*Elective 3* explores the Ballarat community’s attempt to develop conservation strategies. Local perspectives were underpinned by a belief that environmental issues were technically orientated. I conclude that the approach taken to encourage an environmental sustainability ethos was inadequate from my perspective because it did not engage the community in debate about the political nature of local environmental issues.

The *Dissertation* (in Volume 1) explores my challenges to examine relationships among my own personal and professional theories and practices, challenging both. I investigate how Leopold’s *The Land Ethic* can be used to encourage a

critical, reflective discourse providing some orientation as I reconcile my theory and practice.

## **Undergraduate Environmental Courses in Australia: a critical review – Elective 1**

### **Abstract**

In this critical review of public information promoting Australian undergraduate environmental courses, I found an extensive range and diversity of both content and course structures. However, it is suspected that the term ‘environmental’ is used by many universities for course promotion purposes rather than any critical review of, or commitment to, an environmental ideology.

Australian environmental courses appear to promote a vocational orientation, and emphasise inter- or multi-disciplinary studies, fieldwork, and technical and generic skills. Some of these characteristics appear to be a response to external demands derived from an increasing public accountability of higher education. Evidence from this review suggests a widening dissonance between the vocational-technical orientations for professional environmental education and a professional environmental learning based in criticality<sup>1</sup> (Barnett 1997).

My aspiration for professional environmental education is to develop practitioners capable of examining the value of critical processes to achieve socially engaging courses of action such as those found in Petheram, Stephen & Gilmour (2002). I suggest that there are alternatives to the dominant current professional environmental education that may encourage an environmental citizenry (Orr 1992).

Many environmental courses reviewed lacked any explicitly stated environmental ideology. The current approach for tertiary environmental education emphasised graduate employability. This orientation promoted graduates as ‘changed agents’ rather than critical ‘agents of change’. The ‘changed agent’ approach maintains the conventions of a professional *status quo* in which graduate skills are aligned to current professional practice. Many courses appeared to encourage graduates to be trained to comply with, more than challenge, current professional environmental practice. This vocational or ‘changed agents’ model for

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<sup>1</sup> Criticality is according to Barnett (1997) a human disposition of engagement where it is recognised that the object of attention could be different.



professional environmental education appears at some distance from ideas expressed by some commentators on professional education (Barnett 1994, 1997; Bines 1992; Schön 1983, 1987), who embrace a more reflective and critical professional education.

In conclusion, this critical review develops a set of questions that could be used to critically examine curricula from the perspective of the courses' value to the environment as opposed to serving techocentric interests. These questions are aligned to my interest in developing a professional education that forms ethical partnerships with the land (see *Dissertation Volume 1*).

### **The need for a critical review of professional environmental learning courses.**

In an era of increasing public accountability in universities there is an apparent need for public processes encouraging evaluation. I propose this procedure is itself a valuable professional activity if it incorporates some self-reflection about current practice (see Schön 1983, 1987) to encourage critical theorising about one's own practice. Reflection and critical theorising are themes that underpin action research and action learning. Zuber-Skerritt (1993) in a presentation of the theoretical framework of action learning and action teaching comments that action research is critical because:

The "critical community" of participants not only searches for practical improvements in their work within the given socio-political constraints, but also acts as a critical and self-critical agent of those constraints. The participants change their environment and are changed in the process.

(Zuber-Skerritt 1993, p. 49)

The role of reflection in this process is to interlink reflection and action in such a way that reflection is supportive of the idea of the (self-) reflective practitioner (Zuber-Skerritt 1993). Kemmis and McTaggart (2000), in a review of participatory action research, comment on the political nature of such reflection:

... to study practice is to change it, that the process of studying it is also "political," and that its own standpoint is liable to change through the process of action.

(Kemmis & McTaggart 2000, p. 578)

The value of reflection-on-practice seen as reflection-as-practice for practitioners may be that:

In this view of practice, practitioners regard themselves explicitly as engaged in action that makes history, and that they are likely to regard research as a process of learning from action to history – a process conducted within action and history, not standing outside it in the role of recorder or commentator, or above it in the role of conductor or controller.

(Kemmis & McTaggart 2000, p. 578)

When reflection informs individual history-making, the process can be personally engaging, critical and lead to substantive change in practice. This critical position can be differentiated from reviews of professional practice that are self-congratulatory and often only lead to stasis.

Crotty (1998, p. 157) suggests that critical inquiry, the approach that dominates my thesis and is explored further in the *Dissertation – Chapter 4*, focuses on ‘power relationships within society so as to expose the forces of hegemony and injustice’. According to Crotty (1998) critical inquiry appears to be a search for emancipatory knowledge – ‘knowledge in the context of action and the search for freedom’ (Crotty 1998, p. 159). From this perspective my interests lie in understanding relationships between power and culture within the provision of professional environmental courses, particularly at the University of Ballarat where I co-ordinate the environmental management program. However, such a critical analysis within the dominant social paradigm that frames university life may become increasingly challenging if ‘capitalism has been naturalized as commonsense reality – even as a part of nature itself’ (Kincheloe & McLaren 2000, p. 304) and that dominant ideology frames ideas of what forms a ‘good society’ (*ibid*) and probably the role of the university.

Critics of critical theory, such as Robinson (1993) and Walker (1997), argue that a critical perspective fails to account for practitioners’ theories that differ from socially critical theory by denying the value of the practitioners’ own knowledge. This interpretation appears to suggest that critical theory lies ‘external’ to practice, which is contrary to the suggestions of Kemmis and McTaggart (2000).

From my perspective critical theory includes practitioners' own knowledge and the theories if these develop more suitable framework for understanding.

I co-ordinate and teach within the BAppSc (Environmental Management) degree at the University of Ballarat (see *Dissertation – Section 1.1.1*), and have done so for some 25 years. I do not come to this review as an 'external' commentator or reviewer of environmental courses. The critical approach I have taken for this analysis is validated because of my experience of the 'state of the art' of current practice in providing suitably qualified environmental professionals. My 'internal' perspective is as much a series of observations about the course with which I am involved, and the University of Ballarat's own culture, as a commentary on the factors that influence professional environmental education in other universities.

There appear no doubt that the environment is at risk (Aplin 2002; Commonwealth Scientific and Industrial Research Organisation, CSIRO 2001; Goldsmith 1992; Suzuki & Dressel 1999; World Commission on Environment and Development 1990). Recognition that environmental problems exist has initiated ideas that something must be done in order to rectify the situation. Often associated with such thoughts comes a call for education to provide mechanisms to resolve environmental problems (Brennan 2003; Environment Australia 2002; Fien 1993; Gough 1997; Mrazek 1993), but the purpose of professional environmental education is not always clear (*Dissertation – Chapter 2*). For example, although promoting environmental education the following quote from Environment Australia does not clarify what knowledge, values and skills will bring about the desired social change to 'resolve' the 'environmental crisis':

A key element of the National Action Plan is a move from an emphasis on awareness raising to an emphasis on providing people with the knowledge, values and skills to actually make a difference to the protection and conservation of Australia's environment.

(Environment Australia 2002, p. 5)

Evidence exists that Australia has not met its environmental challenges (Aplin 2002; CSIRO 2001), and it is suspected that environmental education may not be encouraging concern for the environment (Australian Bureau of Statistics 2003;

Gigliotti 1990). Therefore, consideration of what constitutes ‘suitable’ environmental knowledge needs careful critical analysis if environmental problems are to be addressed, particularly if tertiary environmental education is viewed as education for the profession.

In Australia, increasing public awareness of environmental problems has provided opportunities for greater professional employment in environmental fields (see Brown & Clarke 1997; NRMjobs<sup>2</sup>). A selection criterion for these professional positions is often a relevant tertiary qualification. Universities have produced graduates to match this need (Brown & Lassoie 1998; Bryant 1992; Chapman 1992; Cole 1992; Kentish & Fawns 1995, 1997; Haemmerlie & Mathews 1988; Jarman 1996;). Yet, there is increasing evidence to suggest that environmental professionals require more than what is offered by many university courses (Brown & Clarke 1997; Cosgrove & Thomas 1996; Disinger & Schoenfeld 1987; Harding 1998; Lemons 1991; Weis 1990; *Elective 2*).

There have been previous reviews of Australian environmental courses (Brown & Clarke 1997; Cosgrove & Thomas 1996; Newman 1989; Thomas 1989, 1993). However, many reviews tend to promote specific courses and are not self-critical. For example, Thomas (1993) and Cosgrove and Thomas (1996) provide descriptive overviews of Australian tertiary environmental courses.

To address this lack of self-criticism of professional environmental education this review has two aims:

1. to critically examine public information promoting environmental courses offered by Australian universities; and
2. to propose suitable questions to examine professional environmental education.

The self-critical perspective is addressed because I co-ordinate an environmental course at the University of Ballarat. As such this elective engages in a more critical debate about the purpose and value of the courses available.

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<sup>2</sup> 'NRMjobs' is a weekly email that advertises opportunities in the environment, water and natural resource management field in Australia and New Zealand.  
[http://www.nrmjobs.com.au/search\\_main.htm](http://www.nrmjobs.com.au/search_main.htm)

## **Methodology and Method**

My approach was to critically review public documentation, mainly from university handbooks and webpages, which relate to Australian environmental courses. This material has validity because it is the public image of a course and informs readers of the framework in which the course is designed. Validity of this material is assured because it is endorsed by the university and should resonate with the university's mission statement. My approach has advantages over questionnaires, the method employed by Thomas (1993), because it does not depend on responses from teaching staff who might express their own personal bias and prejudices. However, I recognise my bias in this analysis and do not claim that my stance is 'external' or objective.

The critical perspective that I have taken is based in an illustration of the relationships among culture, power and domination (Kincheloe & McLaren 2000):

Critical researchers have argued that culture has to be viewed as a domain of struggle where the production and transmission of knowledge is always a contexted process.

(Kincheloe & McLaren 2000, p. 284)

Within this review I identify a number of cultures that influence the production of professional environmental courses. I suggest that these cultures may conflict as they struggle for dominance. The value of the method that I have chosen, a review of public web based material, is that these conflicts occur in the public arena as course marketers write material that attempts to gain a competitive advantage. I acknowledge that public information, such as webpages, often addresses a number of purposes, for example:

Surfing through the variety of university home pages, one cannot help but notice the wide variation in "imagetexts"...constellations of photographs, graphics, and text, placed on the opening pages of most university web sites. These multimedia designs are clearly efforts at marking and marketing the distinctive character of each university, evident attempts to attract interest from prospective students and their families.

(Simon 2001, p. 45)

Although in modern culture there appears to be a dominance of ‘style over substance’ within the dominance of a marketing culture, I argue that the content of the webpage should attempt to outline the purpose and philosophy of each course because this material is a major source of information that prospective students use to review the courses that interest them. Choosing a course is a complex procedure and not suitable for generalisations; however, it might be assumed that students choose courses that align with their individual interests (Harvey-Beavis & Elsworth 1998). Nevertheless, I recognise that webpage material is presented in a style intended to ‘capture’ students’ interests.

This elective is not a review of teaching practice or an examination of what was learnt. It is not practical to critically review course content or delivery by observation (except my own). Lectures are unique and academics may change their emphasis for each presentation. In addition, there may be poor alignment between what is delivered and what is learnt.

Choice of which university courses to review was assisted with the use of the Department of Environment and Heritage’s EnviroNET home page <sup>3</sup> (Environment Australia 2003). This webpage is a database of 879 Australian tertiary environmental courses. The database provides some information on each institution that presents environmental courses. EnviroNET lists the range of courses considered as environmental (Table 1).

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<sup>3</sup> The Environmental Education Database (EnviroNET) provides information on 879 Australian environmental courses at tertiary level, and is aimed at attracting undergraduate and graduate students from Australia and the Asia Pacific region.

Table 1 – Classification of environmental courses as provided by the EnviroNET database.

Biodiversity  
Cleaner Production  
Ecology  
Ecotourism  
Environmental Education  
Environmental Engineering  
Environmental Health  
Environmental Law  
Environmental Management  
Environmental Planning  
Environmental Science  
Environmental Studies  
Heritage Management  
Natural Resource Management  
Toxicology  
Waste Management and Resources

As each course co-ordinator decides the classification of his or her course for the database there is the possibility of overlap amongst the terms provided in Table 1 (i.e. a course may be simultaneously listed under different headings). For example, according to EnviroNET there are 15 environmental management courses offered by Victorian universities, inclusive of the University of Ballarat. Table 2 lists these ‘environmental management’ courses with their various badged titles. Critical analysis of Table 2 would suggest that the term ‘environmental management’ is applied loosely.

Table 2 – Courses offered by Victorian universities that were badged as environmental management (accessed through EnviroNET)

- Bachelor of Science in Chemical and Environmental Science, Victoria University of Technology, Footscray Campus
- Bachelor of Science (Environmental Science Major), University of Melbourne, Parkville Campus
- Bachelor of Engineering, University of Melbourne, Parkville Campus
- Bachelor of Applied Science (Environmental Management), University of Ballarat
- Bachelor of Health Science (Public and Environmental Health), Swinburne University of Technology, Hawthorn Campus
- Bachelor of Social Science (Environment), Royal Melbourne Institute of Technology, City Campus
- Bachelor of Environmental Science, Monash University, Clayton Campus
- Bachelor of Environmental Science (Fisheries Management and Aquaculture), Deakin University, Warrnambool Campus
- Bachelor of Engineering (Environmental), Deakin University, Geelong Campus
- Bachelor of Technology (Environmental), Deakin University, Geelong Campus
- Bachelor of Arts (Nature Tourism), La Trobe University, Bendigo Campus
- Bachelor of Science (Environmental Management and Ecology), La Trobe University, Albury Wodonga Campus
- Bachelor of Environmental Science (Integrated Catchment Management), Deakin University, Warrnambool Campus
- Bachelor of Environmental Science (Environmental Management), Deakin University, Rusden Campus
- Bachelor of Science/Bachelor of Teaching (Secondary), Deakin University, Melbourne Campus

Most Australian universities offer some type of environmental course. The universities I considered in this review are listed in Table 3.



Table 3 – Universities chosen for this review that offered environmental courses

Australian Catholic University  
Australian National University  
Charles Sturt University  
Deakin University  
Edith Cowan University  
Flinders University  
Griffith University  
James Cook University  
La Trobe University  
Macquarie University  
Monash University  
Murdoch University  
Northern Territory University  
Queensland University of Technology  
RMIT University  
Southern Cross University  
Swinburne University of Technology  
University of Adelaide  
University of Ballarat  
University of Canberra  
University of Melbourne  
University of New England  
University of New South Wales  
University of Notre Dame Australia  
University of Queensland  
University of South Australia  
University of Southern Queensland  
University of Sydney  
University of Tasmania  
University of Technology Sydney  
University of Western Australia  
Victoria University

To provide some structure to this review I used ‘themes’, which were common to course promotional material. These ‘themes’ were:

- student satisfaction;
- aims of the course; and
- course characteristics.

I have used these ‘themes’ to orientate this analysis because they provided an avenue by which comparisons between courses could be made. Further, these

‘themes’ appear to dominate the literature (see Ashenden & Milligan 1998, 2001) available for prospective students with the specific purpose of comparing courses and universities.

My approach in the elective was to analyse the language used on the webpages. Webpage material aims to ‘attract’ students to a particular course and the university. This material is undoubtedly developed with a marketing emphasis and due to overt competition amongst apparently similar courses I was interested in the ‘marketing language’ employed to ‘sell’ the course to prospective students, particularly because this promotional material needs to be concise and yet provide a ‘snapshot’ of the courses’ (and perhaps the faculty’s) ethos.

I suggest that the three themes I selected: student satisfaction, courses aims and characteristics, intersect to form a structure that frames most course promotional material. I was interested in the ‘style’ of language and presentation used to attract prospective students. This analysis, and use of these ‘themes’ provided me with the opportunity to review courses similar to the BAppSc (Environmental Management) that I co-ordinate at the University of Ballarat.

From my experience writing such promotional material is problematic because it requires writing skills to encapsulate the ‘nature’ of the course for multiple audiences. It must, in a concise way, suggest to students (or any audience) the value of the course. In addition, the material attempts to demonstrate the course’s uniqueness amongst a plethora of competing interests. Embedded within these competing interests are the diverse agenda of other teaching staff engaged with teaching content. These ideas need to be presented without trivialisation of the content or learning activities. Therefore, to some extent my analysis was self-reflective and critical because I compared the course in which I was professionally engaged at the University of Ballarat with what others in my position at other universities had written.

### **Student satisfaction**

Ashenden and Milligan (1998) found there were 5549 undergraduates enrolled in 25 ‘environmental’ courses in 35 Australian universities with only 1.5% of

students from overseas. The number of courses continues to increase with 879 ‘environmental courses’ currently available (Environmental Australia 2003). According to Ashenden and Milligan (1998) entry to courses was neither difficult nor demanding and students were generally satisfied with their course and the quality of teaching and learning of generic skills (see *Elective 2*) was regarded as excellent. Although the number of courses has increased Ashenden and Milligan (2001) suggest that the number of students applying for environmental courses in Australia was comparatively low and employment prospects poor (only 45% found work in 2001). They conclude:

If you are considering studying the environment it’s probably because you believe in protecting and improving it. But you might also consider these courses because they are intellectually stimulating (the best combine science and social science, theory and ‘how to’) or for the lifestyle appeal of many jobs which some graduates get.

(Ashenden & Milligan 2001, p. 355)

This perspective supports Harvey-Beavis and Elsworth (1998) who suggest that students often choose their course from an interest perspective. However, in contrast to Ashenden and Milligan (2001), Brown and Clarke (1997, p. 54) found an ‘...increased demand for graduates in the environmental area in Australia both nationally and regionally’. But Brown and Clarke’s (1997) analysis was a comparison of advertised positions over a 20 year period (1975 to 1995) and their conclusion may not relate to actual graduate employment, which is much more problematic.

Courses were promoted as enhancing employment purposes (Ashenden & Milligan 1998, 2001; Brown & Clarke 1997) and meeting students’ interests (Harvey-Beavis & Elsworth 1998). The emphasis for many webpages was promoting employment prospects. The webpage statements frequently reflected the enhanced employment opportunities gained from tertiary study. For example, these are students’ comments about environmental courses at the University of Queensland (University of Queensland 1999) and University of Ballarat (2003):

My job requires a thorough understanding of ecological systems, land uses, land management practices and conservation issues. I also need to be able to communicate well with people...The field

work puts you in touch with the 'real world'. One of the best things about Gatton is that lecturers take an interest in you and are keen to help you do well. I knew that at Gatton I'd get a thorough multidiscipline education orientated to the workplace and I wasn't disappointed.

(University of Queensland 1999)

After attending the University of Ballarat's Open Day I became inspired to pursue a career in environmental studies. I wanted a career where I could personally make a difference to the environment. My fondest memories of the course are the camps to outback Australia where we trapped bats at night and surveyed vegetation and birds during the day. Now I work for Melbourne Water and manage a grants scheme to encourage landholders to fence and revegetate their stream frontage. I find it particularly rewarding when I visit projects that are 2 or 3 years old and growing well. The Environmental Management course at the University of Ballarat helped me to tackle environmental issues in the workforce with ability and confidence.

(University of Ballarat 2003)

Such statements are promoted as students' judgements of a course's value in terms of employment and whether the course provided appropriate skills with which to gain future employment. The use of students' narratives appeared to give greater validity to the statement and therefore the course's appeal.

Undoubtedly promoting employment prospects would be important if, as Ashenden and Milligan (2001) suggest, employment prospects for environmental graduates were poor. From the promotional material on many webpages courses were orientated to give students a competitive advantage in the employment market.

I recognise that webpages would only publish the more positive comments about each course. However, this public information, as comments on 'student satisfaction', was related to prospective employment. The idea that many courses' orientation was related to employment prospects is developed further in the *Dissertation* and *Elective 2*. This employment perspective framed the language used to promote the course. There was a dominant orientation towards a technical perspective with comments that environmental graduates 'solved' problems.

In summary, Australian environmental courses appear to technically align students' interest in the environment and their desire to 'make a difference' (see *Dissertation – Chapter 6*) with the possibility of future employment (see *Dissertation – Chapter 5*). I suggest that it is this perception that tertiary education is directly related to employment a vocationalisation orientation which is of interest to me because it has become the common view that this is the (sole) 'purpose' of such courses and higher education. This direction appears in contrast to alternative, more critical views, about higher education (Barnett 1997).

### **Aims of the Course**

There is an enormous diversity of environmental courses in Australia. Table 4 shows the number of full-time, undergraduate courses available for each subject classification according to Environment Australia (2003). Increase in the number of environmental courses has been almost continuous since the 1970s (Brown & Clarke 1997; Cosgrove & Thomas 1996; Thomas 1993) and in 2003, 879 courses were listed by Environmental Australia (2003).

Table 4 – Number of full-time, undergraduate courses within each subject classification (data supplied from Environment Australia 2003)

Subject classification	Number of courses
Biodiversity	44
Ecology	94
Ecotourism	38
Environmental education	29
Environmental engineering	32
Environmental health	25
Environmental law	47
Environmental management	103
Environmental planning	59
Environmental science	99
Environmental studies	71
Heritage management	31
Natural resource management	97
Waste management	51

However, there was some overlap as to how each course had been classified by Environment Australia (2003). Therefore, courses may have been classified under a number of headings.

Environmental management, environmental science and ecology were dominant themes (Table 4), which suggests that many universities classify environmental learning as an applied science. However, the diversity of structure of most courses made it difficult to identify the faculty co-ordinating the course.

Table 5 indicates that full-time undergraduate environmental *science* courses in Victoria were ‘located’ in a variety of faculties and departments but there was a predominance of science and engineering faculties.

Table 5 – Full-time, undergraduate Victorian environmental *science* courses (source Environment Australia 2003)

<b>Environment Science Course</b>	<b>Faculty/Department</b>
Bachelor of Science in Chemical and Environmental Science, Victoria University of Technology, Footscray Campus	Faculty of Engineering and Science / School of Life Sciences & Technology
Bachelor of Science (Environmental Science Major), University of Melbourne, Parkville Campus	Faculty of Science/ Science
Bachelor of Engineering, University of Melbourne, Parkville Campus	Faculty of Engineering / Department of Civil and Environmental Engineering
Bachelor of Applied Science (Environmental Management), University of Ballarat	School of Science
Bachelor of Health Science (Public and Environmental Health), Swinburne University of Technology, Hawthorn Campus	School of Engineering and Science
Bachelor of Applied Science (Chemistry/Biochemistry), Swinburne University of Technology, Hawthorn Campus	School of Engineering and Science
Bachelor of Applied Science (Chemistry), Swinburne University of Technology, Hawthorn Campus	School of Engineering and Science
Bachelor of Environmental Science, Royal Melbourne Institute of Technology, City Campus	Faculty of Applied Science / Department of Applied Chemistry

**Table 5 – Full-time, undergraduate Victorian environmental *science* courses (source Environment Australia 2003) (cont.)**

<b>Environment Science Course</b>	<b>Faculty/Department</b>
Bachelor of Environmental Science, La Trobe University, Bundoora Campus	Faculty of Science and Technology / Department of Physics
Bachelor of Science (Conservation Biology and Ecology), La Trobe University, Bundoora Campus	Faculty of Science, Technology and Engineering
Bachelor of Environmental Science (Fisheries Management and Aquaculture), Deakin University, Warrnambool Campus	Faculty of Science and Technology / School of Ecology and Environment
Bachelor of Engineering (Environmental), Deakin University, Geelong Campus	Faculty of Science and Technology/ School of Engineering and Technology
Bachelor of Technology (Environmental), Deakin University, Geelong Campus	Faculty of Science and Technology / School of Engineering and Technology
Bachelor of Science (Environmental Management and Ecology), La Trobe University, Albury Wodonga Campus	Faculty of Science, Technology and Engineering/ Department Environmental Management and Ecology
Bachelor of Environmental Science (Integrated Catchment Management), Deakin University, Warrnambool Campus	Faculty of Science and Technology / School of Ecology and Environment
Bachelor of Environmental Science (Environmental Management), Deakin University, Rusden Campus	Faculty of Science and Technology/ School of Ecology and Environment
Bachelor of Science (Earth Science), Deakin University, Rusden Campus	School of Ecology and Environment/ Earth Science
Bachelor of Science/Bachelor of Teaching (Secondary), Deakin University, Melbourne Campus	Faculty of Education / School of Ecology and Environment

Comparison of Table 5 with Table 6 indicates that there were fewer Victorian full-time undergraduate environmental *studies* courses but many of these were still ‘located’ in engineering and science faculties. Further comparisons between Table 5 and 6 demonstrates that courses were named as both environmental science and studies, which suggests some confusion about the use of terms such as environmental science and studies (For greater clarification of these terms see *Dissertation Chapter 2*).

