

## How Can the VET Sector Drive the Adoption of Sustainable Practices in Industry?

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**Abstract** Vocational education and training (VET) is often considered the enigma of education. For those that work in or research sustainable education within the schools and higher education sections, VET appears somewhat like the mysterious second cousin: often difficult to access and difficult to understand. VET differs quite markedly from the other education sectors. Its industry, skill and competency foci have been established through a distinct range of national and international drivers. Both the limited understanding of how VET operates and its institutional characteristics has bound the integration of sustainable education practices within the sector. This paper provides a brief overview of the VET sector within Australia and provides some insight into how sustainable education practices are being developed in VET. The recognition of elements of common ground between VET and sustainable education are proposed as an entrée into the sector that can influence the adoption of sustainable practices by industry.

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### Introduction

Vocational education and training (VET) is the largest and arguable the most diverse post-compulsory education sector within Australia. The key role of VET is to train people for work. (ANTA, 2004) As such, VET is closely aligned with industry practice. Yet despite the growing literature<sup>1</sup> examining the corporate/ organisational uptake of Ecologically Sustainable Development (ESD) within Australia,<sup>2</sup> there has been little examination or critique of the role of vocational education and training (VET). Given that the current Australian VET framework is both led by and for industry (ANTA, 2004) this represents a significant gap in sustainable education<sup>3</sup> research.

Education has been identified as the main pathway to achieving systemic change towards sustainability. (Sterling, 2001) Vocational education and training has a key stake, as its role is to:

Empower people to contribute to environmentally sound sustainable development through their occupations and other areas of their lives.  
(UNESCO & ILO, 2002)

Despite these intentions there has been scant uptake of sustainable education objectives into VET.

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The following paper will provide an overview of the VET sector in Australia and discuss some of the research undertaken by TAFE NSW, Australia's largest VET provider. The considerable issues and challenges facing the sector are identified and some ideas on how VET may assist industry's move towards sustainability.

### **VET in Australia**

The VET sector is the largest provider of post compulsory education in Australia. About 80% of VET is delivered through the publicly funded system<sup>4</sup> – mostly consisting of Technical and Further Education (TAFE) institutes and Adult and Community Education (ACE) colleges. 1.69 million Australians over the age of 15 studied in the public VET system in 2002 – 90.5 % of them part-time. Until recently there has been substantial growth in the sector. VET enrolments grew at about 6% per annum from 1992 to 2000. However, this growth has stabilised over the last few years.

A significant trend in the sector has been the “infiltration” of VET into the other areas of post compulsory education. There has been strong growth in VET in schools programs. 185,500 secondary students participated in VET in schools in 2002 – an increase of 9.3 % from 2001.<sup>5</sup> There are also closer links between VET and Universities with greater blending of qualifications within the two sectors and increasing student “traffic” between the two sectors.

Perhaps the most defining feature of VET is that it is both industry developed and industry led. The Australian National Training Authority (ANTA) is the national government statutory authority which is charged with the framework of vocational education and training within Australia. ANTA's board consists of 4 industry representatives. State and Commonwealth Government input is achieved through the Ministerial Council (MINCO) to which ANTA reports. Industry and other stakeholder involvement is through the Industry Training Advisory Boards (ITABs)<sup>6</sup> which are national and State industry bodies; the Registered Training Organisations (organisations such as TAFE NSW that deliver VET); and the development of industry or enterprise Training Packages.<sup>7</sup>

At January 2004, according to ANTA, there were 72 Training Packages. Industry defined vocational qualifications now cover more than 80% of the workforce below degree level and almost all industries are now covered by VET qualifications. (Schofield, 2003)

### **VET in Australia – History and Context<sup>8</sup>**

It is only in the last decade or so that the term Vocational Education and Training has defined post-secondary education and training outside of Universities. Prior to this Technical and Further Education described not only this type of education but also the nature of the government institutions (TAFEs) that remain the major VET providers.

Technical education institutions in Australia date back to the early 1800s. TAFEs in Australia were in all cases established as government institutions and remained wholly under State or Territory control until the Commonwealth started to intervene from World War 2.

In the 1970s under the Whitlam Government the sector saw dramatic change. There was a shift away from a purely functional vocational purpose for TAFE to the view supported by the ILO, OECD & UNESCO of meeting:

... the needs of the individual person who wishes, within the limits of his capacity, to develop his ability to the best advantage of himself and the community, including industry and commerce.<sup>9</sup>

Commonwealth funding of TAFE was established in the 1970s. Increased funding over the following decades came with increasing pressure for TAFE to be a “vehicle for implementing Commonwealth economic and social policies”. (Goozee, 2001, p. 37) During this period TAFE’s legitimate role as an education provider along with schools and the higher education sectors was affirmed.