Table 6 – Full-time, undergraduate Victorian environmental *studies* courses (source Environment Australia 2003)

<b>Environmental Studies Course</b>	<b>Faculty/Department</b>
Bachelor of Science in Chemical and Environmental Science, Victoria University of Technology, Footscray Campus	Faculty of Engineering and Science / School of Life Sciences & Technology
Bachelor of Health Science (Public and Environmental Health), Swinburne University of Technology, Hawthorn Campus	School of Engineering and Science
Bachelor of Social Science (Environment), Royal Melbourne Institute of Technology, City Campus	Faculty of Constructed Environment / Department of Landscape, Environment and Planning
Bachelor of Environmental Science (Fisheries Management and Aquaculture), Deakin University, Warrnambool Campus	Faculty of Science and Technology / School of Ecology and Environment
Bachelor of Arts (Nature Tourism), La Trobe University, Bendigo Campus	School of Arts Education / Department of Outdoor Education and Nature Tourism
Bachelor of Arts (Outdoor Education), La Trobe University, Bendigo Campus	School of Arts Education / Department of Outdoor Education and Nature Tourism
Bachelor of Science (Environmental Management and Ecology), La Trobe University, Albury Wodonga Campus	Faculty of Science, Technology and Engineering / Department Environmental Management and Ecology

Not only was there some confusion between use of terms such as environmental science and environmental studies but it appeared that the prefix ‘environmental’ was interpreted loosely. This supports Cosgrove & Thomas (1996) who suggest that there was evidence that the ‘environmental’ prefix was used for course promotion purposes more than any allegiance to an environmental ideology. As such many courses were badged as ‘environmental’ (e.g. environmental engineering, environmental health) because of the popularity of the term. There was little evidence from these courses’ content that they addressed what are commonly regarded as environmental problems.

Each course structure was undoubtedly influenced by the disciplinary infrastructure of the university. This structure reinforces traditional views about professionalism being discipline-focussed (Jarvis 1983). I suggest that environmental courses were located within science faculties with an expectation



by students that the content should be scientific. This ‘positioning’ of many environmental courses framed the dominant ideology for the course’s structure.

The dominance of a scientific orientation for environmental learning is of concern to Robottom (1983), Harding (1998) and Ashley (2000) who ask that environmental issues should be considered in wider, more social and political, contexts. I suggest that this may not happen if differences among disciplines are maintained within the discipline-based infrastructure of most universities.

According to Hand (1999), a scientific orientation is a consensus approach for learning:

Within the sciences, a consensus approach to knowledge is usually adopted. The consensus approach means that many theories in these subjects are presented as unquestionable truths; this is even the case with many university level science courses.

(Hand 1999, p. 501)

This consensus approach to environmental knowledge is contrary to the orientation taken by Fien (1993), Huckle (1983) and Robottom and Hart (1993) who suggest that environmental issues are contested and contextual. The argument appears to be that a technical-rational orientation, which proposes technical resolution to environmental problems, may not always be suitable for understanding the environmental issue. These authors argue for a socially critical orientation to inform environmental education, because this approach engages students in critical theorising about the resolution of environmental issues (Fien 1993, see also *Dissertation – Chapter 2*).

Socially critical orientations to learning appear at odds to the consensus view promoted by science faculties (Hand 1999). It is not surprising that Cosgrove and Thomas (1996) found little evidence for socially critical perspectives in science-orientated professional environmental courses. My analysis supports this finding.

From this initial analysis of the diversity of courses several themes emerged.

Courses tended to:

- promote vocational skills and work-readiness (see **Vocation skills and integrated learning** below);

- emphasise that scientific knowledge about environmental issues would lead to their resolution (see **Science focus** below) ;
- emphasise management of the environment (see **Management orientation and technocentric ideology** below); and
- promote inter- or multi-disciplinary studies (see **Interdisciplinary, multidisciplinary and other approaches** below).

These themes will now be explored in greater depth.

### ***Vocational skills and integrated learning***

Courses were dominated by approaches valuing practical, pragmatic, ‘real-life’ technical skills. This orientation was vocational rather than supportive of a vocation or a deeper interest in environmental issues (*Elective 2*). For example, Charles Sturt University’s Bachelor of Applied Science (Environmental Science) promoted a vocational orientation:

...[the course aims] to provide vocationally orientated education in Environmental Science that will produce graduates with a solid disciplinary training in chemistry, biology, earth sciences and ecology and an appreciation of the interdisciplinary nature of environmental problems, so that they are highly employable both nationally and internationally.

(Charles Sturt University 1996, p. 230).

The Bachelor of Science (BSc) in Environmental Science at Murdoch University incorporated this employability perspective into its promotional material:

The degree is interdisciplinary in nature and is designed to enable graduates to contribute as individuals and through their employment to the identification and resolution of environmental problems.

(Murdoch University 1999)

James Cook’s Bachelor of Applied Science (Environmental Studies) strand emphasised vocational requirements for professional practice:

...[the course is] designed specifically to provide the necessary skills for those who wish to be practitioners in environmental problem solving and troubleshooting. Environmental Science candidates are trained in the scientific approach to environmental assessment and management programs for new and continuing

Undergraduate Environmental Courses in Australia: a critical review – Elective 1 projects. Also, they are expected to acquire the wider perspective required to appreciate the human factors involved in the administration and implementation of environmental policy.

(James Cook University 1997, p.31)

Vocational skills were promoted as important but generally there was no mention of the relevance of any specific skill presented in the courses to any occupation, except in the vaguest of terms. *Elective 2* explores the impact of this vocational orientation on professional education, which I suggest has led to some confusion about the purposes of higher education (Barnett 1992, 1997; Duke 1992).

Rajagopal (1983) found environmental employment opportunities were defined according to disciplinary content. In Australia, Brown and Clarke (1997) found employers broadened their requirements for applicants emphasising competence to perform tasks specified in a duty statement rather than the generalities of a discipline based degree. This more competence-based orientation, and a move away from disciplinary constraints, has influenced course design to such an extent that academics attempt to align what they deliver in professional environmental courses with duty statements to ensure employment relevance for students. This has been the direction taken for the environmental course at the University of Ballarat and reinforces the employment orientation of many courses.

To engage with these vocational interests many courses stressed integrating learning to the workplace. The suggestion was that ‘relevant’ learning experiences would be achieved by incorporating extensive periods of professional practice into study programs – the practicum. This is demonstrated by a comment from a graduate from the University of Ballarat webpage:

[The] Management course covered a wide range of topics and provided me with a variety of skills to take into the workplace. In the third year of the course I was able to work on a project in my favourite interest area – koalas. Now I am employed as a ranger on Kangaroo Island with National Parks and Wildlife South Australia.

(University of Ballarat 2003)

Integration between study and practice, although apparently bridging the education-employment gap, is problematic. The objectives and evaluation of workplace experiences may differ substantially from the normal expectations of academic assessment. This may create a divide for the students between the comparative relevance of different assessment schema. Further, the ‘relevance’ of workplace experiences may be problematic if students are exposed to inappropriate practices that have limited application to gaining a sense of what might be considered *professional* practice, an activity that I regard has an ethical foundation:

...there is no guarantee that the average or even good professional practitioner, who is usually responsible for a student’s learning, can enable another’s learning. It is more likely that they will utilize the inappropriate methods by which they themselves have learnt.

(Cohen 1985, p.175)

I suggest that it would be important for professional education to encourage students’ criticality of, and reflections on, their experiences in the workplace more than acceptance of practice as normality. However, students’ emphasis on the value of a vocational orientation courses as relevant may influence their view that workplace experiences are valued simply because they exist in the ‘real-world’ (see *Dissertation – Chapter 5*). Problems will often arise because of the dissonance between the cultures of professional practice and study (Manning 1998) and inappropriate attempts to align these different cultures.

Nevertheless there are numerous examples of integrated environmental management courses operating in USA universities (Bentley 1999; Fisher 1996; Fox, Kolb, & Kurmes 1996; Knuth 1987; Gaddis & Rieckermann 1996; Gilbert *et al.* 1993; Ginger, Wang & Tritton 1999; Hosner 1993; Jensen, Doescher & Shelby 1998; Namkoong 1993; Petersen 1993; Perry, Vanderklein & Ek 1994; Weis 1990). These commentators appear convinced that professional practice and study should be integrated:

...educators are just beginning to define the concepts, develop the frameworks, articulate the trade-offs, and assess the outcomes in translating this goal (integration) into viable undergraduate curricula. Developing a deeper understanding of integration can

help clarify goals and approaches for achieving integration in single courses, blocks of courses, and entire curricula.

(Ginger, Wang & Tritton 1999, p. 21).

I question whether the idea of a seamless integration between professional practice and study is possible or achieves a continuum between professional education and professional practice. I am concerned that the emphasis on integrating vocational activities with study may override encouraging what I regard as key professional practices –reflection and criticality.

Integration of professional education within professional practice implies more than exposing students to a plethora of generic skills as ‘additional knowledge’ loosely attached to discipline content. Such an informal arrangement maintains the dominance of discipline-specific knowledge. Integrating a more critical understanding of professional practice into professional education requires a subtle blending of content and contexts employing reflective frameworks (Schön 1983). I argue that encouraging partnerships between professional education and professional practice should not be left to the uncertainties of ‘experiences in the workplace’.

Developing generic skills has been encouraged to improve graduate employability. However, teaching generic skills is problematic (Marginson & O’Hanion 1993, *Elective 2*). Kentish and Fawns (1995, 1997) identified problems where generic skills were not contextualised within professional education and carefully related to professional practice. The importance of acquiring a diversity of generic skills during undergraduate education may not encourage any critique of the relative importance of each skill.

In Australia, although generic skills are demanded by most employers, professions, governments and industries, the problem posed for academics is whether these skills can be taught effectively, if at all (Australian Education Council Review Committee 1991; Bothwick 1992; Candy, Crebert & O’Leary 1994; Dall’Alba & Sanberg 1993; Gonczi, Hager & Oliver 1990; Heywood, Gonczi & Hager 1992; Masters & McCurry 1990; Marginson & O’Hanion 1993; Mayer 1992). The concern is that:

...it is difficult to measure precisely many generic competencies, and it is debated whether they can be compared across disciplines, or outside the work context.

(Marginson & O'Hanion 1993, p. 1)

Questions arise as to the value of some generic skills and what mechanisms exist to absorb these skills into the university culture (Barnett 1994, 1997; Clanchy & Ballard 1995), for example:

Some universities have been quick to embrace the new ideology of Quality Management publishing lists of the 10 or 12 'attributes' that all graduates of their university 'will have'. A quick examination of most of these lists reveals the same hodge-podge of general desiderata with low-level technical competencies (most frequently in computing and word-processing) lumped indiscriminately together with higher order intellectual skills ('Graduates will reason logically...') and broad motherhood [*sic*] claims about 'ethical' or 'tolerant' behaviour ('Graduates will display tolerance towards other cultures').

(Clanchy & Ballard 1995, p. 157)

To address different perceptions of the relative importance to professional education of generic skills and content derived from discipline knowledge, Marginson and O'Hanion (1993) ask for 'points of intersection' (p. 4) but recognise that there is a lack of research into the transition from higher education to employment. There is little evidence to suggest that generic skills presented in a university setting are actually transferable to professional practice (Barnett 1994) and the role a student perceives for himself or herself might be substantially different within the university setting compared to students' perception of themselves in professional practice (see *Dissertation – Chapter 5*).

Promoting the vocational nature of courses, with public images of satisfied graduates in full-time employment, is undoubtedly a marketing tool. However, the suggestion from the advertising that potential employability of a student is developed through the course may be false. According to Ashenden and Milligan (2001) the potential employability of environmental graduates is problematic because employment opportunities may not be available. In my experience at the University of Ballarat the employability of graduates is not directly related to

their tertiary education but is influenced by the student's personal attributes such as self-confidence and motivation.

### **Course characteristics – some examples**

In this section I review some of the dominant characteristics of courses. I concentrate on the science and management foci of courses, fieldwork and interpretations of inter- and multi-disciplinary studies because they dominated most of the material I reviewed.

#### ***Science focus***

Environmental courses often stress the scientific or technical nature of environmental learning. In the material reviewed there were many interpretations of science, and its social value, as indicated by the quotations below. This science orientation for some courses appeared to have a number of advantages. It may have provided some validity for the course's science orientation due to the social values given to the scientific discipline (see *Dissertation – Chapter 2*). However, this science framework creates expectations by students of their future career options as scientists (Prosser 1982) and often dominates students' understanding that environmental issues need to be technically framed.

The majority of courses were located within the scientific paradigm. For example:

...[this course] emphasises general environmental studies with a sound basis of science, and trains people to contribute to the monitoring and management of projects or other activities that affect the environment. The course has a strong theme of values and ethics central to the principles and practice of environmental science.

(Australian Catholic University 1998, p. 72).

...[this course] aims to provide vocationally orientated education in Environmental Science that will produce graduates with a solid disciplinary training in chemistry, biology, earth sciences and ecology and an appreciation of the interdisciplinary nature of environmental problems, so that they are highly employable both nationally and internationally.

(Charles Sturt University 1996, p. 230).

Almost every area of science is concerned with environmental issues, with solving environmental problems and with improving and conserving our environment. When you study the BSc (Environmental), you may elect to study a wide range of perspectives. These perspectives include those taught in the biological, chemical, earth and physical sciences.

(University of Sydney 1999)

...[the course aims] to bring together staff from all areas of science who have an interest in environmental issues, providing an exciting opportunity to develop innovative and multi-discipline programs at both undergraduate and postgraduate levels.

(Queensland University of Technology 1999)

...[the course] involves application of scientific knowledge and skills to management of coastal resources and integrates course activities with management projects in the local region.

(University of Southern Cross 1999)

Environmental courses were often presented in the promotional material as an integration of discrete science disciplines –this was seen as superior to the study of a single science discipline (see **Interdisciplinary, multidisciplinary and other approaches**). Such a perspective emerged from the social history and evolution of environmental courses which were derived from science foundations (as at the University of Ballarat; see *Dissertation – Chapter 1*). The advantage of placing environmental courses in the science faculty is that the ambiguities of understanding what should be within such courses may be resolved when the content is *scientifically* framed (Weis 1990). Gayford (1986, 1996) identifies that where environmental learning is associated with science it gains the characteristics and values of the discipline e.g. robustness, objectivity, ‘truthfulness’.

Locating environmental learning within science faculties ‘flavours’ how environmental issues will be understood and investigated. It is of interest that this ‘favouring’ by the scientific fraternity is undertaken with an assumed, and unquestioned, understanding of the nature of science and scientific investigation. From the quotations above there appears to be many interpretations of ‘science’ which might be equally valid.



My concern is that assuming a scientific-orientation for environmental learning may obscure the realisation that science, like other disciplines, is socially constructed and does not exist external to social influences:

At the social level, the scientific research community is itself a value-laden social entity, as Kuhn (1970) points out. What is defined as “science” at one time is what the scientific community as a whole chooses to accept as science. The definition of science that prevails at any one time is the result of tacit negotiation between scientists: It is a social construct or invention.

(Robottom 1989, p. 439)

Physically, and infrastructurally, locating environmental courses in a science faculty has administrative advantages. Weis (1990, p. 1117) suggests ‘Departmental status appears to give more resources and greater faculty commitment to the program and was considered preferable’. In addition, a scientific framework for environmental learning often encourages a belief that knowledge gained *through* scientific study about the environment will provide the appropriate technical skills necessary to resolve environmental issues (see *Elective 2*). Yet, such a scientific orientation may not fully engage the student within social and political contexts of what needs to be understood in order to understand environmental issues (Ashley 2000). The physical location of environmental courses within science faculties (as in many of the examples reviewed) may promulgate the assumption that learning about the environment will lead directly to environmental action. This relationship between ‘knowledge’ directly leading to ‘action’ is at best tenuous.

Environmental issues are values-based and do not exist ‘external’ to socio-political contexts. Science, with its discrete methodology, is capable of determining and measuring environmental factors of public concern e.g. the level of a pollutant. However, as an epistemology science cannot *resolve* issues. I argue that environmental problem resolution is a social process requiring decisions about different values. Each ‘solution’ to any environmental problem will be culturally specific and contested. Generalisations and technical prescriptions about answers to environmental issues a key theme for many scientific endeavours may be quite unjustified.

Environmental science courses appeared in response to the decline in the number of students applying for the traditional science courses. For example, at the University of Ballarat (Figure 1) there has been a continued decline in student interest in science courses. This is a wider trend. To maintain student numbers courses have been ‘converted’ to environmental courses in science faculties. This accounts for the increase in the number of environmental courses. However, the science staff may not have changed their traditional view of what characterises a science curriculum and their technical-scientific ideology continues to dominate the curriculum (see *Dissertation – Chapter 5*).

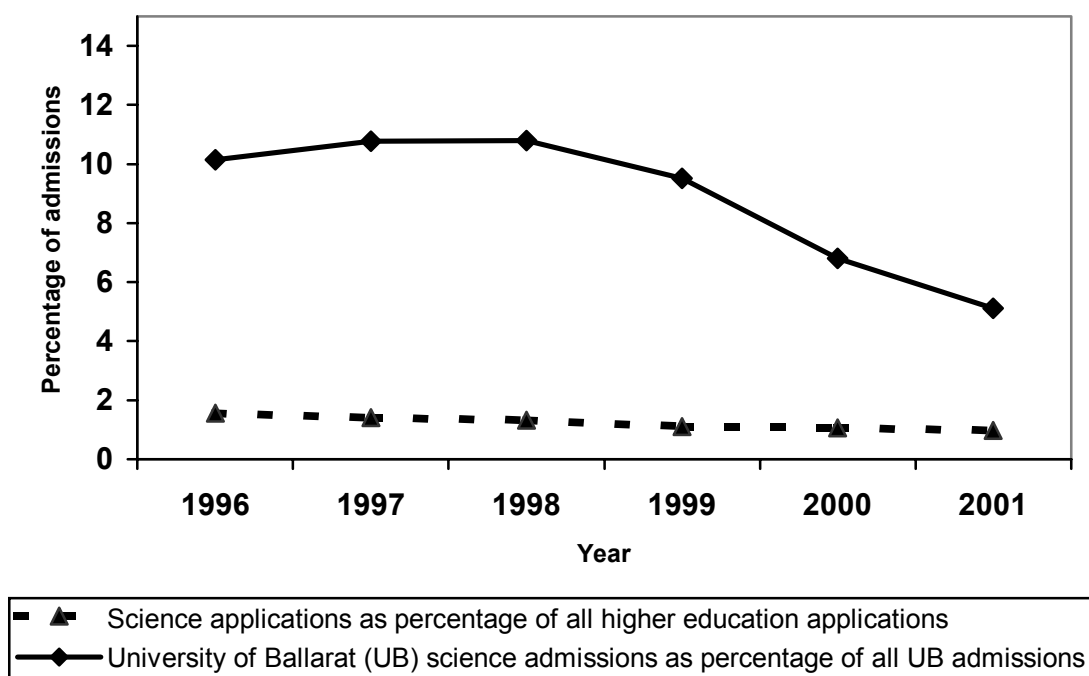


Figure 1 – Percentage of total admission into science courses in Victorian universities and University of Ballarat

According to Becher (1989) academe appears to form ‘tribes’ often reinforced by the discipline infrastructure of many universities. This ‘tribalism’ amongst the cultures of disciplines has led to a number of tensions (Becher 1989; Gould 2000; Snow 1993). For example, it is considered by Snow (1993) and Stevenson (1993) that scientists often devalue the subjective, humanistic, social and political aspects of problems leading to one academic culture being promoted at a cost to others. This ‘tribalism’ has been evident at the University of Ballarat especially when

there is competition for students to enrol in particular courses. I suggest that this ‘tribalism’, and the cultures it creates, operates against co-operation between faculties.

Harding (1998) argues that it is important to appreciate that environmental issues are embedded within social and political frameworks (Harding 1998; *Dissertation – Chapter 5*). Nevertheless, from this review there is evidence that discipline ‘tribalism’, particularly in the sciences, has maintained a resistance to incorporating the social sciences and political perspectives into many environmental courses.

Pepper (1984), Goldsmith (1992) and Harding (1998) express their concerns that non-scientific aspects of environmental issues are often ignored to the detriment of contextualising resolution processes. Such is the nature of the two cultures thesis:

The non-scientists have a rooted impression that the scientists are shallowly optimistic, unaware of man’s [*sic*] condition. On the other hand, the scientists believe that the literary intellectuals are totally lacking in foresight, peculiarly unconcerned with their brother men [*sic*], in a deep sense anti-intellectual, anxious to restrict both art and thought to the existential movement.

(Snow 1993, p. 5)

Academics are often discipline orientated and their understanding is founded in paradigms that constrain how they view problems should be examined:

That scientists do not usually ask or debate what makes a particular problem or solution legitimate tempts us to suppose that, at least intuitively, they know the answer. But it may only indicate that neither the question nor the answer is felt to be relevant to their research. Paradigms may be prior to, more binding, and more complete than any set of rules for research that could be unequivocally abstracted from them.

(Kuhn 1970, p. 46)

The suggestion (as evident in some course material) that environmental issues are best served by a particular paradigm or disciplinary content demands greater critical examination. I suggest that it is problematic as to whether the knowledge and technical skills pertaining to science, such as scientific analysis, data reduction, experimental design, generalisation, objectivity and empiricism,

provide the most appropriate foundations for professionals attempting to identify problems within the diverse contexts of professional practice (Harding 1998).

The lack of alignment between the skills that underpin science and the skills necessary for professional environmental practice has yet to be considered by many course designers. Identification and resolution of environmental issues are not just a matter of ‘doing better science’ if the scientific methodology is not appropriate for the task. I suggest that environmental issue identification and resolution requires an amalgam of skills and knowledges from many disciplines but this amalgam requires a suitable platform in order to develop.

Fien (1993) and Robottom and Hart (1993) promote a more socially critical perspective for environmental learning to provide socially engaging opportunities for improvements to decision-making models:

This means that education for the environment has ‘socially critical and political action goals’...It is based upon an integration of the values of the New Environmental Paradigm and a socially critical orientation in education which challenges the ‘business as usual’ approach to economic development and the reproductive functions of education. Education for the environment stands in contrast with education about and through the environment. Education for the environment seeks to engage students in the active resolution of environmental questions, issues and problems.

(Fien 1993, p. 5)

This model has not gone uncontested. Jickling and Spork (1998) question whether environmental education should be *for* the environment because such an orientation prejudices a deterministic approach for education. This debate is explored further in the *Dissertation – Chapter 2*.

The value of a science-only professional education has been questioned and in the USA it has been recognised that professional education derived solely from the scientific paradigm does not provide effective resolution processes for complex forestry issues (Duncan, Skok, & Richards 1989; Lassoie, Huxley & Buck 1994; Petersen 1993; Sample *et al.* 1999). There is also evidence for similar views about forestry education in Australia (Kentish & Fawns 1995, 1997; Vinden 1995). Nevertheless, it is evident that a more socially engaging approach to

decision-making has not permeated the scientific ideology that dominates many Australian environmental courses, although there are exceptions:

The Environmental Management course at the University of Ballarat recognises the need for the appropriate professional education of environmental managers in the new millennium. The knowledge, skills and attitudes presented during the course are embedded in the professional context where the graduate will ultimately be employed.

(University of Ballarat 2003)

### ***Management orientation and the technocentric ideology***

Management of resources was a key theme for many courses. This concurs with Thomas (1993). Environmental management emerged to bridge the gap between the science of ecology and the socio-political aspects of management (Grumbine 1994, 1997; *Dissertation – Chapter 2*). This orientation for environmental courses is underpinned by anthropocentrism with its technocentric ideology.

Technocentrism is regarded by Fien (1993, p. 27) as a:

Belief in the retention of the status quo and existing structure of political power, but with a growing responsiveness and accountability in political, regulatory, planning and economic institutions.

There are two main sub-themes: ‘cornucopian’ and ‘accommodationist / managerialist’. Fien (1993, p. 26) suggests ‘a ‘cornucopian’ position views nature, along with human ingenuity and technology, as being able to provide for all human needs and wants indefinitely’. The ‘accommodationist / managerialist’ position adopts a more reformist ideology believing ‘...the environment can be managed to satisfy human needs and wants, provided certain accommodations to ecological principles are made through improvements in environmental legislation and management practices’ (Fien 1993, p. 26).

Many environmental courses appear to promote an accommodationist ideology. For example, the BAppSc (Environmental Science) offered by the Royal Melbourne Institute of Technology stressed the value of producing:

...capable scientists trained in the analysis and solution of environmental problems, particularly those arising from industrial manufacturing societies.

Flinders University's Bachelor of Environmental Management offered a more social science orientation but this was still accommodationist:

The Bachelor of Environmental Management was created to meet the increasing demand for graduates who understand how our environmental systems work, how humans affect them, and how our impact can be managed and minimised.

(Flinders University, 1999)

It appears that these management themes orientate environmental courses towards technocentric ideologies, which are essentially anthropocentric. Such perspectives are aligned with scientific orientations and utilitarian perspectives. Although the concept of management of the environment is popular I suggest that it informs an ideology that sets it apart from more ecocentric ideologies. For example at the University of Ballarat during the course review in 1997 it was assumed that the popularity of developing a course with a management orientation – environmental management – would attract more students because of the alignment between this direction and the prospect of increasing graduate employment. There was no discussion that such badging of the course would prescribe a particular ideology.

### ***Fieldwork***

Fieldwork was promoted by many courses and undoubtedly students are attracted to fieldwork experiences in exotic locations (Falk 1983; Fido & Gayford 1982; Gayford 1985; Longergan & Andresen 1988; see *Dissertation – Chapter 6*). It is assumed that the incorporation of fieldwork in the course will attract students. In my experience questions about the quantity and quality of fieldwork with prospective environmental students dominate any discussions about the course. Often the prospective student's assumption is that the more fieldwork the better the course because fieldwork implies a sense of 'reality'.

Fieldwork can be enjoyable learning. It is considered attractive to students because it supposedly erodes the duality between 'real work' and study. Fieldwork is often informal, breaking down the formality of teaching. In addition, it can be relational if it emphasises a more holistic context for the

student (see *Dissertation – Chapter 5*). There are many reasons for promoting fieldwork in environmental courses, not the least its attractiveness to staff and students.

This was perhaps the reason why fieldwork, as an activity often to unique and exotic locations, was promoted on many webpages:

The aim of this excursion is to provide students with hands-on experience and knowledge of a range of temperate ecosystems. Activities include small mammal surveys, vegetation survey and mapping, marine ecology studies, bat trapping, arboreal mammal and owl surveys and discussions of protected area management issues. The Cape Otway area is an ideal location for an excursion due to the diversity of plant communities and habitats, including cool temperate rainforest, tall open forest, coastal woodland, coastal heathland, dunes and marine rock platforms.

(University of Ballarat 2004)

The highlights of the course were definitely the field trips to Phillip Island, Mount Buffalo and field trip to the Beechworth area (Wooragee).

(La Trobe University 2004)

Nevertheless, the value of fieldwork as professional environmental education in contrast to some pleasant experience needs to be questioned. There are dangers in promoting fieldwork just because staff and students believe it is an effective form of learning and appears immediately practical and relevant (see *Dissertation – Chapter 6*). For students the value of fieldwork is often based on their assumption that working *in* the field forms the majority of professional practice. This supposition is invalid (*Dissertation – Chapter 5*). Students may value fieldwork because it apparently ‘mimics’ *their idea* of professional practice. However there is little evidence to support the students’ premise.

One advantage of fieldwork is that it can promote holistic and contextualised thinking about environmental issues. This holistic approach may confront the fragmentation and linear thinking common to many science courses. Fieldwork is not only physically liberating (the student is ‘outside’ of the classroom), authoritatively liberating (the authority of the formal education setting is lessened), but may also be intellectually liberating (constructions of the problems are not determined by the discipline structure of formal learning). However, the

emphasis in the material reviewed was mainly that there was an assumed relevance of fieldwork to professional practice.

### ***Interdisciplinary, multi-disciplinary and other approaches***

In Australia, Thomas (1993, p.138) identified 17 undergraduate inter-disciplinary environmental courses, seven were multi-disciplinary, five transdisciplinary and two disciplinary. A later study by Cosgrove and Thomas (1996) indicated that for 39 undergraduate environmental studies, environmental science, environmental engineering and environmental education courses, 10% were disciplinary, 51% multi-disciplinary, 10% cross-disciplinary, 21% inter-disciplinary and 8% transdisciplinary. In the USA, Weis (1990) found that half of the environmental programs were 'interdepartmental'. However, these results may be questionable, as many of these terms were not defined.

Jantsch (in Mitchell 1979) suggests these characteristics for different course designs:

- (Mono)disciplinarity – specialisation in isolation
- Cross-disciplinarity – rigid polarization towards some monodisciplinary concept
- Multi-disciplinarity – a lack of co-operation between disciplines
- Pluri-disciplinarity – cooperation without coordination
- Inter-disciplinarity – coordination by higher levels
- Transdisciplinarity – multilevel coordination of the entire education system.

Mitchell's (1979) emphasis for these different designs was that there was little advantage of a mere summation of a diversity of disciplines. He felt that it was more important to identify that combinations of disciplines are only effective if they are co-ordinated. Multi-disciplinarity does not infer co-ordination or synergy of understanding. Disciplines often have, and are presented as emphasising, internal authority. They may not blend seamlessly as assumed with some inter- or multi-discipline approaches.



Environmental courses are frequently designed as inter- or multi-disciplinary because it is argued that environmental issues cannot be addressed from a single discipline perspective (Bridgewater & McDonald 1983; Brown & Clarke 1997; Ginger, Wang & Tritton 1999; Lemons 1991; Orr 1993; Weis 1990). In contrast to this promotion of inter-disciplinarity, Barnett (1994) outlines its demise in higher education in the U.K. because:

- disciplines are no longer universally accepted as the fundamental base of academe;
- consultancy in professional life and action research have developed without an underpinning of disciplines;
- disciplines are no longer seen to be the building blocks of undergraduate studies; and
- although inter-disciplinarity attempts to unify student experiences ‘new forces’ (unitisation, modularisation, credit transfer, packaging and transferability of knowledge) fragment learning experiences.

Nevertheless the infrastructure of most universities is disciplinary and teaching and research faculties are based on disciplinary knowledge. Governments encourage inter-disciplinarity because it is considered a generic skill (Higher Education Council 1992) suitable for employment. However, most course material reviewed did not state how disciplinary boundaries were merged except mention that the student would accumulate a diversity of knowledge. The problem with this approach is that as the student undertakes their diverse study program they may not be able to identify any synergy between the diverse elements of their course. In many cases I suspect that students may not be provided with a ‘map’ as to how these different units of study interact.

Use of the terms inter- and multi-disciplinary is itself problematic. The following quotes express some of the confusion surrounding perceptions of inter- and multi-discipline studies:

Ecosystem management has now become a well established discipline that transcends many traditional areas of teaching and research. It involves aspects of both basic and applied ecology,

biology and other natural sciences and, more importantly, the application of scientific principles to the management of natural resources. Natural resources management involves not only the understanding of ecosystem structure and function when used for a variety of purposes, but also the incorporation of social, economic and political considerations into decision-making. Consequently the discipline involves the collection, analysis, interpretation and integration of information from not only the more traditional areas of science but also from the areas of management. The discipline must also embody a level of professionalism that is essential in any management area.

(University of New England 1999).

Environmental science is not a discipline itself, but applies knowledge from many disciplines to the analysis of environmental situations. These analyses are fundamental to the development of processes and management techniques that avoid environmental problems in the first place, or rectify them later on.

(University of Queensland 1999).

...[the course] combines a strong scientific education with multidisciplinary studies in the economic, legal and social aspects of environmental science.

(Macquarie University 1998, p. 206).

... [the course] will produce graduates with a solid disciplinary training in chemistry, biology, earth sciences and ecology and an appreciation of the interdisciplinary nature of environmental problems.

(Charles Sturt University 1996, p. 230)

...[the course] is for students who are interested in gaining a wide interdisciplinary understanding of natural environments and wilderness.

(University of Tasmania 1999)

...[the course] is for students who are interested in gaining a wide interdisciplinary understanding of natural environments and wilderness and developing knowledge, skills and techniques that are useful in employment of other activities related to natural environments and wilderness.

(University of Tasmania 1999).

It appears from the material reviewed that the terms inter-disciplinary and multi-disciplinary are used with the assumption that a greater breadth of disciplines improves the course.

Traditional support for the concept of different disciplines (Becher's 'tribalism') may imply that any fusion of disciplines is a weakness if there is a lack of any distinct, disciplinary body of knowledge (Barnett 1994; Becher 1986; Gayford 1996; Weis 1990). From the material I reviewed inter- and multi-disciplinary were used as overarching, popular terms, implying that course content was 'better' if it was derived from a range of distinct bodies of knowledge. This assumption has not been examined.

Designing content to include a number of disciplines has its origins in the liberalisation of the curriculum but often the emphasis of these liberal orientations are influenced by a desire for greater alignment to practice. This approach may not consider Peters' (1970) idea that:

Traditionally the demand for a 'liberal' education has been put forward as a protest against confining what has been taught to the service of some extrinsic end such as the production of material goods, obtaining a job, or manning a profession. In other words it has been a plea for education rather than vocational training or training of hand and brain for utilitarian purposes.

(Peters 1970, 43)

The challenge for universities that offer inter- or multi-discipline courses is to clarify how these courses can be organised within the university's discipline-based infrastructure. Barnett (1994) maintains:

The disciplines constitute social practices, with their characteristic methodologies and bases for argument and verification, for conducting their discourse and for assessing truth claims.

(Barnett 1994, p. 61)

He suggests each discipline has a unique set of characteristics, which differentiate it from other disciplines. Therefore, any combining of these characteristics needs to be done with care. The difficulty with the 'tribalism' of disciplines is that academics need to be able to recognise that solutions to problems may lie outside of their discipline (Orr 1993; Harding 1998). This requires discipline boundaries to be eroded, which may not be an easy task for some academics.

I suggest that the number and diversity of different disciplines within inter- or multi-disciplinarity may not be as important as the knowledge and skills that each discipline brings to the learning framework. To some extent this blending of

disciplines must be co-ordinated and directed towards specific educational outcomes – hence the value of transdisciplinarity.

Transdisciplinary course designs have value if, as Francis (1992, p. 281) suggests, this approach is able to co-ordinate the proliferation of knowledge and synthesise information. Transdisciplinarity has been identified as holistic management (Savory 1999) and at the University of Ballarat we promote transdisciplinarity but recognise that it is a struggle to realise the rhetoric:

Environmental management is a transdisciplinary approach using the knowledge, skills and attitudes from a range of other disciplines such as environmental science, ecology, zoology, botany, geology, philosophy, and the social and political sciences. It builds these different disciplines into a co-ordinated, coherent unit of knowledge applicable to solving problems and making decisions for the environment and the community.

(University of Ballarat 2003)

In addition, it can be seen from the above quote there are elements of positivist thinking with the assumption that a ‘co-ordinated, coherent unit of knowledge’ may exist and have direct relevance to problem-solving and decision-making.

My concern is similar to Mitchell’s (1979). There is more to inter-disciplinary or multi-disciplinary courses than a student selected smorgasbord of skills and knowledge. Some disciplines may not be suitable for inclusion in an environmental course, particularly if that discipline adds little value to the course’s integrity – assuming that the course has some integrity.

Designing the curriculum inclusive of more than one discipline requires appreciation of how integration of different disciplines assists the learners’ understanding of the complexity of the issue. There are problems in achieving such tangible outcomes:

Recognition of the value of interdisciplinary work is one thing doing it is another. Dansereau (1975, p. 21) noted that disciplinary jealousies are hard to break down, and that the rewards of teamwork are less tangible than those from individual achievement...

(Mitchell 1979, p. 327)

Students will make their own constructions of knowledge from the diversity of content presented. Without some co-ordination the current approach for greater fragmentation and unitisation of courses may not assist the student to identify a course's central theme (Barnett 1994).

Although promoted as a liberalisation of the curriculum, with greater freedom of student choice, unitisation leaves students focussing on acquiring specific 'pieces' of knowledge and not exploring the interconnections between knowledge.

Fragmentation of learning may not clarify for students which knowledge and skills might be central to environmental practice. Students, unaware of the attributes of professional practice, will find it difficult to design their own course to meet the needs of a practice about which they have little or no knowledge.

Unitisation and the so-called 'free choice' made by students may not, from Peters'(1970) perspective, liberate learning especially if the students' emphasis is vocational.

There are a number of financial, managerial and research barriers to creating transdisciplinary courses. The advantage of a discipline-focused course is that control, responsibility and income reside within one faculty (Weis 1990). In many universities there is usually a physical location (e.g. building or floor) promoting discipline-based collegiality. Pragmatic management decisions about resource allocation often out-weigh the advantages of promoting a more transdisciplinary research or teaching program. In contrast, Lemons (1996) suggests that structuring a diversity of disciplines into a course can actually enhance long-term academic stability. As students' interest in different disciplines fluctuates, multi-discipline courses may initiate innovative and creative teaching and research programs providing opportunities for buffering against fluctuations in student interest.

Operating against these co-operative ideas are the academics themselves, who have invested personal energy and effort into their discipline and embedded themselves within a tribal discipline-based culture (Becher 1989). It is common for academics to prefer to be identified by their discipline rather than their occupation (MacDonald 1997; Piper 1992) as there are distinct career advantages

for specialisation (Martin 1999). There is often greater encouragement for research within a single discipline because this offers the individual academic distinct competitive advantages. This discipline chauvinism, a characteristic of most universities, operates against the more holistic thinking of transdisciplinarity (*Elective 2*).

In conclusion, if transdisciplinary courses are to be valued then links between discipline-based knowledge, and what evolves from these links, must provide the stimulus for curriculum change. Course designers need to concentrate on the synergies that occur between disciplines and how this might promote new learning opportunities.

### **Professional education for the environment – meeting the needs**

There has been little published in the Australian literature on the value of environmental courses to industry or the community: a great deal is assumed. The assumption is that if graduates are employed then they are meeting the needs of the industry (Brown and Clarke 1997). However, amongst a background of continual criticism of higher education (Bates et al. 1992; Higher Education Council 1992; Nielsen Research Services 2000 see *Elective 2*) few measures exist evaluating how well Australian environmental graduates are performing in their chosen occupations. *Elective 2* explores the suggestion that Australia's disappointing environmental record may be indicative of a lack of success of professional environmental education.

Lothian (1994) proposes that the appropriate technical knowledge to resolve environmental issues already exists within the community:

Environmental action by government, business and industry is generally not held back because of a lack of technical understanding of what needs to be done, but because of a perception of insufficient community support. The results of surveys taken across Australia over the past 20 years indicate that this perception is false; and that a substantial body of support does exist amongst Australians for action to safeguard and better manage the environment.

(Lothian 1994, p. 96)

However, in Australia environmental problems appear resistant to this recourse to technical resolution.

I suggest that professional environmental education requires an educational model that is not framed solely by an emphasis on technical knowledge. Technical rationality models may be useful if there is agreement about the technical solution, and the authority of an elite group is legitimised by policy or legal processes e.g. standards. But environmental problems are ‘noisy’ and ‘messy’, and exist as constructed concepts within complex, diverse and dynamic social and political views and values. I suggest that resolution of these ‘uncertain’ problems lies in understanding how they are culturally embedded not technically determined.

Greater recognition of the non-technical aspects of professional education has occurred in fisheries management (Cole 1992; Royce 1984), outdoor education (Magill 1992), natural resource management (Bryant 1992; Cole 1992; Lemons 1989; Nielsen & Decker 1995; Weis 1990) and forestry in Australia (Kentish 1994; Kentish & Fawns 1995, 1997; Ross 1993; Sands & O’Reilly 1995; Vinden 1995) and in the U.S.A. (Lassoie, Huxley & Buck 1994; Petersen 1993; Sample *et al.* 1999). However, after reviewing a range of professional environmental courses in Australia, I suggest that there is a dearth of any sense of professional environmental education with explicit environmental ideologies. Although Barnett (1992, 1994, 1997) promotes criticality as a key theme for professional education this was rarely mentioned in any of the material reviewed.

### ***‘Agents of change’ or ‘changed agents’***

From my review of the material presented I suggest that for many courses ‘knowledge to understand’ is being replaced with ‘knowledge to-get-a-job’, and professional education is being reduced to vocational training (this is expanded in *Elective 2*). The concern with this division between the vocational and vocation in higher education is not new (Barnett 1994, 1997) and Marginson and O’Hanion (1993, p. 3) state:

Vocational and academic attributes are often polarised. Many academics argue that the formation of personal attributes in these

Undergraduate Environmental Courses in Australia: a critical review – Elective 1  
courses cannot be made specific to employment, or any ‘extrinsic’  
purpose, and to understand generalist disciplines in this way is to  
violate their nature... The opposite claim is that any and every  
attribute in higher education can be defined and measured in terms  
of employability.

I suggest that limiting ideas about the purpose of professional environmental  
education to support employment criteria constrains professional education to a  
technocratic model (*Elective 2*). Professional education may then become  
reproductive of current perceptions of professional practice, which may tend to  
promote *stasis* within practice. The result is that higher education becomes  
dominated by attempts to create students as ‘changed agents’: functioning as  
competent and employable people (Figure 2).



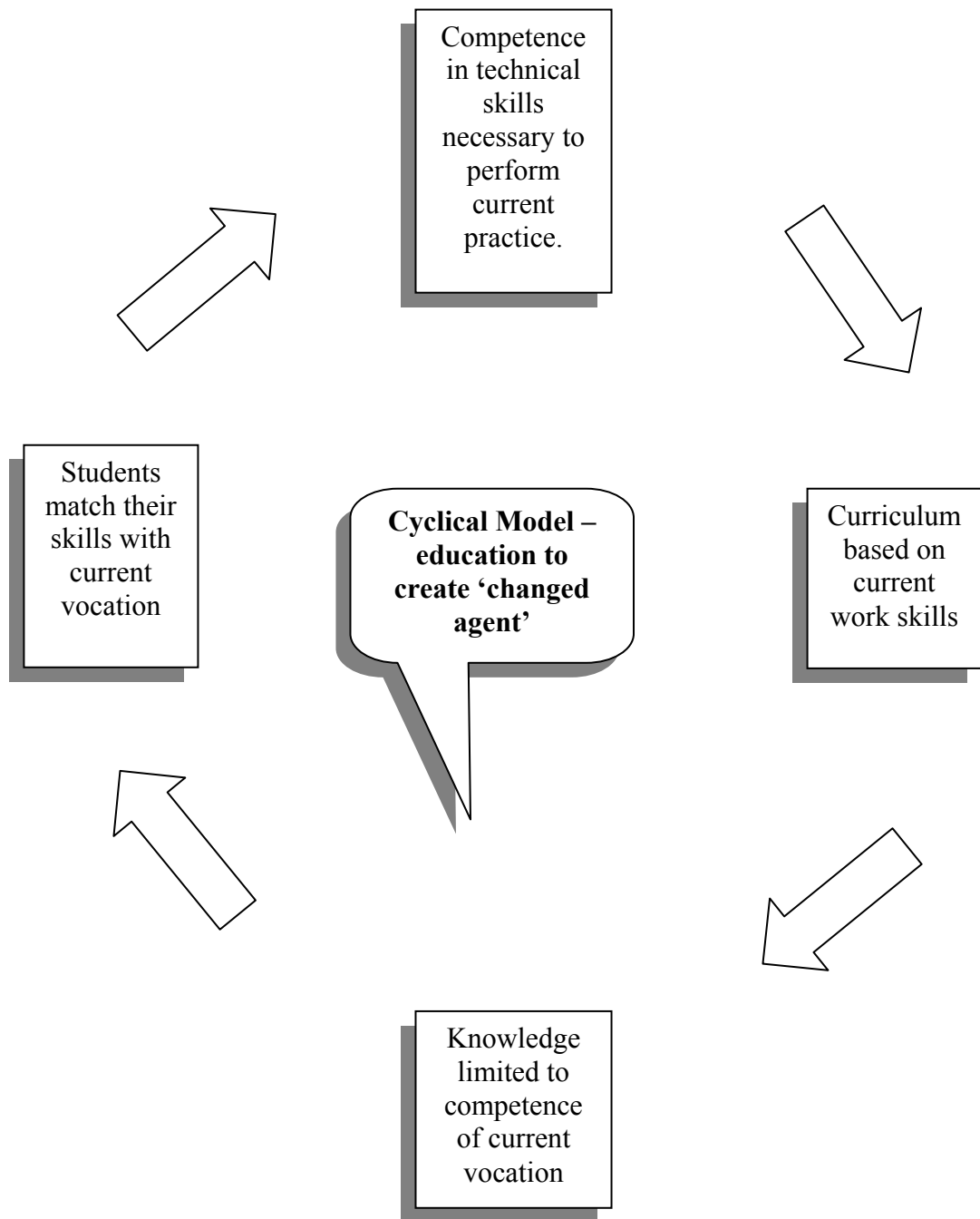


Figure 2 – Students as 'changed agent' model

Figure 2 is a model for higher education that ensures that students are competent to meet industry standards, and comply with current professional practice ensuring maintenance of the *status quo*. Such a model resonates with the dominant social paradigm (Fien 1993), but may reduce professional skills to a

technical, competence-based, framework. Nevertheless, this model appears to be favoured by many universities, for example:

As an environmental officer with a mining or petroleum company, you might be involved with environmental impact statements during planning stages, monitoring programs while the mine is active, or rehabilitation programs after mining activities have ceased. It will be your job to understand the government's environmental policies, and to ensure that your company is complying with the legislation. Your technical knowledge will be needed when you liaise with staff involved in exploration or production, and your understanding of cultural issues will be important when you negotiate with government and community groups.

(Queensland University of Technology 1999).

The implication of this technocratic model is that higher education is dominated by training to ensure compliance, which, it is assumed will ensure employment for the graduate. The university's function is then seen as a service-provider to the interests of government and industry. Universities then become job-training centres with the common question from many prospective students being, 'What job can I do with this degree and how much will I earn?' (From my experience these are the most common questions that prospective students, and their parents, ask when investigating the BAppSc (Environmental Management) course at the University of Ballarat). This direction for tertiary education is at some distance from Barnett's (1997) call for criticality in higher education.

'Learning for earning' reduces the inclination for academics or students to publicly critique professional practice (including their practice) for fear that such criticality will make their graduates less employable and the course less attractive for prospective students. I suggest that this job-training orientation will ensure that curriculum design will become more conservative and reproductive of the *status quo*, particularly if the pressure exerted by external agents is not educational.

My concern is that the direction taken by many professional environmental courses resonates with Barnett's (1994) idea that operationalism dominates in higher education. I question whether the current vocational direction taken by

universities is a suitable orientation for an environmental profession that is already struggling to resolve ‘messy’ problems (*Elective 2*):

My claim is that, left to themselves, the dominant social forces at work are such that the curriculum would in time become saturated with forms of knowing-how...