The push for labour and economic reforms in the late 1980s had a significant impact on TAFE. There were demands for higher industry efficiency and competitiveness and the labour market was asked to respond by providing workers with a greater range and higher order of skills – the “multi-skilled” worker. There were calls for a competency based approach and the need for industry to invest directly in education and training.

Reflective of this view, in the early 1990s TAFEs had largely moved from State and Territory education portfolios to employment and training.

In 1992 Australia’s current national VET system was cemented with the establishment of the Australian National Training Authority (ANTA) and the ministerial council (MINCO) that oversees it. The VET system was inclusive of TAFE but more broadly defined as including public, private, work-based and community education and training aimed at providing a national, open and competitive training “market”.

The Australian Qualifications Framework was endorsed in 1993 to allow flexibility and transferability of post-secondary qualifications nationally. And the National Training Framework consisting of Training Packages developed by ITABs and approved by ANTA was introduced in 1997.

## **VET in Australia – Trends and Challenges**

... Policies in education and training must be subordinate to the national economic imperative of achieving optimal employment of our people. (Dawkins, 1990)<sup>10</sup>

Goozee’s (2001) insightful analysis of the history of TAFE reveals the significant pressures on the VET sector. These include:

- The rise of economic rationalist policy and doctrine;
- National Competition Policy and the resultant focus on opening of the national training “market” and “user choice”/“user buys”;
- Award restructuring with its emphasis on performance and skills based reward;
- Increasing Commonwealth intervention in VET;
- Shift in focus from education to employment and the needs of industry;
- Industry focus on technology, change and innovation; and
- “Blending” of the post compulsory education sector – School-VET; VET-University; VET-ACE.

These pressures have mounted whilst we have experienced unprecedented upheaval and change in the nature of work and society.

- The impact of globalisation which has increased the demands on workers and driven job insecurity & workplace stress (Callus & Lansbury, 2002);
- The knowledge “revolution” leading to the rise of the new “knowledge economy” (Robinson, 2003);
- Traditional vocational employment sectors (e.g. trades, manufacturing, clerical) in decline with the rise of the service sector (Wooden, 2002);
- Increasing “casualisation” of work. Australia now has one of the highest rates of casual workers in the world. (Robinson, 2003);

- Growing polarisation of society between the “haves” and the “have-nots” (Callus & Lansbury, 2002); and
- Workers requiring more complex skill sets (Curtis & McKenzie, 2001).

Responding to this climate, current VET policy (both nationally and internationally) is focussing on: the emergence of the “individual learner”; lifelong learning<sup>11</sup>; and generic skills (such as communication, negotiation and problem solving) (Dawe, 2003).

### **TAFE NSW Case Studies**

The following two case studies illustrate the role that VET can play in engaging industry in sustainable education and practice.

My interest in presenting this material here is not as exemplars of individual industry sectors, corporations or workplaces where undoubtedly there are excellent examples of ESD being put into practice: the adoption of sustainable practices within individual corporations; Triple Bottom Line (TBL) reporting; or examples of business adoption of best practice in Cleaner Production or Environmental Management Systems. All of these activities would or should have a key education and training component. It is the ability of the wider framework that VET exists within to support and extend these activities and achieve the broader objectives of sustainability that I seek to address here.

### **Environmental Content in VET**

Russell (2003) on behalf of TAFE NSW conducted a review of environmental content in VET. A report and professional support materials was published in 2003. This research represented the culmination of a three part research program conducted by TAFE NSW focusing on environmental curriculum content with a view to “integrating environmental knowledge and skills into VET programs with the aim of contributing to sustainable industry practice.” (Russell, 2003, p. 1)

Russell’s research consisted of a review of 10 National Training Packages for units of competency relevant to environmental knowledge and skills. The Training Packages were analysed according to relevant environmental issues such as the conservation and management of natural resources, waste, water quality, biodiversity etc.; a gap analysis was conducted; and opportunities for the inclusion of environmental content identified.

The major outcomes of the project were a range of professional support materials targeted towards TAFE teachers and curriculum developers; a series of recommendations for ANTA and national ITABs; and recommendations to TAFE on staff development programs that could support their development of environmental knowledge and skills and hence influence sustainable industry practices.