(Barnett 1994, p. 47)

I argue that vocationalism has led to changes in the higher education discourse with moves from valuing ‘knowing-that’ to ‘knowing-how’, and assumptions that the latter is more important because it is practical and pragmatic, and makes the graduates employable. This ‘knowing how’ orientation dominates because of its immediate relevance to stakeholders and the ease of course evaluation (such as the number of employed graduates – see Ashenden & Milligan 2001).

I challenge whether ‘knowing-how’ meets the professional reflective requirements expressed by Schön (1983, 1987). In addition, a technocratic education may fail to develop critical persons (Barnett 1994, 1997) who are able to promote ‘professing-in-action’ (Barnett 1997, p. 179), which is Barnett’s call to engage critically with the world: a key theme often promoted in environmental education (Fien 1993; Robottom & Hart 1993).

I suggest that professional environmental education will become more conservative if it fails to challenge its own practice (Schön 1983). External demands on tertiary education from government and industry may create conservative approaches for learning if each course addresses only the demand for improved employment statistics. This may create a spiral of events where conservative courses become more conservative as they attempt to address vocational demands which are evaluated against current practice. The end result may be a technically trained, compliant, work-ready, productive graduate trained to meet ‘national’ standards; however, such a graduate may not be able to appreciate any deeper understanding (and in this thesis I emphasise an ethical appreciation) of what is implied by professionalism in the various contexts in which they find themselves. Such professional contexts may require *more* than expertise in the application of technical knowledge.

In contrast, to an uncritical professional education model, Figure 3 presents an approach where both student and staff may feel more empowered. Figure 3 outlines a model encouraging critique of professional knowledge-as-practice. This model promotes students as ‘agents of change’, enhancing their critical patterns of thinking where students (and academics) are encouraged to reflect on their practices (*Dissertation*), and the practices of other professionals (such as demonstrated in the *Elective*). I suggest that education to encourage criticality may enhance the ability to reflect-on-action.

This model (Fig. 3) is based on the action research spiral:

Action research is a form of self-reflective inquiry undertaken by participants in social (including educational) situations in order to improve the rationality and justice of (1) their own social and educational practices, (2) their understanding of these practices and (3) the situations in which the practices are carried out.

(Kemmis 1982 in Robottom 1993, p. 109)

Although appearing to emphasise personal empowerment this model appreciates that critical reflection does not occur in a social or political vacuum. As students and academics identify opportunities to change their practice they will change their understanding of their environment and the constraints in which they operate. In addition, changes to their environment will influence them. The possibility of empowerment of students through criticality will depend on their ability to understand and challenge the constraints in which they operate. This model requires a thorough, critical examination of these constraints.

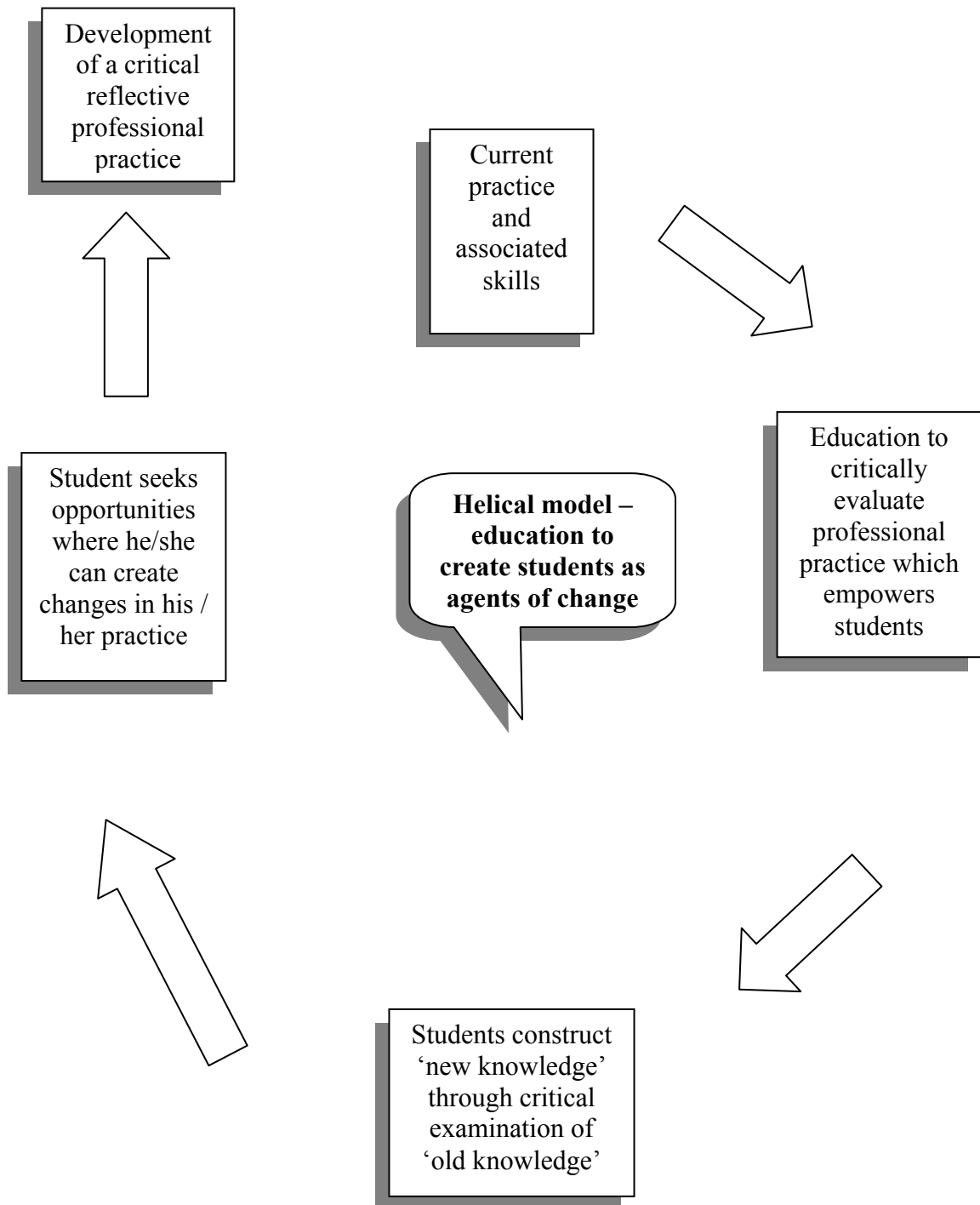


Figure 3 – Students as 'agents of change' model

There is some evidence that courses exist which promote this approach. The Bachelor of Social Science (Environment) at RMIT appears to be orientated towards the ‘agents of change’ model. This course suggests a socially critical framework akin to Fien’s (1993) and Robottom and Hart’s (1993) ideas:

The RMIT Environment course will develop your ability to think creatively and really communicate with people from a wide variety of backgrounds to work towards solutions to such problems as global warming, loss of biodiversity, urban pollution and many others...The course will help you to thoughtfully analyse past and present situations, propose creative solutions and be directly involved in improving cities, rural areas and the world.

(Royal Melbourne Institute of Technology 1998b)

The importance of the ‘agents of change’ model is that it encourages students to develop a sense of criticality and reflection, which I argue are key themes for professional practice. In contrast, the ‘changed agents’ model tends to reproduce current practice within higher education. My promotion of the ‘agents of change’ model is to mirror, for students, what I regard as professional skills (criticality and reflection) within professional practice within professional education.

### **Recommendations for environmental courses**

In a conclusion to my review I suggest that:

- the term ‘environmental’ is often used because of its assumed popularity with students;
- many environmental courses appear to be founded in a paradigm supportive of science, technocentrism and are themselves technocratic;
- there is some confusion in the different interpretations of inter- or multi-disciplinarity,
- there are attempts to include generic skills within course structure to address industry and government concerns;
- professional education appears to be driven by vocational outcomes producing graduates who can ‘fit’ into current employment practice;

- there is limited exposure of students to critical perspectives for environmental education; and
- environmental courses appear to focus on ‘knowing-how’ and producing what I have called ‘changed agents’ (see Fig. 2).

Cosgrove & Thomas’ (1996) call for ‘a need for tertiary environmental educators to have a clear understanding of the employment market’ (p. 33) appears to have been addressed. Graduates are being employed but I suggest that this orientation has come at a cost. The current vocational orientation of many courses appears to detract from any critical debate about the purpose of professional environmental education (for expansion of these ideas see *Elective 2*). Currently, it appears that the ‘purpose’ of many environmental courses is to provide a vocational ‘service’ to students and employers with graduate employment statistics used to evaluate the course (Ashenden & Milligan 2001).

To be competitive, and to address the diversity of employment, universities have produced a diversity of courses; however, in reality I suspect that although the technical content may differ the ideology is similar. Course similarity is due, in many cases, to the scientific origins of the course and its location in science faculties. I suggest that developing vocational courses in a limited job market promotes conservatism, because universities will compete to produce graduates for the same jobs.

To achieve a more critical and reflective professional environmental course, as opposed to mere job training, there needs to be debate about the following questions:

- What is the explicit environmental ideology underpinning the course and how is this ideology explored, and critically examined?
- Are the goals for the graduate clear, specific and aligned to a professional ideology supportive of critical and reflective examination of professional practice?
- To what extent does the course:

- foster an awareness of, and concern for, promoting environmental, social, political and economic interdependence?
- provide each student with the opportunity to be a critical person;
- What mechanisms are in place to ensure that the course, without prejudice, integrates knowledge and practice from appropriate disciplines to form a holistic, co-ordinated body of environmental knowledge?
- How does the course challenge students' expectations of current professional practice to develop new ways of thinking and practicing in collaboration and participation with different stakeholders?
- To what extent does the course, and university, promote partnerships between professional education and professional practice?
- What institutional changes have taken place to reinforce all of the above?

I suggest that a critical professional environmental education must be located within a critical professional organization. Universities, and academics must challenge how they can incorporate, and publicly demonstrate, their criticality in *all* their activities and business operations. This is not a trivial public relations exercise and requires substantial managerial expertise; however, *Elective 2* suggests that this is not the current situation as universities move towards increased corporatisation.

Unfortunately, Australia does not have many examples of changes in environmental culture in universities. The reasons are complex. Thomas, Kyle and Alvarez (1999/2000, p. 100) speculated that the inability to engage staff in a more environmental perspective was due to 'an absence of resources...an advocate with status...shared core values amongst staff'. Alabaster and Blair (1996, p. 103) found in the U.K. that 'No FHE [Further and Higher Education] institution has yet had the confidence to promote itself specifically on the grounds of good environmental practice, or even to publicise, as fully as it might, its plans for improved environmental responsibility'. There appears to be a lack of environmental leadership and commitment in many organizations (see *Elective 3*), including universities.



If professional education is to seriously engage with the diversity and complexity of environmental problems I suggest there is a need for alternatives to the technical domination of courses offered by universities. In this *Elective* I have promoted an ‘agents of change’ model that I suggest will enhance professional environmental education and professional practice by engaging students and academics in their criticality (Barnett 1997). But low student numbers and poor employment prospects for graduates associated with the tribal conservatism of many science faculties and an increasing vocationalisation of courses all operate against promoting alternative curricula. This dilemma, to some extent, encapsulates a gap between my theory and my practice. In this thesis I address this gap by suggesting that theorising promoting professional education as criticality can be encouraged through reflective examination of a land ethic or land ethics (see *Dissertation*).

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## **Links between Environmental Policy and Professional Environmental Education – Elective 2**

### **Abstract**

Australia's social history outlines the dominance of a bureaucratic elite charged with responsibilities to resolve environmental problems. I suggest that bureaucracies have approached environmental problems from a technical and science-dominated paradigm, because this appreciates and values an elite and privileged perspective. In this *Elective* I challenge the suitability of this dominant paradigm, which has not only been used to address environmental issues, but has also shaped professional environmental education and environmental professionalism (*Elective 1*).

Professional education in universities appears to be in a state of tension and the current pervasiveness of corporate and vocational orientations in universities appears to endorse the dominant social paradigm. This paradigm may not encourage collegiality, scholarship, participation, negotiation and empowerment, which appear to be embedded in Schön's (1983, 1987) ideas for professional education and are considered applicable to resolving contentious community-based environmental issues. I argue that an alternative, more socially engaging, professional education may inform future professionals who will ultimately write and implement environmental policy.

There appears to be demands for environmental policy implementation to become more socially engaging (Petheram, Stephen & Gilmour 2002), yet at the same time universities are increasingly being managed as corporate businesses serving their own and government's agenda. As such there appears to be a divergence between the graduate skills that universities promote as part of their technocratic environmental courses and the skills that the community requires of its professionals to resolve environmental issues.

## Introduction

Environmental policy and professional environmental education are interdependent because writers and implementers of policy have usually been professionally educated (see *Elective 1*). This interactive link implies that professional environmental education influences policy design and its successful implementation. *Elective 1* found that most professional environmental education in Australia is technocratic and founded on scientific disciplines. This approach may frame environmental policy from a technical perspective. However, several commentators (Fien 1993; Robottom & Hart 1993) suggest that environmental issues are socially constructed by community values. If this is acknowledged then a technically dominant professional education may limit the effectiveness of professionals to be able to delivery policy within its social contexts. In this *Elective I* explore the links between Australian environmental policy and the dominant culture in universities.

This *Elective* is based on a number of assertions:

- Australia has a diverse range of unresolved complex, inter-disciplinary environmental problems (Aplin 2002; Australian Bureau of Statistics 2001, 2003; Commonwealth Scientific and Industrial Research Organisation, CSIRO 2001);
- Environmental policy in Australia has to some extent been ineffective (Australian Bureau of Statistics 2003; CSIRO 2001; Doyle & Kellow 1995);
- Environmental education is slowly evolving from a science-based, technocentric approach to more socially critical, participative model (Fien 1993; Greenall-Gough 1993; Huckle 1983; Robottom & Hart 1993), but this change has had minimal impact on professional environmental education (Cosgrove & Thomas 1996; Thomas 1993; *Elective 1*);
- Universities are criticised if they fail to provide graduates with the skills, knowledge and values identified as desirable by employers and governments

(Bates *et al.* 1992; Department of Education, Science and Training 2002; Higher Education Council 1992; Nielsen Research Services 2000);

- Vocationalisation currently dominates professional environmental education (Cosgrove & Thomas 1996; Giroux & Myrsiades 2001, McInnis 1995; Thomas 1993);
- Universities are embracing corporatisation and managerialism as their new culture (Barnett 1994, 1997; Gallagher 200);
- Universities have a role beyond competence training and vocational education (Barnett 1994, 1997; Marginson & O’Hanion 1993); and
- Universities need to develop graduates as environmental citizens (Orr 1992) with the capability of analysis and critique of both policy and practice within their professional lives (Barnett 1997; Department of Education, Science & Training 2002; Marginson 1997; Marginson & O’Hanion 1993).

This elective will examine and explore some of these assertions as they relate to environmental policy implementation and professional environmental education. My own background, and current employment as a lecturer in environmental management at the University of Ballarat, informs my perspective on these assertions. For further detail of my personal history see *Dissertation – Section 1.1.1*.

### **Environmental Policy in Australia**

In this section I overview some of the factors influencing Australian environmental policy. Evidence from the literature suggests that many environmental problems appear to be more related to a lack of the political will to implement policy than to any inability to state policy (Beder 1997; CSIRO 2001; Doyle & Kellow 1995).

Factors determining the lack of political will are complex, but appear to be underpinned by the dominance of economic agenda influencing Australia’s social and political development. Underlying many environmental issues is the idea that environmental and economic agenda conflict (Fien 1993), and the dominance of

economic interests by governments may characterise a deficiency in an environmental ethic (Routley 2002).

It is now evident that in the last 10 years environmental interest in Australia is declining (Australian Bureau of Statistics 2003). This contrasts with Papadakis' (1993) earlier findings that there was a growing culture of environmentalism in Australia with an increase in the emergence of environmental movements:

Environmental movements have been highly successful in promoting their ideals. First, they have been able to utilise a rich tradition of ideas about nature and environmental protection. Second, they have drawn on the social bases and ideas of protest movements of the 1960s.

(Papadakis 1993 ,pp. 206-7)

With declining community interest in environmental issues it may be increasingly difficult for professionally educated environmental graduates to implement environmental policy effectively. Communities may not engage with policy in any meaningful way. Problems will be compounded if the graduates' professional education selectively omits the socio-political complexity of environmental issues in favour of a more technical orientation. Further complications emerge for professional environmental education as universities promote a technocratic education, and become absorbed within a culture embracing a corporate view of professionalism and professional learning.

### ***Brief history of environmental policy***

Australia's social history since colonisation has had consequences for the environment (CSIRO 2001; Doyle & Kellow 1995; Flannery 1994; Papadakis 1993; Powell 1976):

During the formative period 1788 to 1914 the Australian environment was irrevocably altered for future generations. Complex ecosystems were totally destroyed or rendered unproductive from any viewpoint, and others were so dangerously modified as to pose serious problems even for the sophisticated techniques of modern management. Similarly, specific and general orientations of the Australian public

towards native fauna, flora and landscapes, and to a lesser extent towards the built environment, became deeply entrenched.

(Powell 1976, p. 6)

Recently these apparent deep-seated utilitarian views about the value of the environment appear to have changed (Papadakis 1993; Lothian 1994; Mulligan & Hill 2001). Nevertheless this change has been slow and it started from a particularly low point (Arcury & Johnson 1987).

Historically, in Australia, there was reliance on a bureaucracy, with its expert knowledge, which grew to resolve environmental problems. This ‘colonial socialism’, a phrase used to reflect the active role for government in colonial Australia, meant that the government’s response to many environmental issues was the establishment of administrative structures to consider environmental protection and management (Kellow & Niemeyer 1999). However, complexities arose as government environmental strategies conflicted with the dominant role of those in authority, which was to encourage economic development.

When bureaucracy takes control there is often a perceived commensurate diminution of roles for the individual – a ‘welfare mentality’ – with control maintained by those with authority. This approach may compound feelings of marginalisation for the individual as decision-making processes are absorbed within government processes. A possible outcome is that individuals, not privileged with the elite knowledge of the bureaucrats, may experience a sense of powerlessness of their own ability to create change. This may increase the authority of the bureaucracy and dependence of the community members of this bureaucracy.

In recent studies by Connell *et al.* (1999) and Thielking and Moore (2001) of teenagers, there was evidence of ‘action paralysis’, described as a lack of capacity to undertake environmental action and a feeling of helplessness. This social outcome should create concern for environmental educators because it may be associated with a decline of interest in environmental issues (Australian Bureau of Statistics 2003). If students’ schooling and socialisation is dominated by a feeling of powerlessness



within authoritative, perhaps repressive, social and education structures then as young adults they may have learnt there is little they can do to create social change. There may be a ‘learnt’ dependence on bureaucracies that appear to ‘control’ their lives. Emotions similar to ‘action-paralysis’ may be symptomatic of a sense of community marginalisation from any decision-making process with the perception that governments are not interested in the individual’s view (see *Elective 3*). People may feel alienated from the process of government.

Australia has a commendable record of developing environmental policy; however, a lack of environmental performance places Australia in the international spotlight:

...Australia has one of the world’s worst current records for dumping and exporting toxic waste and, in 1994, was ranked 18<sup>th</sup> out of 20 nations by the London-based New Economic Foundation on the basis of its environmental performance ...Australia’s record on environmental policy formulation is generally good; the record on subsequent implementation has been very poor.

(Mercer 1995, pp. 1-2)

Since Mercer’s (1995) comment the environmental condition of Australia has not improved:

...the state of the Australian natural environment has improved very little since 1996, and in some critical aspects, has worsened.

(CSIRO 2001)

It appears that the development of environmental policy in Australia has not been matched by equally successful, tangible outcomes (Beder 1997; Dovers & Lindenmayer 1997; Doyle & Kellow 1995; Gilpin 1980; Mercer 1995; Walker 1992; Walker & Crowley 1999). Kellow and Niemeyer (1999) suggest that this problem arises due to the unequal status of environmental and economic concerns in the policy implementation process, particularly at state government level. Economic agenda usually dominate government interests, as can be seen by Gilpin’s (1980) cost-benefit view of environmental policy which he saw as:

An allocation of resources for environmental measures which has full regard for the alternative uses to which those resources might be put to achieve a rough balance of marginal benefits to the community.

(Gilpin 1980, p. 14)

I suggest that the problematic nature of environmental policy implementation in Australia is due to:

- dominance of political displacement activity instead of an appropriate resolution. This has created an overall slowness, or reservation, to act;
- Asian and Eurocentric utilitarian attitudes to the environment and a lack of recognition of the uniqueness of Australian environments;
- sectional demands, particularly from businesses and industries, directing economic rationalism and conservatism cloaked as pragmatism (particularly in relation to economic growth – the ‘jobs or environment’ argument);
- uneven distribution of power. The authority and political influence of business leaders on elected governments;
- development seen as economic growth, and a lack of appreciation of social and political factors affecting, and affected by, economic decisions;
- Australia’s dependence on exploitative and extractive industries (the ‘mining mentality’);
- tensions between the responsibilities of local, State and federal government agenda; and
- lack of political accountability except through the ballot box.

The social and political contexts of Australian environmental issues create a dissonance between what environmental policy should do and what is actually done.

This dissonance is:

...because the fundamental conflict, at all levels of public decision making remains that between the rationalities of neoclassical economics and administration on the one hand, and that of ecology on

the other. It is unlikely that environmental management will be effective unless this conflict is resolved, and the implications permeate all levels of government and administration.

(Walker & Crowley 1999, p. 246)

I suggest that a lack of engagement and participation between the bureaucracy and the community has underpinned the ineffectiveness of many proposed environmental policies.

Crowley and Walker (1999), Economou (1999) and Walker and Crowley (1999) all paint gloomy scenes for the future of Australian environmental policy at both state and national levels. Dominance of political party ideology influences economic agenda to such an extent that environmental decisions are often politically orientated to ensure popularity more than any strategic approach to problem resolution (Beder 1997, Doyle & Kellow 1995). Dovers and Lindenmayer (1997) go so far as to suggest that there is insufficient political interest in creating institutional structures capable of informing and maintaining policy in the long term. What appears to have been omitted from many policy formation processes is the inclusion of participative processes working with communities.

The resistance to changing governments' environmental attitudes appears to be based in Australia's economic history and political system:

Perhaps other political systems have different environmental policy experiences that would benefit from different theoretical explanations from those used here for Australia. Some political systems lack the complication of federalism, for instance. In others, there may be greater acceptance of environmentalism because they are less dependent upon resource exploitation. Some systems have more sophisticated environmental institutional design, which have been relatively more efficient than Australia's.

(Walker & Crowley, 1999 pp. 63-64)

Beder (1997), Crowley and Walker (1999), Mercer (1995) and Powell (1976) suggest that the enduring dominant exploitative culture in Australia has created an adversarial political climate for environmental conflict as opposed to one promoting issue resolution. An outcome of such a complex exploitative social history is that the

media frequently promotes environmental issues as ‘green’, anti-development, political and contentious – the aim appears to promote controversy. There are numerous examples to support this claim (e.g. see Harding 1998 for details of Australian case studies).

Environmental issues, promoted as contested political positions, are difficult to resolve, especially when the media promulgate conflict as the ‘normality’ of environmental issues:

It is not surprising that the media perceive most social and political action through a perspective of politics as party and interest group squabbles set in a pluralist system...the structure of Western democracy presents itself as pluralist, and the media merely fit in with this dominant view. Indeed, if the media are viewed as a ‘fourth estate’, then they are pictured as part of the policy processes of the state itself...The media are, quite simply, immensely powerful players in environmental policy formulation and implementation in Australia.

(Doyle & Kellow 1995, p. 173-4)

It is problematic as to how environmental professionals use policy to resolve issues that are framed by the media as contentious. The ‘green’ community may interpret government policy as ‘band-aid’ treatments of the symptoms of environmental issues rather than any long-term commitment to addressing underlying social and political causes of the environmental problem (see *Elective 3*). The ‘developer’ may see policy as pandering to ‘green’ interests (Beder 1997). Tensions develop due to a diversity of views about the relative importance of competing economic, social and environmental interests, for example concerns about the competing interests of biodiversity, commerce, industry, agriculture, timber extraction and tourism (Beder 1997; CSIRO 2001; Hawken 1993; Hutton & Connors 1999; Mercer 1995). These conflicts have to some extent encouraged a global increase in ‘greener’ politics with public and private voices of protest, leading to political movements demanding social changes to address public environmental concerns (Hutton & Connors 1999; Papadakis 1993).

The response from industry and commerce to these ‘green movements’ has often been divisive and subversive (Beder 1997), undoubtedly fuelled by mainstream commercial interests (Doyle & Kellow 1995). Papadakis (1993) suggests that the ‘green’ influence has been substantial; however Beder (1997) is more sceptical. The political success of these ‘green movements’ may be hampered if they are not viewed as a coherent group with a focussed agenda (Doyle & Kellow 1995; Hay 2002).

Further complicating the process of environmental issue resolution by effective policy implementation is the diversity and complexity of what are considered as environmental issues, for example the inclusion of social justice concerns (Harding 1998; Singer 2002). Doyle and Kellow (1995, pp. 271-2) suggest that:

Paradoxically the permeation of the use of the term environment (such as business environment, working environment, economic environment, creative environment) into various aspects of policy has, to some extent, diluted natural environmental issues or at least led to confusion and clarification of the central focus of the issue. An alternative perspective is that with the global use of the term environment there is a greater acceptance that the environment (whatever the context) is pervasive in all activities. The diversity of community’s interpretation of environmental issues can be found amongst the range of lobby groups.

To address these concerns bureaucratic processes, such as policy development and implementation, have enlarged to incorporate an expanded concept of environmental issues (e.g. environmental health, environmental engineering). This bureaucratic growth has, in many cases, tended to further isolate problem resolution processes from the community (see *Elective 3*). The outcome is that from the community perspective environmental issues are seen as ‘problems’ for bureaucracies and not the communities themselves. As such, reliance on the capability of environmental professionals to ‘solve’ diverse community problems has increased, which affects how the community perceives its role with the tendency not ‘to get involved’.

### ***Moves to greater public engagement***

Although Australia has been reliant on an elite, bureaucratic system for environmental decision-making there has been a recent move to encourage more community participation (Buchy & Hoverman 2000; Leverington, Williams & Wells 1994; Petheram, Stephen & Gilmour 2002). The expectation is that through community engagement environmental issues will become socially contextualised and perhaps less contested. It is supposed that environmental professionals can work *with* as opposed to *for* the community. However, the possibilities for resolution through partnership built on trust will be biased if the dominant perspective underpinning environmental issues is technical and technical knowledge is held within an elite group. Further, and of relevance to my thesis, is that although it is suspected that community collaboration will lead to improved decision-making, there is minimal evidence that the education of environmental professionals promotes the value of participative management.

Policy implementation, from a technical perspective, will be limited to those considered to have the appropriate expertise (tertiary-educated bureaucrats), which reinforces the authority of experts and, I suggest, dis-enfranchises the community from decision-making. Elite professionals will often view community members as marginal to the process of decision-making because the community lacks the ‘appropriate knowledge’. This centralisation of power and authority within an elite group undermines the purpose of any participative process to ensure that the dominant hierarchy of power is maintained (*Elective 3*). It is of little wonder that students identify links between knowledge and power (see *Dissertation – Chapter 5*).

Different perceptions of the value of participative and collaborative processes may lead to conflict, especially if the public becomes politically ‘wise’ and critical of the bureaucrat’s assumed authority and expertise, whilst professionals assume that their role is only to consult the community. The community may want to engage in the processes driving policy, but may find that the bureaucrats responsible are unaware,

or incapable, of engaging with the community (Petheram, Stephen & Gilmour 2002). Such negative experiences for community members may reinforce their perceptions of the elite nature of bureaucrats, which further isolates the community from their perceptions of their importance in the decision-making processes.

I suggest that a technical professional education may limit the professionals' options for alternative resolution pathways because (as shown in *Elective 1*) they have been educated to determine the 'appropriate answer'. A professional education that prepares a technical elite reinforces the idea that professionals 'know' what is 'good' for the community. I argue that scientific training in universities encourages such an elitist view, which is a belief in *scientific experts* who should be in *control* because they have the most rational, objective and truthful answers (Hand 1999). In contrast to this elitist perspective I suggest that environmental issues are sufficiently complex, and values-orientated that resolution requires a co-ordinated diversity of knowledge for which there may be no single expert, and that the concept of an expert is perhaps redundant:

...understanding the nature of environmental problems and how they might be solved requires much more than a scientific appreciation of environmental processes. It demands an understanding of how societies work, and how collective action within those societies is both organised and constrained.

(Johnston 1989 in Mercer 1995, p. 34)

Perhaps policy implementation based on knowledge derived from a scientific and technical paradigm may not acknowledge this constructed nature of environmental issues or the importance of local social and political contexts. Policy derived from elite sources may only be successfully implemented if the community are convinced that it is worthwhile for them, and that the various alternatives have been seriously considered (Petheram, Stephen & Gilmour 2002). However, with a lack of engagement with the community it is problematic that policy will address the diverse concerns of any community.

## Summary

I suggest that the implementation of environmental policy in Australia may not have fully acknowledged the importance of:

- Australia's unique social and political history; and
- the effect of an elite bureaucracy that frames policy from within a technical perspective.

I have suggested that within some professional elite groups there has been minimal encouragement for alternative dimensions to understanding professional practice (Kentish 1994). The outcome has been a lack of recognition for any need to engage in any participative processes with the community because the appropriate knowledge for resolution resides with the elite group.

There is a need for a paradigm shift for professional environmental education in universities from the dominance of the technical and scientific to an education that enables the successful implementation of environmental policy. However, such an education must also be critical of policy. Policy implementation depends on critically examining the power arrangements between bureaucracy and the community. Outcomes might be achieved when policy writers acknowledge that there is a diversity of 'solutions' for each environmental issue and bureaucrats might not 'know the right answer'. Engagement with the community will assist appreciation of these various perspectives but understanding how to engage the community is not a simplistic process.

In the next section of this elective I review my perception of the dominant culture in many Australian universities. Ironically, it appears that as professional environmental practice is demanding a decrease in the importance of external expert opinion, universities have embraced a corporate culture supportive of greater centralisation of power and policy control. It is no wonder that Petheram, Stephen and Gilmour (2002, p. 4) suggest:



The combination of a changing macro-economic environment and changing mandate for forest management means that forest management agencies are operating in a new and different environment – one for which their staff may have limited preparation or training.

### **Tensions for academics**

In *Elective 1* I argue that professional environmental education is technocratic, and supportive of a technocentric ideology (Fien 1993; O’Riordan 1977). This orientation implies that most environmental professionalism is informed by technical rationality (see *Dissertation – Chapter 5*). This path taken by professional environmental education has not been adequately critically examined. I propose that a lack of critique of the professional environmental curriculum may be due to the ‘uneasy state’ currently dominating higher education. To support my view I provide an account of what I consider to be some of the factors influencing this ‘uneasy state’ within academe.

### ***Changes in higher education***

Constant external criticisms by governments and industries of the effectiveness of universities (Bates *et al.* 1992; Higher Education Council 1992; Nielsen Research Services 2000) have challenged the apparent traditional security, independence and so-called ‘academic freedom’ in which some academics believed (Coaldrake & Stedman 1998, 1999; Martin 1999; Sheehan *et al.* 1996). The response to these criticisms is that academic culture is changing and academics must accept this change. Boys *et al.* (1988) suggest:

Academics are not, for the most part, helpless pawns in others’ games. They are reading the changes and adapting in order to sustain their positions...Many [academics] are also internalising new norms, as they are bound to do when boundaries become more fluid and the constraints on institutional mission more powerful. Their own perceptions of student needs and of their own reputational and reward systems are changing.

(Boys *et al.* 1988, p. 212-3)

Martin (1999) suggests that changes for universities are not insurmountable but depend on re-setting parameters:

All organizations – not just universities – are restructuring themselves into small, tighter, businesses. This means not just changes in the way staff work, but also changes in the way in which the staff are being employed...Few of us will be able to embrace such radically different ways of working, at least not in the short term...In the end, it comes down to us. It comes down to taking advantage of opportunities to learn and grow which are out there – or focusing on the negatives and the frustrations which are also certainly out there. In the end the choice is ours.

(Martin 1999, p. 155)

These changes to the ‘business’ of higher education are characterised as the corporatisation of universities (McNay 1995), which has affected academics who it is suggested feel that they are:

- dominated by a sense of intrinsic interest in their work more than any material rewards (Barnett 1994; Coaldrake & Stedman 1999; McInnis 1998, 1999);
- concerned about the intrusion of excessive accountability procedures, regulation and codification of work practices (McInnis 1998);
- negatively influenced by the pressure for compliance to routine management requirements that undermine the primary work motives of academics and put at risk outcomes and productivity (McInnis 1998);
- interested more in research than their teaching (Adamson 1980; Boyer 1990; Coaldrake & Stedman 1999; Halsey & Trow 1971; Ramsden 1998);
- experiencing decreasing levels of job satisfaction with a commensurate increase in the number of academics who state their job creates considerable stress (Boyer 1990; Martin 1999). However, in contrast McInnis (1998) reports that academics ‘were highly satisfied, and committed to, their work’. (p. 1); and

- facing changes in teaching practice with little or no formal training (Boyer 1990; Review Committee on Higher Education Financing and Policy 1997).

Influencing the above points is the constant pressure for academics and universities to compete to improve both the quantity and quality of academic work with reduced funds (Gallagher 2000). Compounding the problem of this speed of adaptation is the knowledge that there has been:

- substantial growth in student numbers (Barnett 1994; Department of Education, Science & Training 2002; Smith 1993);
- greater diversity of students' ability (Adamson 1980; McInnis 1999);
- increasing feelings of inferiority of academics in teaching-orientated positions (Adamson 1980);
- increased demand for greater research activities (Boyer 1990);
- increasing status related to research output (Adamson 1980; Bowden & Anwyl 1983; de Rome, Boud & Genn 1985; Moses & Ramsden 1992) measured quantitatively by the number of publications and quantity of research income;
- expectation that new technologies and flexible modes of delivery will be used uncritically throughout the teaching program (Coady 2000; Coaldrake & Stedman 1998, 1999; Martin 1999; Maslen & Slattery 1994; McInnis 1999);
- greater fragmentation of work time, with increased accountability and the imposition of externally driven quality assurance processes (Barnett 1992; McInnis 1998); and
- increased corporatisation of the university culture with centralisation of policy (Gallagher 2000; Giroux & Myrziades 2001; McNay 1995; Symes 2000).

I am employed by the University of Ballarat, which is a 'new' university (established January 1, 1994) with its origins as a College of Advanced Education (CAE) in the

binary system (Beggs-Sunter 1994) (see *Dissertation – Chapter 1*). My university has had to adapt quickly to change so that it could promote a ‘university’ image whilst addressing the funding constraints of a small institution (Kemmis & Maconchie 1998). The changes for universities, as experienced at the University of Ballarat, have influenced all aspects of academic work (see Barnett 1994; Coady 2000; Coaldrake & Stedman 1998, 1999; Karmel 2000; Martin 1999; McInnis 1998, 1999; Smith 1993) leading to some confusion as to the role of the academic.

Commensurate with these changes are academics’ concerns about the excessive demands on their time, lack of consultation at the workplace by management, increased workloads, lack of vision and leadership by senior management, low morale and not feeling valued (Barnett 1994; de Rome, Boud & Genn 1985; Martin 1999; McInnis 1998, 1999; Ramsden 1998). These are symptoms of what has been described as a ‘crisis’ in universities (Coady 2000; Coaldrake & Stedman 1998; Duke 1992).

This ‘crisis’ image of academe is contrary to what is considered by many as a suitable, perhaps stable, basis for a higher education (Coady 2000; Coaldrake & Stedman 1998, 1999; Martin 1999; McInnis 1998, 1999; Maslen & Slattery 1994; Marginson 1997) and ‘higher’ learning:

‘Higher’ education should mean a higher quality, a standard or benchmark against which experience of many kinds, learning at all levels and of all types, study and reflective inquiry are to be appraised.

(Skilbeck 2001 in Department of Education, Science & Training 2002)

Currently academics may not be well suited for these social, political and economic onslaughts. Clark (1987 in McInnis 1999) suggests that the academic profession is characterised as a collection of ‘small worlds, different worlds’ with internal tensions, mainly between disciplines, yet with differences so strong as to eliminate any idea of generalities. This may prevent a united front being presented to address these recent changes that have been externally directed by governments.

Differences between these discipline ‘worlds’, as popularised by Snow (1993) in his ‘two cultures’ thesis, and re-visited by Gould (2000), still underpins the infrastructure of most universities:

Literary intellectuals at one pole – at the other scientists... Between the two a gulf of mutual incomprehension – sometimes (particularly among the young) hostility and dislike, but most of all lack of understanding. They have a curious distorted image of each other. Their attitudes are so different that, even on the level of emotion, they can’t find much common ground.

(Snow 1993, p. 4)

Academics, living and working within their disciplines, are often assumed to live in ‘ivory towers’ (Duke 1992) and it is assumed they have ‘conversations with internal norms of what is seen as right behaviour’ (Barnett 1994, p. 61), with the discipline characterised as their *raison d’être*. This is the conventional view of academe – a vocation – beyond the assumed crassness of business activities and economic rationalism:

They [disciplines] can exert a lifelong claim on individuals’ attention: the call for skills of a high order; they contain their own standards, to which academics have to give their allegiance; and they call for devotion, in the real sense of the word.

(Barnett 1994, p. 68)

It is no wonder that in uncertain economic times, with increasing public accountability, academics defend the values implicit in their discipline with such vigour (Becher 1989; Snow 1993). The plethora of external constraints, beyond the control of the academic, may lead academe to submerge itself within discipline interests and research (see *Dissertation – Chapter 5*). However, the idea of lofty thoughts emerging in protected cloisters is assumed to be redundant (Duke 1992). It is no wonder that many academics feel helpless in this ‘sea of change’ as they are unsure as to how their supposedly ‘benevolent’ bureaucracy – the university – will provide for them in the future (Coady 2000). I suspect that many academics are concerned that the bureaucracy of the university may not value the academics’ interest beyond their financial contribution to ‘core business’.

### *Purposes of higher education*

Sir Robert Menzies in 1939 nominated the following as the seven ideals for a university (Department of Education, Science & Training 2002, p. v):

- a place of culture and learning;
- a training ground for professions;
- ‘mutuality’ that should exist between theory and practice;
- a place of research
- a trainer of character custodians of intellectual freedom; and
- a training ground for leaders.

To this list Brendan Nelson (Minister for Education, Science and Training) in 2002 added ‘the need for universities to enrich our nation’s cultural and economic life’ (Department of Education, Science & Training 2002, p. v). A wider perspective is taken by Australian Vice-Chancellors' Committee (1992 p. 67):

A primary mission of each university is to seek the highest quality of performance, to maintain enduring standards and to preserve knowledge and culture in the broadest sense. Universities, therefore, have a long-term perspective and long term-goals which are crucial components in the maintenance of community continuity and stability.

Universities are supposedly based on scholarship but academic roles have become fragmented into many different activities so that scholarship is a confused term.

Boyer (1990), in an attempt to provide a more holistic model encompassing academic work, promoted an expanded view of scholarship incorporating teaching, research, integration of work to the intellectual community and a relevance of university work to the community. Although Boyer (1990) may have encapsulated scholarship for some academics, it is an illusive term as Neumann (1993) suggests:

Scholarship includes the acquisition of extensive knowledge through reading and keeping abreast with the literature in a particular field which represents the broad area of an academic’s research interest...it encompasses writing and dissemination of knowledge, not only in

refereed mediums, but also the communication of ideas in a variety of forms to the broader community.

(Neumann 1993, p. 103)

There has been considerable debate for some time about the purpose of Australian universities (for example Cowan 1972; Department of Education Science & Training 2002; Encel 1965; Higher Education Council 1992; Hore & West 1984; Mahony 1990a, 1990b; Marginson 1997; McInnis 1995), but the purposes of universities are constantly changing in this era of the globalisation of education (Gallagher 2000).

There is also considerable debate about what a *higher* education implies (Barnett 1992, 1994, 1997; Department of Education, Science and Training 2002). Barnett (1992, p. 15) argues that the term higher education is contested because ‘some conceptions of higher education are promoted to the exclusion of others’. Examples of this can be found in Duke (1992) who suggests that universities need a new discourse inclusive of the keywords: enterprise, capability, competence and partnership (p. 21) (it should be noted that scholarship was not included) and Gallagher (2000) identifies ‘drivers’ influencing a different culture for universities, such as:

- changing forms of knowledge;
- student and employer dissatisfaction with traditional services; and
- need for institutions to diversify and expand their sources of revenue.

The response of universities to these ‘drivers’ has developed a new discourse. Terry Hore and Leo West (Hore & West 1984) reflected on the future of universities and emphasised political influences shaping university culture. They suggested that increasing demands from government for greater accountability was driven by the increasing cost of higher education (Department of Education, Science and Training 2002; Mahony 1990a, 1990b; Review Committee on Higher Education Financing and Policy 1997). Governments want more education for less money. Nevertheless, within the continuous political and academic wrangling about the purpose of

universities and endless debates about a ‘crisis’, it is worth reflecting on Marginson’s (1997) sobering concerns about the relationship of higher education to citizenship:

Citizens are not born but made; and citizenship is not fixed in stone but an evolving agenda for governments and others to consider. This means that what happens in education really matters. It also means that because what happens in education can change, it is possible to change the character of people’s social attributes – their nature as citizens.

(Marginson 1997, p. 6)

Education may still have a role in developing citizenship within these current conflicting agenda. However, in this thesis I question whether the current technical orientation for professional environmental education engages students as social ‘citizens’ in their profession. Individualistic ideologies, with a ‘what’s in it for me?’ mentality appear to dominate students’ interests (*Elective 1*), which although perhaps an anathema to concepts of citizenship might only be a reflection of what the university’s infrastructure is promoting.

In an attack on the apparent ‘ivory tower’ of academics the Federated Australian University Staff Association Union of Australian College Academics (1992, p. 40) emphasised differences between the academic and the ‘real world’. They saw a need for these two to be aligned:

The Higher Education Council believes the distinction between ‘education’ (involving understanding) and ‘training’ (involving skills) continues to exist. The academic unions believe this distinction is anachronistic...vocational training and education in most fields has increasingly emphasised real-world problem-solving in its pedagogical method. This convergence is one of the most important features of contemporary changes in work organisation and in education. As such, it is one of the key issues for assessing the outcomes of higher education, and is central to the question of quality.

Symes (2000) pursued this argument:

...the old idea of university as a remote institution, characterized by a relative homogenous culture, on the margins of society, a refuge for the ‘gifted and talented’, a medieval community in the modern age, is



now in the process of retreat. Cloisters are giving way to supermarket aisles.

(Symes 2000, p. 42)

However, it is questionable whether the ‘myth of academe’ ever existed in reality except within the minds of a few (Barnett 1994; Duke 1992). What is certain is that the myth of the irrelevance of academe to the ‘real world’ should be dead.

Academics have always worked in the real world (Barnett 1994). However, there has been extensive pressure from external sources for greater accountability of academics with calls for higher education to be relevant to work. This has blurred the differences between vocational training and professional education, especially as new professions emerge and demand professional status. This push for vocational relevance to the workplace has led universities to promote their role as job training (see *Elective 1*). The statistics on the graduates’ ability to find future employment has confused interpretations of what should be considered as essential for a professional education (*Elective 1* and *Dissertation – Chapter 5*) – an education that encompasses criticality.

### **Professional or vocational education: questions for academics**

Thus the distinction between a liberal or vocational education is a spurious one and one which the latest development in higher education discourse have only served to accentuate; for all education is vocational and, in the end, it is simply a matter of to what degree.

(Symes 2000, p. 42)

The emerging lack of distinction amongst the vocational and the vocation, training and education, and competence-based and professional education, has not always been the case. Peters (1970, p.32), more than 30 years ago, suggested training and education were different entities:

A man [*sic*] with a ‘trained mind is one who can tackle particular problems that are put to him [*sic*] in a rigorous and competent manner. An ‘educated mind’ suggests much more awareness of the different facets and dimensions of such problems.

In the same vein Barnett (1994) suggests that a higher education implies much more than a competence model of training. In contrast, Marginson and O'Hanion (1993, p.1) state that '...academics and employers draw a sharp distinction between academic and vocational attributes, but higher education prepares students for both'. Bowden and Masters (1994) write of the confusion amongst terms: 'academics, professional organizations and government bodies varied considerably in their understandings and interpretation of the concepts of competence, competency, competence-based standards and a competency-based approach to education' (p. 3). A simplistic answer to the dilemma of the practice-study dichotomy has been the promotion of ways to integrate study with practice. However, although this may resolve some of the differences it creates its own problems (see *Elective 1*).

Universities offer a professional education. However, clarification of professional education has itself been problematic (Jarvis 1983; Kentish 1994; Lawton 1998; Watson 1992) and contested (Barnett 1992):

Professionals are supposed to have something to profess, to be in command of a body of knowledge denied to their clients. The professional-client relationship is essentially one of trust...in which the client expects the professional to exploit his or her own knowledge in fulfillment of the client's best interests.

(Barnett 1994, p. 35)

Generally it is considered that a profession adheres to some of the following characteristics (Bines & Watson 1992; Jarvis 1983; Lawton 1998):

- Possession of a skill based on theoretical knowledge;
- Suitable formal training and education;
- Evaluation or testing of competence;
- Organisational infrastructure;
- Adherence to a code of conduct or practice and
- Altruistic service.

Professional education may promote professional characteristics but it is important to stress that the nature of being a professional is culturally constructed and dynamic. Nevertheless, professional education appears distinct from vocational training if it promotes examination, through reflection, of the social and ethical obligations that inform a meaningful life (Jarvis 1983, Schön 1983, 1987).

I suggest that professionalism can be aligned to an understanding of citizenship because they both encompass similar ethical characteristics, which have their origins in altruistic service (Heath 2000; Marginson 1997). However, values such as honesty, tolerance and an ethical life are difficult to teach, although they have been promoted as desirable within a cluster of generic skills promoted by governments and universities (Bates *et al.* 1993; Higher Education Council 1992; Marginson & O’Hanion 1993; Nielsen Research Services 2000). Yet, not everyone sees the need to include externally sanctioned generic skills within the curriculum:

...if there is one continuing danger both to university education and to professional practice, it is the possibility of bureaucratically inspired external interference in the planning and conduct of professional education.

(Bowden & Masters 1994, p.2)

Nevertheless, there is an assumption that tertiary students will gain some unique values during their time at university, perhaps ‘unique enough’ to explain the cost of tertiary education. Candy, Crebert and O’Leary (1994, p. 31)) outline what it means to be educated in the new millennium by identifying the following graduate characteristics:

When a student graduates with an undergraduate degree from an Australian university, he or she not only holds a qualification of international standard, but hopefully has acquired what used to be quaintly called ‘a taste for learning’. In the past, this taste for learning most often manifested itself in voluntary pursuits such as wide reading, attendance at lectures and conversaciones, and membership of learned clubs and societies. To-day, it might be sharpened by various forces and pressures, many of them undreamt of a generation ago, just as learning itself might be pursued in a range of contexts and settings –

such as learning from the television or from a computer – also undreamt of a generation ago.

These attempts to describe desirable graduate characteristics have been debated at length for some time (see Bates *et al.* 1992; Barnett 1992; Business/Higher Education Round Table 1991; Candy, Crebert & O’Leary 1994; Department of Education, Science & Training 2002; Duke 1992; Kabos, Mackie & Napper 1973; Higher Education Council 1992; Nielsen Research Services 2000). Yet there has been limited discussion as to how universities are able to develop these ‘desirable’ skills and values in an overcrowded curriculum frequently designed to address discipline concerns (Barnett 1994; Clanchy & Ballard 1995; Kentish 1999).

A professional education designed as ‘learning-for-earning’ or vocationalisation (Boud & Symes 2000; Giroux & Myrsiades 2001; Symes 2000) with a range of the appropriate generic skills, implies some underlying assumption that the ‘value’ of a higher education should be measured in terms of the graduates’ employability (see Ashenden & Milligan 2001) and these data are considered valid measures the university’s productivity and effectiveness (Ruthven 2003). This view constrains higher education to a technical perspective and as a service provider to industry.

Barnett (1994) questions whether professional skills, as generic skills, taught at university are actually transferable to the workplace. The evidence for the success of transferring such skills between university and work place is weak. For example, Gow and Kember (1990) found that universities did not promote professional skills, such as independent learning and motivation.

No wonder Barnett (1994) is concerned about the increasing technical orientation and vocationalisation of professional education:

We are beginning to see signs of professional education narrowing to sets of practical skills – indeed, to competencies – the behavioural operation, with clients reduced to being recipients of those skills rather than joint authors of the professional services they require.

(Barnett 1994, p. 80)

Educating to *ensure* that graduates ‘possess’ certain generic skills on completion of their course prejudices the importance of these skills. This approach determines which generic skills are to be included in the course as ‘relevant’ because of the interest that employers place on those skills (Nielsen Research Services 2000).

Barnett (1994) presents a considered argument as to the philosophical nature of such generic ‘skills’, and what teaching such ‘skills’, as opposed to a higher education, might mean for universities:

A higher education designed around skills is not higher education. It is the substitution of technique for insight; of strategic reason for communicative reason; and of behaviour for wisdom.

(Barnett 1994, p. 61)

The debate over graduate characteristics, generic skills, and how graduates can be distinguished from non-graduates has led some to call for life-long learning as a purpose informing a higher education (Candy, Crebert & O’Leary 1994; Cropley 1979; Duke 1992; Kentish 1999). Life-long learning can be considered as a change in pedagogy incorporating a student-centred capability approach for higher education (Stephenson 1992; Stephenson & Weil 1992 a, 1992b):

Capability, we argue, is developed as much by the way students learn as by what they learn. If students ‘have experience of being responsible and accountable for their own learning, within a rigorous and interactive environment’, they will develop confidence in their ability to take effective and appropriate action, to explain what they are about, to live and work effectively with other people, and to continue to learn from their own experiences.

(Stephenson 1992, p. 2-3)

There is a great deal of support for this approach. Duke (1992) has gone so far as to suggest that lifelong learning offers a new paradigm for higher education: ‘We are certainly moving, possibly by now downhill and with accelerating speed, towards adopting a new paradigm for higher education’ (p. 120). Nevertheless, problems arise when this approach conflicts with the disciplinary focus of some academics. The usual argument is that with an exponential increase in the volume of knowledge

there is already insufficient time in the current three or four years of a degree program for students to gain the necessary expertise to apply content to practice. For many academics there is some confusion between teaching the discipline with teaching the students and an overemphasis on decisions about what content should be included in the curriculum.

The differences between professional and vocational education may lie in distinguishing between an emphasis on abilities to critique and reflect on practice, as reflection-in-action (Schön 1983, 1987), and the technical orientation toward competence to reproduce skills. In an attempt to emphasise this distinction, Bines (1992) classifies three models of higher education:

- the pre-technocratic ‘apprenticeship’ model – on-the-job training dominated by mastery of facts;
- the technocratic model – development of systematic knowledge, interpretation and application of knowledge and supervised workplace practice; and
- the post-technocratic model – emphasising a ‘practicum’ which will develop systematic reflection on both practice and skills (see also Schön 1983, 1987).

It is argued that only the post-technocratic model is professional education because it emphasises the indeterminate and uncertain context of professional practice:

Most professional activity is based not on the two-step application of knowledge to practice but on an integrated knowledge-in-action, much of which is spontaneous and tacit. Moreover, real-world practice is primarily made up of messy and indeterminate situations as unique case, often involving conflicts of values, which practitioners cannot simply resolve through applying theories or techniques from their existing store of professional technical knowledge.

(Bines 1992, p. 13)

The technocratic model, dominant in most tertiary environmental courses (*Elective 1*), is reliant on exposing students to examples of ‘best practice’. My concern is that some current professional environmental practices may be unsuitable as role models

for students because they promote an elite bureaucracy dominated by a technocentric and managerial ideology (Cohen 1985).

### ***Critical enquiry as professional education***

Barnett (1994, p. 120) offers a different perspective for higher education based on encouraging critique and criticality:

Critique, and a higher education founded on critique, obliges us to take responsibility for the framework we employ.

This critical focus for higher education has been promoted by Schön (1983, 1987) as professional reflective practice, and is stressed by Bines (1992) and the Review Committee on Higher Education Financing and Policy (1997). Criticality also forms the basis for critical inquiry (Crotty 1998). However, it the concept was not dominant in the environmental courses reviewed in *Elective 1*.

Rowland (1996) suggests other advantages for a critical perspective that might reduce academic tribalism and promote locations ‘where lecturers could meet to draw upon the insights which their different disciplines offer questions of teaching and learning’ (p. 18). Rowland (1996) encourages professional practices that assist academics to ‘see the significance of students’ perceptions of the subject matter’ (p. 18), especially if these develop ‘relationships between curriculum...and the context of students’ lives and the wider society’ (*ibid* p. 18). I suggest that criticality can have positive outcomes for both teacher and learner if it is seen as a mechanism to challenge the *status quo*.

### **Corporate world of universities**

Promoting professional education as critical and reflective is problematic if the corporatisation and managerialism in which academics are embedded does not encourage this orientation. I would suggest that academics would not be encouraged by their managers to be critical of the university (see Coady 2000) because:

...in an organization – the modern university – characterized by internal managerialism and institutional hierarchy acting within an

external environment of competition, forces will be at work which will constrain the frankness of that self-critical analysis.

(Barnett 1994, p. 121)

Corporate academics may feel pressured by Alan Lawton's (1998, p. 2) imperatives that are thought to drive changes in the public service. These imperatives are:

- market forces – adoption of the importance of markets and quasi-markets;
- fragmentation – devolved management responsibility and creation of competing business units and costs centres;
- anti-career – adoption of short term contracts to ensure compliance of staff;
- public/private interface – contracting out and privatisation to ensure competitive 'edge';
- managerialism – requiring managers to be more entrepreneurial, competitive, flexible, reactive and responsive;
- costs – economic pressure on limited resources to ensure doing more with less;
- customer focus – increasing demands from what has become assumed to be the customer; and
- audit/performance – growth in the 'evaluative state' especially by external auditors.

There is little doubt that at the University of Ballarat (and I assume other universities) these imperatives have become the corporate language increasing in momentum such that they now frequently determine the administrative agendas leaving little time for intellectual pursuits such as criticality.

McNay (1995) summarised policy and organisational control in different types of universities (Table 1), with distinct patterns of control for each quadrant. However, universities do not necessarily follow this pattern sequentially.



Table 1 Policy and organisational control characteristics of different perspectives of higher education (based on McNay 1995)

<b>Quadrant</b>	<b>Policy</b>	<b>Organisational control</b>
Collegium	Loose	Loose
Bureaucracy	Weak in direction	Tight
Corporation	Intrusive	Tight and centralised
Enterprise	Firm direction	Loosened

In many cases university management has moved from relatively loose policy and organisational control (collegium) to a situation where policy is determined centrally i.e. corporatisation (Table 1). This implies an intrusive management model in contrast to a collegial, scholarship model. Current moves towards corporatisation with its greater control on the university activities may not create suitable places for Boyer's (1990) scholarship or Barnett's (1996) criticality. A hierarchy of control dominates the corporate agenda where compliance is seen in a positive light.

Gallagher (2000) found that globalisation, with the growth of information technology and a changing demand for higher education and increased global competition, has impacted on the character and structure of higher education valuing the corporatisation of activities within the university. There is resistance to this change because:

For the corporate university the overall objective is the survival and growth of the firm...[these] purposes differ fundamentally from those of traditional not-for-profit universities, especially public institutions, whose role is valued for its diverse social contributions to the individual learning of students for personal fulfilment, for effective participation in the workplace and for constructive contribution to society, and also for the advancement of knowledge and understanding.

(Gallagher 2000, p. 11)

However, I suggest that this resistance is weak particularly if it comes from academics who, due to the authority given to corporatisation, have become subservient to corporate agenda. Perhaps higher education as a place for scholarship, intellectual criticality and developing citizenship has become lost by the emergence of the new corporate discourse and its own language and agenda (Duke 1992; Ruthven 2003; Symes 2000). Promoting competence, compliance, unitisation, transferability, vocationalisation and job training all appear to resonate with the growing corporatisation of universities, where education is seen as a service to clients and academics are technicians trained (but not always) to deliver this service as modules at the lowest financial cost. However, the corporate approach also appears to encourage:

...temporariness, and a shallowness of commitment. Permanent allegiance to a set of values, or even to an organisation, is too costly. What is required is adaptability, a willingness to embrace new values at a moment's notice.

(Barnett 1994, p. 68).

Speed of responsiveness to market forces is valued in the corporate world of higher education. Knowledge becomes a traded commodity to be marketed at the 'best' competitive 'price' (Ashenden & Milligan 2001; Gallagher 2000). In this scenario universities will continually strategically re-position themselves to increase their financial security (Gallagher 2000) by taking a greater market share. Economic survival becomes the over-riding agenda. With this influence on university life I suggest that ideas of collaboration and participation become secondary to competitive advantage.

In contrast to this trend Barnett (1994) suggests a need for higher education to be 'beyond competence'. Higher education, he argues, needs to focus on 'life-world becoming' (Barnett 1994, p. 179), which he distinguishes from mere competence. Barnett's ideas appear to reinforce a sense of citizenship (Marginson 1997), and underpin a values-based professionalism (Jarvis 1983). Although Barnett's (1994) ideas are at some distance from the economic rationalism and managerialism rampant

in Australian universities they are in accordance with Kemmis, Cole and Suggett's (1983) argument for a more socially critical orientation for education. However, it is problematic whether universities can revive their interest in intellectual, as opposed to, economic interests.

### **Summary**

Universities appear to embrace a culture of managerialism, vocationalisation and corporatisation with hierarchies of control over policy. I suggest that the move to a corporate workplace supports a technical and deterministic perspective for tertiary education as academic work is 'fitted' into a managerial ideology with its emphasis on externally accountable performance measures. This technical approach for higher education contrasts with critical and reflective perspectives as promoted by Barnett (1997) and Schön (1983). I suggest that such a deterministic orientation to professional education may tend to ignore any intrinsic and personal values that may be valued within a higher education. The result appears to be a lack of any critique of different interpretations of 'what it is to be a professional' within this technical tertiary education.

It appears that an emphasis on managerialism and the authority of an administrative bureaucracy may create tension for any academic who values intellectual criticality. The criticality of the academic, which Barnett (1997) suggests forms the basis of intellectual studies, may not be encouraged by a corporate world because the development of criticality cannot be measured by economic measures such as productivity. The 'business culture', and its 'drivers' (Gallagher 2000), have encouraged a more utilitarian and functional education, which is managed as deterministic. I suggest that managerial and administrative bureaucracies may reduce the role of the academic to a position of service provider and in the service of the bureaucracy. This process will be disempowering and perhaps dehumanising if it has a socially oppressive effect (Freire 1972).

## Discussion

In this discussion I integrate the two themes: environmental policy implementation and the changing perception, roles and responsibilities of professional education. I have argued that Australians have:

- been successful in developing environmental policy but poor at implementing these policies; and
- created a corporate culture for universities that emphasises managerialism and the vocationalisation of learning.

Both of these themes intersect when power relationships between bureaucracies, management, their policies and the ‘community’ are examined. Historical evidence suggests that, from an environmental perspective, policy developed from a privileged position did not attempt to engage the community. The government was reliant on technical resolutions to address problems in complex social and political contexts and this created a hierarchical framework with a division between those with access to technical knowledge and without such access. I suggest that this may have disenfranchised the community from the decision-makers. However, more recently, in an attempt to create more effective government policy, policy-makers have been more amenable to mechanisms that encourage greater community participation. However, it has been difficult to erode traditional prejudices.

The evidence I present from the literature, and supported by my own experiences, suggests that bureaucracies, as elite and authoritative groups who demand tight control over policy, tend to promote a view that problems are amenable to resolution through recourse to a technical expertise that lies within a privileged elite. Such a hierarchy of power gives authority to technical, expert knowledge and assumes that the bureaucracy is capable of developing policy *for* ‘their’ community. The assumption is that communities are incapable of developing their own policy or self-management. Those in authority often take on a paternalistic role as they ‘care for’

their community. This approach tends to create inequalities of power and a reliance on technical knowledge as authoritative.

Universities, in contrast to the emergence of evolving partnerships between environmental bureaucracies and communities, have tended to embrace ideas that are central to corporatisation and managerialism. Universities have tended to align themselves to business models with acceptance of corporate cultures. This approach has tended to marginalise academics leading to feelings of disempowerment with, perhaps, the result of reducing the academics' role to one of a technician. With this increasing managerialism in universities academics may no longer feel that they fully participate in the university or that their scholarship is central to the culture of the corporate university. This may have an effect on the academics' interpretation of scholarship that contrasts with Andresen's (2000) view:

Scholarship is not merely a term of description. It is a term of recommendation, of challenge. It demands and expects something that can and should be achieved in academic work... We are engaged in promoting a set of intellectual values contained within the meanings of the terms we articulate and use.

(Andresen 2000, p. 138)

Aligning corporate and intellectual values may be problematic in an economically rational world. For example, in a corporate world academics must comply with external demands for greater vocationalisation of courses and the curriculum would be influenced by graduate employment statistics (*Elective 1*). However, I argue that the skills promoted by vocationalisation are unlikely to encourage a deeper, more critical learning (as promoted by Barnett 1997) because the dominant theme for vocational courses is competence not criticality.

Encouraging a critical ideology may be difficult when the dominant agenda in the university are deterministic, such as teaching 'smarter', doing more with less; maximising personal wealth and power; developing competitive advantages, individualism and speedy responsiveness to external demands. As Coaldrake and Stedman (1999, p. 27) suggest recently 'Institutions are struggling to reconcile their

cultures, values and aspirations with the modes of operation necessary to meet such external expectations'. Dangers exist as university cultures become corporatised because the growing allegiance to the business ('real') world becomes normality and 'beyond' criticism. There is some evidence in the literature that the 'new' corporate culture is so dominant that it is beyond critique (Coady 2000).

In this elective I have attempted to align what I suggest is a dichotomy between the emergent emphasis on managerialism and hierarchy within the corporate university (increased centralisation of control and external evaluation) and the desire for more collaborative directions being taken by environmental policy-makers (ideas of greater participation between professionals and their communities). I suggest a paradox is developing. Although there is a call from external agencies (governments and industry) for universities to be supportive of professional practice, the requirements of environmental professional practice and the directions taken by universities appear to be at odds. Vocationalisation of the curriculum with its emphasis on generic skills and compliance appears to have developed from the corporate universities response to external concerns. However, this direction appears contrary to the liberal thinking that underpins the more traditional values of collegiality and scholarship. From my perspective the encouragement of criticality and community participation as essential elements of professional education may be difficult in universities if as Martin (in Coaldrake & Stedman 1999, p. 27 – my emphasis) suggest academics need to work *within* the university's culture:

...academic staff need to approach their work as a learning task, which means they need to take personal responsibility for their learning, and **to find personal satisfaction and development by pursuing personal goals that are compatible with the larger organizational and external environment**. It is not, of course, sufficient to shift the onus of learning to university staff: it is also necessary to foster a culture within universities that supports and rewards initiatives and performance in the interests of both the institution and the individual.

Such suggestions imply a privileging of the authority of management and the bureaucracy. In universities if economic and corporate agenda over-ride and

dominate the fabric of the culture they will reframe ideas of scholarship to re-interpret such a concept to ‘fit’ within the corporate language. As example of this I present the following quote from the University of Ballarat:

In our University we value:

effort and excellence

service to one another

service to our communities

promotion of diversity

purposeful change

learning throughout life

(University of Ballarat 2003)

Such a quote demonstrates how higher education might create challenges for students if they suspect that concepts valued for professional education — criticality (Barnett 1997) and participation (Syme 1992) — cannot be found within the practice of service identified by the corporate university. As Lawton (1990, p. 120) indicates:

Education for social responsibility is impossible when most of the faculty are orientated primarily toward their own careers and content themselves with staying inside the protected walls of the Ivory Tower.

In conclusion, in the environmental industry sector there appears to be a reconsideration of the culture of government and how policy is formulated. This cultural shift is from an elite bureaucracy to a more participative community, which has resulted in the lessening of a role for elite, technical knowledge. In contrast, universities appear to be immersed in corporate cultures that privilege the centralisation of power and authority within a management elite, where consultation, not participation, is the norm. This frames how members of these cultures consider their role. My emphasis in this elective is that criticality, as professionalism, is needed to challenge the emergence and dominance of the corporate culture in universities:

More than ever before, critical research needs to address the objective, material conditions of the workplace and labor relations in order to

prevent the further resecuring of the ideological hegemony of the neoliberal corporatist state.

(Kincheloe & McLaren 2000, p. 304)

The problematic question for professional educators (such as myself) is that although it appears that reflection and criticality combined with a greater appreciation of social and political contexts are deemed valuable attributes for a professional environmental education, these attributes are rare within corporate cultures.



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## **Conservation in the Ballarat Region: a case study of community involvement – Elective 3**

### **Abstract**

In this study I explore the development of conservation strategies for the Ballarat region. During the 1990s the Ballarat community developed conservation strategies as examples of Local Agenda 21 (Environment Australia 2002a), which was an outcome of the 1992 Earth Summit in Rio de Janeiro. Emphasis of Local Agenda 21 was to encourage sustainable development in local communities. The Ballarat community's interpretation of sustainable development was constructed within a framework shaped by the dominant social paradigm. This influenced the community's perception of what it considered as appropriate environmental action.

It is important to stress that my critique of these local conservation strategies is not meant to undermine the excellent work that has taken place. This community effort is a credit and should be publicly applauded. The tangible results of this effort are clear statements of the community's interest in, and commitment to resolve, environmental issues. However, on reflection and analysis, my critique of the strategies indicates the strength of influence of the dominant worldview on what was achieved by the community.

I suggest environmental issues, as they have been locally interpreted, are narrowly perceived from the least politically contested perspectives: an emphasis on individualism and biotic conservation. I critique these interpretations of sustainable development and compare them with the literature to explore the problematic nature of environmental education and sustainable development.

In conclusion, implementing local conservation strategies is problematic given the dominance of the technocratic orientation of environmental issues. Whilst professional environmental education remains focussed on interpreting environmental issues from a technical, reductionist and scientific perspective, the community, who look to professionals as authoritative experts, is unable to

incorporate the historical, political and social consequences of the issues. This tends to trivialise environmental issues and ensure that they remain marginal to the mainstream economic interests of local government. The dominance of this technical appreciation of environmental issues fails to challenge the *status quo* of the hierarchy of authority held by local government. This elective explores different perspectives of sustainable development by providing a historical and conceptual framework within which this Ballarat case study is located.

### **Overview: Setting the scene**

This section of the elective introduces the social and political climates in which the local Ballarat conservation strategies were developed. My review is based on Ballarat's Conservation Strategies (Ballarat City Council and Ballarat Region Conservation Strategy Committee 1999; Cotter & Waller 1991). I was directly involved in the production of the earlier document (Cotter & Waller 1991) and am currently a member of the Ballarat Region Conservation Strategy Committee, which is a local government advisory group given the responsibility to implement the latter conservation strategy (Ballarat City Council and Ballarat Region Conservation Strategy Committee 1999). My role in the production of the 1991 document, and as a member of the advisory committee, is as a community member with an interest in environmental issues. I did not represent the University of Ballarat, where I am employed as a lecturer in environmental management (see *Dissertation – Chapter 1*).

Development of local conservation strategies such as the Ballarat Region Conservation Strategies 1991 and 1999 (Ballarat City Council and Ballarat Region Conservation Strategy Committee 1999; Cotter & Waller 1991) were part of a locally-driven, enthusiastic process to address environmental issues. Such strategies were thought to be a public demonstration of the conservation mantra – *Think globally, act locally*. The aim, in many cases, was to integrate global conservation agenda into local actions and activities. This elective explores the 'success' of such actions and comments on the local community's interpretation of the concept of

environmental sustainable development (ESD) and the effects on local government action in promoting such environmental policy.

Local Agenda 21 (Environment Australia 2002a; World Commission on the Environment and Development 1993) was an initiative endorsed by the United Nations and its member states, encouraging local governments to create strategies for sustainable development. Communities were encouraged to participate, and work consultatively with local governments, to produce their own priorities and strategies to engage in sustainable development practices. By 1996, 121 Australian councils were actively developing local sustainable development strategies and Local Agenda 21 was the dominant framework for 43 local governments (Higgins 2001; Higgins & Venning 2001). The Ballarat community was a leader amongst these local government environmental initiatives. These local initiatives are important because Australian local governments are an important player in environmental issue resolution:

Local government has been found to be a major player in protecting Australia's environment and in managing its natural resources. Australian local government spent a total of \$2.5 billion on measures to protect the environment and \$1.8 billion on natural resource management in 2000-01.

(Australian Bureau of Statistics 2002)

The global agenda in the 1980s was social environmental justice, often translated as environmental sustainable development (World Commission on Environment and Development 1990). However, there was, and still is, confusion about meanings, interpretations and implications of environmental sustainable development (Beder 1997; Hay 2002; Mercer 1995). In the case described here, sustainable development was interpreted as ecological, with a strong biotic conservation interest. This emphasis is worthy in its own right; however, I argue that this orientation does not consider social justice questions, which are the basis of a wider interpretation of sustainable development.

### **Sustainable Development: an overview**

The World Commission on Environment and Development (WCED) was constituted in 1984 as an independent body of the United Nations General Assembly. The aim was to:

...re-examine the critical issues of environment and development, and formulate innovative, concrete, and realistic action proposals to deal with them;

strengthen international co-operation on environment and development and assess and propose new forms of co-operation that can break out of existing patterns and influence policies and events in the direction of needed change; and

raise the level of understanding and commitment to action on the part of individuals, voluntary organizations, business, institutes, and governments.

(World Commission on the Environment and Development 1990, p. 407)

The WCED grew out of the International Union for the Conservation of Nature (IUCN), United Nations Environmental Program (UNEP) and the World Wildlife Fund (WWF) (IUCN/UNEP/WWF 1980, 1991), and required governments and communities to develop greater acceptance of their need to integrate sustainable ecological development as a national goal. Direct and indirect links were made between inadequate resource distribution, inappropriate economic development, poverty and their effects on the environment. Sustainable development was a term used to capture the integration of economic development, social justice and the long-term survival of the natural environment in both inter- and intra-generational contexts (WCED 1990).

#### ***Origins of sustainable development***

The concept of sustainable development is not new and was used by the American forester Pinchot as early as the 1900s in a purely utilitarian sense based on the maxim – the greatest good for the greatest number for the longest time (Disinger 1990).

O’Riordan (in Hay 2002) suggests the origin of sustainable development lies in a

series of conferences in Africa in the 1960s. Following a rise in environmental concern in the 1960s (Carson 1963; Ehrlich 1968; Hardin 1968) there was a rethink in the 1960s and 1970s about challenges to the environment that resulted from overt economic development. These challenges led to reconsideration as to what were the causes of environmental concerns with the idea that some economic development was unsustainable. According to Tahir (1995) the 1972 United Nations Conference on the Human Environment held in Stockholm is credited as the first time sustainable development was promoted.

In the early 1980s it was recognised that many wealth creation and economic development schemes resulted in degradation of environmental quality in both the short and long term. To redress this degradation *Our Common Future* (WCED 1990) encouraged governments and industries to acknowledge some responsibility for their lack of environmental concern. *Our Common Future* acknowledged that economic agenda were often perceived as opposed to social and environmental agenda and this book was a call to realign social, political and economic agenda into some agreed, more environmentally benign option – sustainable development.

Governments were asked to bring about changes through policy development and implementation encompassing an understanding of sustainable development:

...that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

The concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and

The idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.

(WCED 1990, p. 87)

Australia accepted this challenge with encouragement to agree to:

[A] growing recognition that we have to look beyond economic progress to achieve sustainable societies. Sustainable Development must be ecologically sustainable. Economic and social progress

depends on base ecosystem services (for example oxygen production and carbon dioxide absorption by plants) and a healthy environment. Development also implies an improvement in the quality of life through education, justice, community participation, and recreation.

(Environment Australia 2002b)

At all governmental levels the quest was to develop a local vision and policy framework whereby the apparent tensions between environmental and economic issues could be resolved.

Sustainable development was a request to consider how economic development could be environmentally and socially acceptable. The ‘answer’ appeared to be acceptance of a greater environmental consideration given to the well-being of both current (intra-generational) and future (inter-generational) generations. The need for greater intra-generational equity has been a common message promoted since the late 1960s (Ehrlich 1968). However, the outcomes of improving opportunities for greater equity have been minimal (Singer 2002). Inter-generational inequity messages of resource allocation are interpreted as using resources at a rate at which they would not be available for the next generation: stealing from our children. These popular messages rely on the ethical imperative that it is morally unacceptable to steal from children. Although the rights of future citizens are debated, what is evident is that because current intra-generational inequities dominate current social concerns any consideration of future generations, and their unknown resource demand, is seen as much more problematic. This has led some commentators to be cautious about the future and has encouraged the development of the precautionary principle (Harding 1998)

### **Conservation strategies in Australia and Victoria**

The impetus for the Ballarat Conservation Strategy was the Victorian State government’s *Protecting the Environment: A Conservation Strategy for Victoria*, (Victoria Government 1987) published by the Cain government in 1987. This government policy built on ideas developed by the *World Conservation Strategy*



(IUCN/UNEP/WWF 1980) and has been expanded into the *National Strategy for Ecologically Sustainable Development* (Environmental Australia 2002b). All of these documents alert governments and industries to the diversity, scope and extent of environmental problems and the need to consider:

...as a matter of urgency that human beings, in their quest for economic development and enjoyment of the riches of nature, must come to terms with the carrying capacity of ecosystems and must take account of the needs of future generations.

(Victorian Government 1987, p. 8)

The Victorian government's conservation strategy stressed interdependence between their environmental, social and economic platforms (Victorian Government 1987). Prior to this integrated approach, economic development was often seen as external and antagonistic to conservation and pro-environment choices (Hay 2002).

Recently in the Federal arena Australia has made a commitment to ecological sustained development where:

The NSESD [National Strategy for Ecological Sustained Development] commits all Australian governments to the following three core objectives:

to enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations;

to provide for equity within and between generations; and

to protect biological diversity and maintain essential ecological processes and life-support systems.

(Environment Australia 2002b)

To measure 'success' a 'scorecard' has been developed to measure Australia's commitment to meeting the National Strategy for Ecological Sustained Development (NSESD). The indication is that:

We are enhancing most aspects of individual and community well-being and welfare by following a path of economic development. While significant inequities still exist in the distribution of well-being within the current generation, on the basis of the very small number of

indicators chosen, there is some evidence that the distribution of well-being within the current generation is becoming more equitable...

However, our progress against the following aspects of the objectives is not clear.

...whether our economic development is safeguarding the welfare of future generations;

...whether we are providing for inter-generational equity; and

...whether we are protecting biological diversity and maintaining essential ecological processes and life-support systems.

(Environment Australia 2002b)

NSESD stresses the importance of improving our understanding of sustainable management of resources and the protection of ecological processes on which Australia's economic and social fabric depend. However, the outcome is not as good as expected for a developed country with a small population and extensive resources (Aplin 2002; Australian Bureau of Statistics 2001; Commonwealth Scientific and Industrial Research Organisation, CSIRO 2001):

When considered on a per capita basis, the Australian population has a large ecological footprint relative to other nations, indicating that our economy uses a lot of resources per person and produces a relatively large amount of waste per person.

(Australian Bureau of Statistics 2001)

This lack of apparent success may be due to the problematic nature of ecological sustainable development, difficulties with its measurement, and the lack of political will to create effective institutional change (see *Elective 2*). This lack of political will has been interpreted as the unwillingness of bureaucracies to engage with local communities in an effective and negotiated way. In *Elective 2* I suggest that Australia's social history demonstrates the dominance of a bureaucratic 'command and control' government philosophy underpinned by an exploitative and economic imperative; however there is evidence that there are changes from this dominant perspective.

## **Problematic nature of sustainable development**

Hay (2002) suggests that:

The contestable nature of the concept of ‘sustainable development’ can be seen by tracking the concepts’ ‘official path’, post-Brundtland. Even in Brundtland ‘sustainable development’ was linked to the agenda of trade liberalisation. Following interpretation and mediation in various national policy responses around the world, it emerged in Agenda 21 of the Earth Summit as a strengthened commitment to a globally scoped open-access and free-trade regime: ‘an open multilateral trading system, supported by the adoption of sound environmental policies, would have a positive impact on the environment and contribute to sustainable development’ (UNCED 1992), whilst Principle 12 of Agenda 21 warns against the use of national environmental protection policies as ‘a disguised restriction on international trade’ (UNCEC 1992).

(Hay 2002, p. 213)

There is little doubt that sustainable development has become problematic as different interpretations extend its conceptual boundaries (Barbier 1987; Bonnett 1999; Disinger 1990; Hay 2002; Mercer 1995; Tahir 1995). Hardoy, Mitlin and Satterthwaite (1992) identify over 80 definitions for sustainable development and Dobson (in Jickling 2001) suggests that there are 300 available definitions of sustainability and sustainable development. It is no wonder that the concept has been interpreted widely.

Bennett (2001) and Environment Australia (2002b, 2002c) provide overviews of the development of the sustainable development concept in Australia. Bennett (2001) concludes positively but cautiously:

Sustainability is an easy concept to grasp but a difficult one to apply. It is founded in tenets and practices as ancient, yet as contemporarily relevant as stewardship. It recognizes that humans and other species have needs that must be met at some cost to the environment and ecological processes. There are limitations on the capacity of the environment and ecological processes to fulfill those needs. Sustainability is more than just ecological sustainability. Ecological sustainability is inseparable from social, economic and cultural

sustainability. Achieving sustainability encompasses achieving economic prosperity, environmental quality and social equity.

(Bennett 2001, p. 46).

Mercer (1995) identified, from the Australian International Development Assistance Bureau (1990) document *Ecologically Sustainable Development in International Development Cooperation*, the key principles for sustainable development:

- Integrating economic and environmental goals in policies and activities;
- Ensuring environmental assets are appropriately valued;
- Providing for equity within and between generations; and
- Recognising the global dimensions.

Such principles appear to have a moral dimension (WCED 1990), nevertheless, how these ideals are to be incorporated in social and political agenda is a much more difficult task (Environmental Australia 2002b).

Sustainable development has its critics. Cabral (n.d.) suggests that the concept can be interpreted either as a theoretical concept or a set of goals or a strategy. This has led to some confusion. Hare (in Mercer 1995) suggests the following flaws in sustainable development from an Australian perspective. Sustainable development:

- is biased in favour of current economic policies;
- is only a marginal approach to policy change;
- creates confusion about the differential between ends and means;
- emphasises production rather than an examination of consumption patterns;
- fails to set targets and goals;
- omits population and per capita resource-use questions; and
- is parochial in its Australian outlook, often ignoring global consequences.

For some critics sustainable development implies maintenance of current arrangements of power and authority (the dominant social paradigm), but is ‘dressed-up’ to be more morally acceptable as environmentalism (Hay 2002; Mitchum 1997 in Bonnett 1999). That sustainable development appears to be supportive of the dominant social paradigm has led Hollick (in Mercer 1995) to question:

- Sustainable for what?
- Sustainable for how many and at what resource use level?
- Sustainable for how long?
- Sustainable over what area?

For some sustainable development has been regarded as an ideology more than a vision. This has negative consequences as Fien and Trainer (1993) suggest that an ideology is not politically or socially neutral, but provides a philosophical foundation for a particular worldview. Fien (1993) argues that ideologies legitimise normative social perceptions of power and authority, and can be used to maintain the *status quo* as dogma. From this perspective the politically dominant group can promote their dominant ideology to their own advantage, particularly if it suppresses alternate views. It is suggested that Western culture has promoted sustainable development, with its implied moral dimension, to support its own economic development agenda with the aim to legitimise economic, social and political activities that maintain Western cultural dominance. In this way sustainable development has been viewed as part of the Western globalisation agenda (Singer 2002), and a demonstration of environmental imperialism.

### **Ecological sustainable development and environmental education**

Eleven years after the publication of *World Conservation Strategy* (IUCN/UNEP/WWF 1980) ideas for sustainable living were restated in *World Conservation Strategy – Caring for the Earth* (IUCN/UNEP/WWF 1991). Both documents stressed the importance of education to bring about necessary changes to

achieve ecological sustainable development. Education for sustainable development was thought to enable citizens to understand, appreciate, value and implement sustainable practices (Huckle 1993; Olson 1996; Tilbury 1995). This view supports an educational vision that practices would be acceptable if there was agreement that the practice would be sustainable. Other writers are more cautious of the sustainable development orientation for education because of the lack of criticality of the concept (Jickling 1992b, 1993, 2001; 2002; Plant 1995).

These criticisms may be valid because there is some evidence that the practice of sustainable development should be normative, for example this quote from Adnan Badran, UNESCO's Assistant Director-General for science:

The human element is the most important factor... We therefore need to get whole populations involved and provide countries with the knowledge and expertise they require to carry out research and implement projects that will bring about such sustainable development.

(in Williams 1993, p. 47)

Education for sustainable development was reinforced in the 1992 United Nations Conference on Environment and Development in Rio de Janeiro. The emphasis, in Local Agenda 21 (derived from this conference), was a call for a re-orientation of environmental education towards sustainable development (World Commission on the Environment and Development 1993; Environment Australia 2002b). Yet, Tilbury (1995) has reviewed the breadth of the literature embedding ideas of sustainable development in education and suggests that there has been a failure to define educational interpretations of sustainable development with few mechanisms available to critique how this 'new' approach differs from previous interpretations of environmental education.

Throughout the literature (Fien 1993; Huckle 1983; Mrazek 1993; Robottom 1987; Robottom & Hart 1993; Sterling 1993, 1996) there is a call for environmental education to critique the dominant worldview. These writers present environmental education as an opportunity for enhancing social change through developing socially

critical orientations to underpin education. However, Sterling (1993) identified a difficult future for the implementation of such ideas:

There are difficult choices ahead. How do we create truly sustainable, ecologically sound, resilient and healthy systems and societies? If education is for anything, it has to be reorientated for this. We need to re-vision environmental education, indeed all education, so that today's young people – let alone tomorrow's – are socially and environmentally aware, self-reliant, critical, creative, confident, flexible, deeply empathetic to themselves, others and the environment, and empowered through appropriate skills, knowledge and values to create a better, greener, gentler and self-sustaining world.

(Sterling 1993, p. 95-6)

Sterling (1993) asks for educators to shift *their* worldview (and presumably the learners' worldview) so that they can play a more critical role in moving environmental education in a direction creating social change. Sterling (1996) suggests that 'real sustainability' (p. 37), needs to become 'meaningful and mainstream, rather than devalued and marginalized' (*ibid*) and this may require challenging the acceptance of some institutions.

Jickling and Spork (1998) and Jickling (2001) are concerned that replacing one paradigm with another is simplistic and argue for a more critical, and less directive approach for environmental education. By revisiting the earlier work of Scheffler (1960) the concern from Jickling (1992a, 1992b) and Jickling and Spork (1998) is that educative slogans, such as 'education *for* the environment' and 'education *for* sustainable development', can become operational doctrines underpinning and legitimising practices. These slogans may inform ideologies but may not be critical:

To enable the success of our students, we need to acknowledge that shaping the future does not consist of being led to adopt some alternative vision. Rather, it involves the more indeterminate process of examining and re-casting society. If we acknowledge that education should be free of specific ends, then we are ultimately led to challenge the way in which 'education for the environment' operates to predetermine educational aims. We believe that the creation and adoption of a promising new environmental vision should instead be viewed not as an aim of education, but as one of the logical and

practical outcomes of an educational process. And, we believe such an education offers most hope to those who wish to create promising new visions.

(Jickling & Spork 1998, p. 27).

These concerns are validated as sustainable development has become popularised and normalised and may now form an uncritical aspect of the environmental discourse (Environment Australia 2002b). Sustainable development is identified as core curriculum in disciplines as diverse as engineering and technology (Siller 2001); art and design (Chick 2000); civil engineering (Siller 2001) and geology (Villarroya & Aldwell 1998). It is argued that education for sustainable development can be cross-cultural and non-formal. For example, Wei and Ji-yu (2000) consider the development of sustainable development in urban cities in China. Tahir (1995) explores the need for sustainable development issues to permeate adult education in Pakistan. Fien and Corcoran (1996), in considering professional development and teacher education in the Asia-Pacific region, stress the importance of a participatory, critical reflective, interdisciplinary, local, innovative and inclusive environmental education, which is supposed to lead to a greater understanding of sustainable development. The common purpose appears to inculcate sustainable development into a diversity of cultures with the assumption that the concept of sustainable development is morally acceptable. Even the University of Ballarat endorses sustainable development:

Dennis Olmstead, a spokesman for the National Centre for Sustainability, at the University of Ballarat, said the information that would be provided to residents would include saving energy in the home, and renewable energy, such as solar hot water and Green Power. "This is an exciting new initiative that will greatly assist Victorians improve their energy efficiency practices," Mr Olmstead said. "The National Centre for Sustainability is committed to providing leadership in sustainable practices and we are looking forward to providing regional communities with the energy information."

(University of Ballarat, 2003)



Perhaps Jickling and Spork's cautiousness is warranted when the uncritical acceptance of any slogan becomes the current ideology. As Jickling (2002) suggests:

I'm afraid that sustainability and sustainable development-talk might be so well tolerated because it too is diversionary. Most days I see anecdotal support for this thesis in the young and disillusioned who find these terms hollow, ill defined, and incapable of imposing sanctions on government or industry. And, sustainability is indeed irrational when expressed as an aim of education.

Sustainable development, since its inception, has apparently become politically plausible and morally reasonable, and is now seen as sensible, practical, pragmatic, and therefore acceptable. However, although often promoted as a key theme of the curriculum (Environment Australia 2002b) Cross (1998) found that teachers were generally unaware of the theoretical foundations of many sustainable development issues and Summers (2000) found teachers misinterpreted some environmental issues. Cross (1998) found that teaching sustainable development may create learned helplessness in some students. Hicks and Holden (1995) expressed their concern about creating negative images of the future because this could then lead to despair in children. These negative environmental images might align with the 'action paralysis' found in teenagers (Connell *et al.* 1999; Eckersley 1999; Thielking and Moore 2001).

There is evidence to suggest that developing ideas of sustainable development through environmental education may be failing if the 2003 report from the Australian Bureau of Statistics provides an accurate picture:

Australians appear to have become less concerned about environmental problems during the last decade. In 1992, three out of four Australians (75%) stated that they were concerned about the environment, but this level of concern fell to 62% in 2001. The decline in level of concern is most pronounced among young Australians (aged 18-24), only 57% of whom expressed concern about the environment in 2001 compared to 79% in 1992. People in the 45-54 age group contained the largest proportion expressing concern about environmental problems (69% in 2001), while older people (65 years and over) contained the smallest proportion (51% in 2001)...Of

those who stated concern about environmental problems, less than one in 10 (8%) registered their environmental concern by writing letters, telephoning, participating in a demonstration, signing a petition or making some other form of official expression.

(Australian Bureau of Statistics 2003)

Further, the confusion that may emerge from teaching sustainable development may not enhance any biotic conservation agenda. Oates (2000) suggests that because sustainable development emphasises local economic and agricultural development it may detract from what are regarded as key conservation issues.

In conclusion, sustainable development may not be the most suitable vehicle for environmental education whilst it remains poorly understood, problematic, serving the dominant social paradigm and promoting a lack of criticality. Sustainable development, as a concept, could be considered deterministic and derived from ‘external’ agenda. Although sustainability may have some value in the environmental debate, Jickling (2001) suggests:

What is at stake is not how to bring about sustainability, but why a particular set of actions, predicated on a particular set of values, should be privileged over another.

(Jickling 2001, p. 176)

The problem appears to be that sustainable development has become more of a slogan than a vision. This has led me to consider alternative views. In this thesis I have explored Leopold’s (1949) concept of a land ethic because I argue that Leopold’s approach focuses on criticality of the dominant social paradigm with its origins in ethical, as differentiated, from economic agenda. Leopold’s argument is not deterministic, nor focussed on the assumed value of external agenda. From my understanding Leopold is asking people to consider their action from an ethical perspective that redresses the relationships between people and the land without prejudice. Nevertheless, sustainable development was the key theme promoted in the local conservation agendas in the Ballarat region to which I will now turn.

### **Case study: Community involvement – the development of the Ballarat Region Strategy Plan 1989**

The international, Federal and State initiatives mentioned earlier provided the impetus for the Ballarat region to develop its own conservation strategy in the late 1980s. In 1989 the Ballarat Regional Board for Planning and Development, funded the Ballarat Region Strategy Plan (Wilson Saver Core Pty. Ltd. 1989). This document recognised the need for a conservation strategy for the Ballarat region. The Ballarat Region Strategy Plan (Wilson Saver Core Pty. Ltd. 1989) built on the 1984 *Strategy Directions for the Greater Ballarat*, and aimed to review and update earlier documents to ‘take it [the plan] to the next logical step by identifying the preferred land use strategy and the physical and policy framework for its successful implementation’ (Wilson Saver Core Pty. Ltd. 1989, p.2).

An essential feature of this regional strategic approach was to consider the region as an entity. This was a new direction for the diversity of small, independent, often antagonistic local governments, with their competing economic interests. The plan was to enhance natural and human assets through provisions in the Planning and Environment Act 1987 and local planning controls. Wilson Saver Core Pty. Ltd. (1989) identified the need for co-ordination among local government agencies to avoid duplication of roles and responsibilities. The focus was on integrating management between these authorities.

One section of this report was dedicated to recreation and conservation with a particular conservation objective ‘To ensure the conservation of significant and man-made [*sic*] assets of the region’ (Wilson Saver Core Pty Ltd. 1989, p. 82).

Specifically the plan encouraged implementation of urban nature *conservation* programs, identifying wildlife corridors and habitat fragmentation as important issues. At this seminal stage the directive was for *conservation* strategies that were interpreted as *ecological* issues with a *biotic* emphasis.

### ***Ballarat Region Conservation Strategy 1991***

Frameworks establishing the Ballarat Region Strategy Plan (Wilson Saver Core Pty. Ltd 1989) foreshadowed preparation and publication of the *Ballarat Region Conservation Strategy: a strategy for sustainable living* (Cotter & Waller 1991). The expanded local region incorporated the City of Ballarat, Borough of Sebastopol, and Shires of Ballarat, Bungaree, Buninyong, Creswick and Grenville. This was an area of nearly 300 000 hectares and a population of approximately 100 000 people. The proposed conservation strategy's role was dedicated to implementing an ecologically sustainable framework into diverse local contexts. This strategy was written prior to the development of Local Agenda 21 (WCED 1993) and built on the strengths of the *World Conservation Strategy* (IUCN/UNEP/WWF 1980). Ballarat was showing leadership in the quest for greater environmental responsibility.

The local conservation strategy was initiated in May 1990 when the Minister for Planning and Environment and the Ballarat Regional Board agreed to fund development of a community-based conservation strategy for two years. Action commenced with the appointment of a project officer who worked with a Steering Committee representing community groups, State and local authorities. The role of the project officer was to:

- advise and assist the Steering Committee in the preparation of strategy;
- act as a researcher, writer, secretary to the Steering Committee and publicity officer as required; and
- mobilise, encourage, liaise with and co-ordinate groups and individuals in the community to participate in the preparation of the strategy.

Community involvement was extensive with over 100 people involved in various working groups and subgroups (Cotter & Waller 1991). At this time (early 1990s) there was a sense of optimism in the local community undoubtedly fuelled by the personality and enthusiasm of the Project Officer:

It was during this process of development of the Strategy that a sense of optimism began to grow, and a genuine understanding of others' points of view and a realisation of common threads and common interests. The choice is not between the end of the world and returning to cave dwelling, but just about doing it differently.

(Cotter & Waller 1991, p. I).

This optimism was also founded on a ground swell of international, national and state programs promoting ecological sustainable development as the 'new agenda'.

Ecological sustainable development, because of its international support and moral imperative was thought to give 'teeth' to local concerns, which had struggled for greater recognition by local government. Sustainable development, although not clearly defined, provided an institutionalised platform for these local environmental concerns. The language of the 'green' activists had changed from being anti-development to pro-sustainable development. Statements from members of the working parties suggested that:

If an activity is sustainable, for all practical purposes it can continue forever.

For development to be sustainable it must take account of social and ecological factors, as well as economic ones: of the living and non-living resource base; and the long term as well as the short term advantages and disadvantages of alternative actions.

Sustainable development is used in this Strategy to mean: improving the quality of human life while living within the carrying capacity of supporting ecosystems.

(Cotter and Waller 1991, p. II).

However, not all voices from working party members were supportive of the problematic term:

There is no such thing as sustainable growth as this is a contradiction in terms, nothing physical can grow indefinitely.

(Cotter and Waller 1991, p. II).

As the above quotes suggest, descriptions of sustainable development, as expressed by community members, illuminated some of the difficulties in clarifying terms, but these problems were ignored. The Ballarat community knew it was not alone with

the problem of defining sustainable development (Beder 1997; Commonwealth of Australia 1992; Environment Australia 2002b, 2002c; Grumbine 1994; Hay 2002; Mercer 1995; Plant 1995; Slocombe & Van Bers 1991; Venning & Higgins 2001; WCED 1993). Nevertheless, there was an in-principle agreement for supporting the ecological sustainable development ethos because this vision appeared to serve a range of diverse environmental interests. Apparently sustainable development provided for ‘green’ ideas to be promoted, but so was development if it could demonstrate the undefined characteristics of sustainable development.

The Ballarat Conservation Strategy was based on *The Nine Principles for Sustainable Living* as presented by the World Conservation Strategy’s *Caring for the Earth: a strategy for sustainable living* (IUCN/UNEP/WWF 1991).

These principles are:

1. Respect and care for the community of life.
2. Improve the quality of human life.
3. Conserve the earth’s vitality and diversity.
4. Minimise the depletion of non-renewable resources.
5. Keep within the earth’s carrying capacity.
6. Change personal attitudes and practices.
7. Enable communities to care for their own environments.
8. Provide a national framework for integrating development and conservation.
9. Create a global alliance.

These principles were similar to the Tokyo Declaration (WCED 1990). The international status of these principles meant that the Ballarat Conservation Strategy document tended to mimic such statements as slogans without extensive critique or debate. These principles were socially appealing and morally acceptable, and therefore difficult to critique. Not only was there little critique of these general

principles, or how they would be achieved, but also critical comment of this ‘environmental’ platform was seen to undermine the social and environmental values implicit in each statement. There was an expectation that criticisms, if any, would only come from developers and not from within ‘green’ groups. Allegiance to the sustainable development dogma was politicised. People and activities were classified as either pro- or anti-sustainability and these positions had implied moral values. For some, pro-sustainability was seen as morally ‘good’ because it was aligned with environmental and naturalistic fallacies (Des Jardins 2001).

The local strategy was written based on the work of the different subgroups, and characterised by the following frameworks:

- Land management;
- Streams and catchment management;
- Conserving resources;
- Flora and fauna; and
- Community education.

This initial step for the strategy developed from the conservation ideas proposed in the Ballarat Region Strategy Plan (Wilson Saver Core Pty. Ltd 1989). No mention was made of social justice or intra- or inter-generational equity issues, which were key themes in the global view of sustainable development (Environment Australia 2002b; Victorian Government 1987; WCED 1990). The content for working groups, and members of these groups, translated sustainable development, at the local level, into *natural resource conservation* with a focus on:

- Restoring the land;
- Reviving rivers, wetland and groundwater;
- Protecting flora and fauna;
- Using resources wisely;

- Preserving the past and planning for the future; and
- Personal action.

Each section of the strategy was supported by appropriate statements taken from the World Conservation Strategy (WCED 1990), the *National Strategy for Ecologically Sustainable Development* (Commonwealth of Australia 1992), and the State Conservation Strategies (Victorian Government 1987) with the aim to produce government or internationally endorsed objectives. Objectives, as measured outcomes, underpinned the Ballarat Conservation Strategy's action statements. The strategic framework consisted of four 'cornerstones' necessary for policy implementation (Cotter and Waller 1991, p. III). The 'cornerstones' were:

- Community education;
- Ecological considerations;
- Integration of conservation and development; and
- Indicators of sustainable development.

Internationally the sustainable development debate had tried to move interest in environmental issues from the limited focus of technical, ecological and conservation considerations to a more political, social and economic domain. Environmentalism had grown into a more socially and politically overt term, in contrast to the restrictive philosophy of conservation with its origins in protection of the natural environment.

Biological conservation is important but any failure to conserve biological or ecological values should be seen as a *symptom* of inappropriate environmental management, and not the *cause*. The direction taken by the international sustainable development debate was that *causes* of environmental problems must be addressed. However, in contrast to the international scene, the local community interpreted sustainable development as the conservation of Ballarat's natural resources. The moral imperative underpinning sustainable development was 'attached' to local



conservation issues to give them greater strength in debates with the economic interests of local governments.

I suggest that this was a return to the ‘comfort zone’ of mainstream biotic conservation dominant in the 1960s and 1970s, and due to the:

- personal interest of the volunteers in developing strategies to consider biotic conservation;
- high degree of local expertise in the natural sciences;
- high visibility and popularity of nature conservation issues in the local region;
- community agreement that biotic conservation was important;
- relatively high social status, education and standing of the volunteers involved in the working parties; and
- desire for the need for consensus within the community, and consensus between community and governments.

I suggest that the interests, and social status, of the volunteers on the working parties limited the sustainable development debate to the conservation agenda. This restricted any wider interpretations of the social and political purposes of sustainable development. The less affluent, less articulate and less socially astute members of the Ballarat community were not well represented on these working groups.

Therefore their concerns were not considered. There was minimal attempt made to include marginalised social groups into the strategy’s development processes. It appeared that the interests of members of working parties directed a strategy to ensure that it was supportive of individuals’ interests.

The ‘comfort zone’ position taken by working parties was due to the conservatism of the Ballarat community who saw the role of working parties as bringing attitudes into action through writing policy, more than any critical examination of policy and the dominant social infrastructures. Undoubtedly, the formation of the working parties

was a key step in scoping the nature of the conservation strategies for Ballarat. Although volunteers play a large part in the operation of any community, there are dangers when some volunteers' views dominate the agenda, particularly if these people are not representative of the diversity of society. Sourcing volunteers to write policy is problematic because social status, public self-confidence, education as well as interest, all affect the individual's interpretation of their ability to contribute to the process. It should be recognised that using volunteer groups can be quite socially selective and they may not represent the diversity of the community.

#### *Action statements*

The original Ballarat Region Conservation Strategy (Cotter & Waller 1991) outlined a number of 'Action Statements'. This was the working party's attempt to ensure that decisions were tied to the appropriate government agency or individual. The working party wanted to identify who was responsible for implementing the strategy, because of the historical community perception that the lack of action to resolve environmental issues was due to the failure of government agents to accept their responsibilities (see *Elective 2*). Actions were direct, for example:

Action 1.6. Provide prospective new and existing residents in each municipality with information that will help them adjust to their environment in a positive way.

(Cotter & Waller 1991, section 8).

Identifying those responsible was seen as the strength of the document (and still is). This approach addressed the community's concerns for improving accountability of regulatory authorities. The strategy appeared reactive to the lack of government will to address environmental issues.

The message throughout the document was that direct action was urgently needed. The environmental crisis had been accepted by the working party. Any further debate about the value or purpose of actions to redress the 'crisis' was seen as procrastination. Action was seen as important because it was seen to result in tangible outcomes e.g. area of weeds removed, number of trees planted. The

community group saw conservation as a practical activity that was orientated towards outcomes, not a philosophical debate.

*Personal Action*

The section, *Personal Action*, in the document promoted individuals to personally change their behaviour. The document stressed the importance of individuals taking environmental responsibility. The action-orientated language of the strategy indicated an important role for the individual, for example (Cotter & Waller 1991, Section 7):

Individual environmental awareness and changes in individual behaviour patterns are a fundamental part of the transition period to a more sustainable future....

[individuals need to] Become aware and keep informed....

Offer support... Many of the actions detailed in this Strategy will only be successful if enough individuals are prepared to help

Look at your own consumption level...

Become active...

Respond... Don't assume that "experts" have all the answers, they don't. Don't assume that you have nothing important to say, you do...

Individuals can offer that different way of looking at things, mainly how such an initiative will actually affect them and if such consequences are acceptable or not. If not, but by still retaining a common objective a different WAY may be found to overcome obstacles...

Be an example for family and neighbours in demonstrating environmentally sound practices...

Get involved in your community...

Only brief mention was made of the social contexts in which the individual operated or the social, economic, political or historical constraints on action except:

However, awareness and action on the individual level cannot change the world on its own, these need to be combined with changes to our industrial and agricultural management and economic systems, strong leadership and support from all levels of government.

(Cotter & Waller 1991, Section 7)

Some institutional and political changes were identified as important, although little mention was made as to how institutional changes would be addressed except through a groundswell of individual action.

The individualistic approach to resolving environmental issues was a common theme at that time (early 1990s), no doubt based on the dominance of behaviourist environmental education (Robottom & Hart 1995). It was felt in the strategy that individuals could act as ‘champions’ for environmental causes. This idea was popularised as grassroots, ‘bottom-up’, ‘people-power and democratic. Promoting the individual as responsible was expressed as people ‘being aware’, ‘being active’ and ‘getting things done’. This popular view, promoted by an individualistic ideology that glorifies personal autonomy and self-realisation (Tech in Robottom & Hart 1995), was often contrasted with the perception of inaction and procrastination by the anonymity and facelessness of bureaucrats in government.

Central to this idea was the premise that change at the community level started with the individual and would filter *up*, enhancing change at more institutional levels. The purpose was to create a ground swell of local community interest supporting key individuals (‘champions’) who could influence political processes. However, I would argue that this is a romantic idea of democracy. Nevertheless, this ‘bottom-up’ process – ‘people power’ –was seen as the success of many environmental conflicts (e.g. Franklin dam issue, see Harding 1998) and was popularised as the ‘green’ movement. This perception underpinned many peoples’ view of community, or environmental, action (Hay 2002).

The strategy made no suggestion as to how community action could directly influence policy other than the strength of numbers of popular opinion or by personal example. Intuitively the grassroots approach had popular appeal within the working parties. However, problems often arise when failure to implement novel ideas is attributed to a lack of community desire (not enough ‘champions’), or to a lack of consensus amongst diverse ‘grassroots’ groups. Reliance on communities to direct

institutional change may not acknowledge that there are few mechanisms available to provide communities with the ability to interact collaboratively with government, except through the ballot box.

Power and responsibility are not shared between the community and local government. Local governments may consider community groups as ‘successful’ if they support institutional agenda (e.g. plant trees, collect litter), or a ‘nuisance’ if they do not support local policy. In this Ballarat example the authority for planning was concentrated within the Ballarat City Council who *listened* to advisory groups, but for economic and political reasons often failed to act on the community’s advice. Local government’s response to criticism was that the community were not accountable for their suggestions and advisory groups were often informed by local government that they were *only* advisory to policy.

A problem with the local conservation strategy was that it did not clarify how the community could influence local government decision-making processes. There was an assumption by the working parties that ‘good’ environmental ideas would be accepted without contest, and accepted ideas were by consensus ‘good’. Therefore the document took a non-confrontational approach by reinforcing the authority of local government who could sanction what were ‘good ideas’. The result of this approach has been that a great deal of community energy has been spent without substantive change to the decision-making processes. Local governments still hold the balance of power and make decisions on the acceptability of policy and what is considered ‘good’.

Creating institutional change is problematic. Institutional change requires support from senior decision-makers to provide the impetus for change. However, environmentally sympathetic senior managers in local government are rare, particularly in Ballarat. As such there has been a tendency for conservatism within community groups who have their ideas ‘supported’ by local government (ideas that are supported are ‘good’) more than confront the power base of local authorities.

### ***Ballarat Conservation Strategy 1999-2004***

The Ballarat Region Conservation Strategy (Cotter & Waller 1991) was revised as the Ballarat Region Conservation Strategy 1999-2004 (Ballarat City Council 1999; Ballarat City Council and Ballarat Region Conservation Strategy Committee 1999). In this later document sections were also dedicated to water, land, vegetation, native fauna, air, energy, minerals and heritage. As in the earlier strategy there was a concentration on ecological and technical issues. Wider social issues were not considered. The revised edition did not include any section on personal action, but still maintained individualistic and behaviourist approaches. The Ballarat Region Conservation Strategy 1999-2004 outlined the principles underpinned by *Local Agenda 21 – Managing for the Future: A Local Government Guide* (WCED 1993). These principles were:

Development today must not undermine the development and environmental needs of present and future generations.

In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process, and cannot be considered in isolation from it.

Environmental issues are best handled with the participation of all concerned citizens. Nations shall facilitate and encourage public awareness and participation by making environmental information widely available.

The polluter should, in principle, bear the cost of pollution.

Sustainable development requires better scientific understanding of the problems. Nations should share knowledge and innovative technologies to achieve the goal of sustainability.

The full participation of women is essential to achieve sustainable development. The creativity, ideals and courage of youth and the knowledge of indigenous people are needed too. Nations should recognise and support the identity, culture and interests of indigenous people.

(Ballarat City Council 1999)

The principles of Local Agenda 21 replaced the earlier 1991 conservation strategy's reference to *The Nine Principles for Sustainable Living*. Although there were

minimal attempts to align the strategy's objectives to these guiding statements the latter strategy promoted a wider social perspective (e.g. role of women, indigenous peoples), which appeared to give the document an assumed wider acceptance. Yet it was still essentially ecologically and technically orientated.

The 1999-2004 strategy stressed expert-derived knowledge to provide technological solutions. There was a great deal of 'faith' in science:

Many unsustainable practices of the past can be attributed to lack of information and policies, which encouraged inappropriate practices. **In this present day and age we have no excuses.** We have the knowledge that our predecessors lacked. Scientists know a great deal about restoring the balance of nature and how to increase productivity without destroying ecosystems.

(Ballarat City Council and Ballarat Region Conservation Strategy Committee 1999, p. iii – my emphasis added)

There were other untested assumptions underpinning the document:

General interest and awareness of environmental issues has snowballed. No longer is there such a need to justify the most common environmental principles. **They have become accepted with little argument these days.** We have now reached the stage where there is a critical mass to achieve accelerated change and to make a real difference.

(Ballarat City Council and Ballarat Region Conservation Strategy Committee 1999 p. iii – my emphasis added)

It is questionable as to whether there had been sufficient change in the attitudes since the release of the 1991 strategy to endorse such statements especially considering the Australian Bureau of Statistics (2003) suggestion of a decline from 1992 in interest in the environment. There was also a re-affirming of belief in the people-power idea of a 'critical mass' that could achieve change and make a difference.

The 1999-2004 document, as did the earlier 1991 version, emphasised individual action. The document's translation of the environmental mantra was 'THINK GLOBALLY – ACT LOCALLY – RESPOND PERSONALLY' (Ballarat City Council 1999), with a continued emphasis on individual responsibility, for example:

Avoid the purchase of goods associated with excessive and wasteful packaging.

Request or purchase items which can be recycled, thereby creating a consumer demand.

Purchase goods of recycled or reused materials

(Ballarat Region Conservation Strategy 1999-2004, p. 36)

Keep your vehicle regularly tuned and maintained, which will cut car pollution by 20%, and save on fuel consumption.

Ride a bicycle or walk whenever or wherever possible.

(ibid, p. 27)

Each section of the strategy, water, land, vegetation, native fauna, air, energy, minerals and heritage had specific objectives aligned to *individual* and *institutional* actions. For example, the objectives in the water chapter were to:

Create community awareness of the origins of its water supplies and the impact of various land use practices on quality.

Achieve wide-scale adoption of land management and catchment protection practices that protect water supplies.

[Ensure that] All water supplies in the Ballarat district to meet the appropriate standards of the National Health & Medical Research Council of Australia.

These statements were followed by individual actions emphasising awareness and involvement:

Be aware of the effects our personal actions have on the quality of our water supply.

Be aware of where wastewater goes and modify contamination of this water whenever possible.

Be aware of where our water supply comes from and participate in processes to improve it.

Adopt land management practices to protect water supplies.

Become involved in 'WaterWatch' activities.

(Ballarat City Council 1999)

Individual actions were followed by institutional actions such as



Implement a full range of measures to protect the quality of domestic water, not just a reliance on treatment plants, including improved management and provision of sewerage to small towns.

Promote a greater awareness of the link between land use and water quality/river and stream health (eg. labelling gutters to make people aware of where the water goes).

(Ballarat City Council 1999)

The approach throughout the document was to stress a collective agency that emphasised a particular view of environmental education:

Success depends on the responsible action of all citizens. While the contributions of everyone, both individually and collectively are important, it requires the combined efforts of many to make an impact. If people work together, then seemingly overwhelming tasks will become more manageable. That is the nature of environmental education.

(Ballarat City Council and Ballarat Region Conservation Strategy Committee 1999, p. iii.)

Community awareness education was the key theme because there was a feeling that awareness would direct action, yet there was insufficient evidence to suggest any direct links between changes in awareness and changes in action (see *Dissertation – Chapter 2*). This additional quote demonstrates the behaviourist overtones of the strategy:

The onus is on adults to prepare the citizens of tomorrow for responsible decision making in the future. We must do all we can to equip our children in a practical way to meet the challenges of our times and of the future. The role for adults therefore is to model environmentally responsible behaviour and to ensure that children develop an environmental ethic with positive attitudes of optimism, commitment and enjoyment. Caring attitudes to the environment help to develop qualities of good citizenship with an expectation of an improvement in the social environment.

(Ballarat City Council and Ballarat Region Conservation Strategy Committee 1999, p. IV)

This behaviourist approach focused on changing individual behaviour to meet some unspecified, and uncontested, idea of environmentally responsible behaviour.

Robottom and Hart (1995) critiqued the dominance of behaviourism in environmental education, which they considered was derived from an individualistic ideology. Individualism tends to present environmental issues as apolitical, asocial and ahistorical implying that individuals are ‘free’ to act without social or economic constraints. Such an individualistic ideology, because it endorses a hierarchy of power, tends to result in ‘blaming the victim’ (Robottom & Hart 1995). An individual may ‘blame’ someone else for not being responsible creating differences in levels of authority. From this perspective an individual will often take the moral high ground implying ethical characteristics for his or her behaviour. However, the social, economic or political framework in which the individual operates, and tries to be ‘environmentally ethical’ and ‘do the right thing’, is often ignored.

Behaviourism suggests that a ground swell of individual action can create institutional change. However, this locates individuals, as community members, in an adversarial role, ‘pushing’ for change against a ‘resistant’ authority. Such ideas suggest that community groups will be by definition marginalised, external to mainstream and isolated from those in authority. This is contrary to the suggestion for improved partnerships between government and community (Petheram, Stephen & Gilmour 2002). This perceived adversarial role for community groups by those in authority, who consider their views as mainstream, influences any potential for power-sharing arrangements.

One outcome of the strategy was the formation of an advisory group to Ballarat City Council. This was the Ballarat Region Conservation Strategy Implementation Committee (later the Ballarat Region Conservation Strategy Committee). This group comprised of community members, Council officers and a councillor is advisory to Council but cannot directly influence policy and has no direct link between the initiatives of the committee and Council:

City of Ballarat's Strategic Planning Section will support the Implementation Committee in its endeavours. It is hoped that the earlier support and assistance received from the community and

adjoining Local Councils during the strategy development stage will continue. It is also hoped that other agencies such as the Department of Natural Resources and Environment, Catchment Management Authorities and the Department of Infrastructure etc will continue to provide staff and financial assistance when appropriate to achieve effective implementation.

(Ballarat City Council 1999)

My experience as a member of this committee is that it is marginalised from the core business of Council (see Ballarat Conservation Strategy Committee Minutes 1999-2003). In addition, the external, advisory-only nature of this group ensures that it is not well informed by Council, and I suggest that council management has not engaged with the conservation strategy it endorsed. The result is that the group has little influence on policy but serves as a token of local governments community-based initiatives. Marginalisation of this committee from Council's mainstream economic activities ensures that this group, with responsibility to implement the conservation strategy, remains locked into a reactive position often operating in the political wilderness.

### **What have we learnt?**

Observations on the formation, presentation and implementation of the Ballarat Region Conservation strategies have led me to the following conclusions:

- Community action was dominated by the need for changes in the behaviour of individuals. However, the process and procedures for empowering individuals within a context of policy development and planning was omitted. Emphasis in the strategy was for individuals to modify *their* behaviour to promote a vague sense of ecological sustainable development, as environmentally responsible behaviour, without any consideration of the other social and political constraints on their lives.
- Participation was limited to activities in which individuals were required to volunteer their services, often *gratis*, for the benefit of the community. In

addition, there was a need for individuals to publicly demonstrate their environmental responsibility and credibility to others, particularly those in authority.

- Authority and decision-making was retained by government agencies. Emphasis at the community level was to encourage individual enthusiasm and activity because ‘activity’ was considered as ‘empowering’.
- Sustainable development, the concept underpinning the strategies, was problematic and ill defined. Sustainable development in this case was accepted as moral dogma: unquestioned and unexamined. It provided policy strategists with a suitable, conveniently unquestioned platform that had credence at international and national level, and a certain amount of inherent ambiguity. The advantage of the term was that its lack of definition allowed for a diversity of activities to be defined as sustainable and therefore morally acceptable.
- Social and political agendas implicit within sustainable development, such as community empowerment and participation, were not adequately addressed.
- Perceptions of environmental issues were limited to a technical agenda with a biotic conservation emphasis. The dominant interpretation of sustainable development by the community was that ‘technical-fixes’ existed. This mainstream view was held because ecological activities (e.g. conservation, land degradation, vegetation management) were less politically contested, because they were ‘fixable’, than other issues (e.g. social justice issues, arrangements of authority and power).

It must be stressed that my analysis of these conservation strategies should not be seen as any criticism of the community effort that was directed toward the production and implementation of the documentation, and any subsequent action. There have been a number of positive outcomes from the conservation strategies, but few can be

directly attributed to this local government initiative. Nevertheless, conservation and ‘green’ agenda are now considered more acceptable within some council discussions and there is talk of a ‘triple bottom line’ accounting system (a system incorporating economic, social and environmental agenda).

My criticism is that the extensive community effort that has gone into producing these documents has not necessarily challenged the culture of power and authority within local government. I suspect that there were no opportunities for this to happen within the current dominant hierarchy of power and authority. As a result there has been no paradigm shift from the traditional power base of the local council to one where decision-making is more community-based. The roles that were played out by the various actors in this case study were framed by the dominant social paradigm. This scenario would not be unusual in other fora.

The strength of the dominant social paradigm, and its acceptance as dogma, is that it informs an individualistic ideology as to how environmental issues and their resolutions should be constructed. People promoting this paradigm are able to ‘translate’ sustainable development as individualistic. It appeared difficult for local government, and communities, to think beyond, or to be critical of, this normative paradigm that prescribed a hierarchy of authority and power. I suggest that the reasons for reliance on *this* power arrangement may be due to a lack of exposure and experience, by both the community and local government, of alternative power-sharing procedures. To some extent it could be argued that what happened in this case was what was expected to happen. From my educational perspective the privileging of elite knowledge within professionals (as promoted within many examples of ‘professional education’), with a reliance on factual data and authority, may pre-determine roles, responsibilities and outcomes.

Nevertheless, there are examples in the literature (Fagan 1996; Petheram, Stephen & Gilmour 2002) that demonstrate alternatives to this hierarchical, elitist approach to

decision-making. These alternatives challenge the professional education paradigm promoting elitism and a hierarchy of power.

Fagan (1996), in particular, identifies educational challenges for those in authority and the community:

It [education] challenges the notion that knowledge belongs to the intellectually rich, that local people are wrong until proven right and that learning is the domain of an educational hierarchy.

(Fagan 1996, p. 137)

Yet, there was no evidence in the case study to suggest that an alternative, more socially engaging, approach could have brought about a different agenda, or achieved alternative outcomes, for either local government or the community. Perhaps socially critical orientations were not evident in the development of these conservation strategies because they were not seen to be a normal component of Ballarat's culture.

In summary, this case demonstrates that environmental issues will often remain contentious and unresolved with a lack of consideration with alternative understandings of the nature of community involvement. Petheram, Stephen and Gilmour (2002), in a review of the literature relating to collaborative forest management, emphasise:

Collaborative partnerships must continually strive for accommodation of multiple interests – but this cannot be achieved if there are strong disparities in power that prohibit some stakeholders from accessing resources, expressing views, or gaining recognition for their interests.

(Petheram, Stephen & Gilmour 2002, p. 13)

In this case I question whether the volunteers developing the strategy were appropriately skilled, or provided with the appropriate professional support, to undertake the challenges that lay ahead of them in the preparation of these conservation strategies. Engaging with social and political challenges in order to appreciate the complexity of environmental issues is risky and can lead to exhaustion of interested individuals if they are unaware of the dominance of a culture that maintains the *status quo*. Individuals may battle tirelessly but often in vain. For

example, Barr and Carey (1992) and Petheram, Stephen and Gilmour (2002, p. 39) investigated reasons for ‘volunteer burnout’ in the community movements. The problems cited were:

- Failure to challenge existing power structures can lead to their reinforcement;
- Groups tend to reinforce traditional and inward-looking viewpoints;
- There is a lack of long-term institutional support; and
- Power relationships and community exclusion is real and important.

My case only reinforces these conclusions and perhaps the challenges for any individual or group to promote alternatives would have been insurmountable given the context. If the community does not want to be a ‘servant’ of their political masters then they need assistance to be empowered and to redress arrangements of power in local government (Fagan 1996). Unfortunately, in this thesis I suggest that universities, with their technically dominant professional environmental courses (see *Electives 1 & 2*) are not helping to produce ‘enabling’ professionals. My concern, as an educationalist, is that the skills to enable and empower communities are not promoted in many environmental courses and Petheram, Stephen and Gilmour’s (2002) concerns will dominate many community-based activities.

To enable communities I argue for a professionalism that is based on a different, more critical, partnership-orientated paradigm to that currently presented by most environmental faculties in Australian universities. This ‘new’ paradigm for professionalism requires a re-think of our roles as both individuals and members of communities. In the *Dissertation* I argue that this ‘new’ paradigm for the environmental profession can evolve from an interpretation of Leopold’s *The Land Ethic*. It is in Leopold’s work that a broader, more ethical, sense of community, which includes the land, is considered. Perhaps a reading of *The Land Ethic* should be essential for all community-based environmental groups.

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