As Russell (2003) states:

It is increasingly apparent that industry has an instrumental role not only in reducing its own impact on the environment but also in influencing the wider community – customers, suppliers and employees. As this recognition is transformed into action, vocational education will need to accommodate the new knowledge, skills and attitudes required in the ecologically sustainable workplace of the future. (p. 8)

The report identifies some significant gaps in Training Package delivery of environmental content:

- The absence of core environmental units in some packages or environmental units inappropriate to the industry context;
- A lack of “beyond compliance” approach with a strong focus on regulatory requirements;
- Training packages of “brown” industries have a greater focus on environmental issues; and
- State environmental agencies and non-government organisations are often left out of the consultation loop in Training Package development.

Russell also recognises gaps within TAFE NSW’s own professional development and curriculum development guidance documents and capacity with regard to environmental content. The thrust of Russell’s conclusions can be summarised in her following statement:

If vocational education is to support the implementation of sustainable work practices into normal work practices of all industries, it is necessary to integrate sustainable practice outcomes into the existing units of competencies across all industry sectors. (Russell, 2003, p. 10)

Professional support materials were developed targeting VET teachers and assessors<sup>12</sup> to address some of the perceived weaknesses from the existing Training Package approaches. These include model units of competence in environmental knowledge and skills aligned to the Australian Qualifications Framework (AQF)<sup>13</sup>.

The second research project considered was conducted in 2003 by the Construction and Transport Division of TAFE NSW and addressed the curriculum requirements to deliver sustainable industry practice in one specific industry sector: building and construction. This sector was chosen for study due to its major impact on the environment and the considerable sustainability “challenge” it presents.

### **Building and Construction Training for Sustainable Building - Curriculum and Delivery Implications**

The Building and Construction sector contributes within Australia: 45% of annual energy consumption; 40% raw materials consumption; 44% of the solid waste generation; and 12% of water consumption. (Commonwealth of Australia, 2001, as quoted in Moore, 2003, p. 22) Despite this, little research has been conducted on the sustainable education needs of the industry. VET has a major role in education and training for the industry with courses and qualifications across the entire Building, Construction and Demolition sectors for professionals, para-professionals and tradespeople. The research that underpins Moore’s (2003, p. 20) report aimed to:

- Identify what changes would be required to curriculum development and delivery strategies to support sustainable building and construction training practices; and
- Propose strategies and frameworks for implementing such changes. (p. 20)

The following methods were employed: an international literature search; analysis of key Training Package qualifications and accredited courses;<sup>14</sup> stakeholder focus group discussions and individual interviews with selected industry representatives. In simple terms, this research found that the current system of VET was not and could not deliver sustainable industry practice in building and construction even though recent and emerging policy and regulatory requirements demand it. The report identifies a series of significant trends, such as: the Australian Greenhouse Rating Scheme; the NSW Guidelines for High Environmental Performance in Buildings; 5 star energy and water standards for new residential buildings in NSW and Victoria from July 2005;

changes to the Building Code of Australia due to commence July 2004; peak industry initiatives in sustainable design and construction; and compulsory professional development requirements for the building industry in NSW commencing in 2004.

The reasons for this are complex. Some relate to the very nature of the industry, such as the high levels of “on the job” training and the prevailing building and construction industry “culture”. There is the bias towards traditional industry practice, reinforced both by the industry and the training establishment and the lack of embedding of sustainability principles into Training Packages. Even where relevant units of competency do exist, these are not being reflected in the knowledge and skills of workers nor in the curriculum development and delivery of training institutions. The increasing rates of technological change are resulting in the introduction of new construction techniques that require rapid adaptation of curricula and keeping teaching staff up to date through professional development and access to new resources.

These issues are not going to be resolved easily or quickly. Moore recognises the essential limitations of a long term Training Package approach and suggests that TAFE NSW is better placed to address these issues through the introduction of a stand-alone unit of competence for Ecologically Sustainable Design and Construction (ESDC). The importance of engaging industry partners with VET and others in further cross-sectoral research is also recommended.

The over-riding theme, however, is the difficulty of engaging industry in the dialogue on sustainability and re-imagining the “real world” so that students and teachers can be exposed to new ways of thinking and doing, not just the way it’s always been.<sup>15</sup> Moore believes that education can deliver sustainability, when:

...K-12, VET and Higher Education sectors ... co-ordinate to provide for and nurture thinking skills and habits for sustainability in order to prepare individuals for responsible participation in the Australian workforce. (p. 47)

### **VET, Sustainability and Industry – Where to from here?**

Firstly, as this paper has set out, there are some fundamental challenges to be met if sustainability is to be progressed through the current National Training Framework. The following approaches are suggested:

- VET policy in Australia needs to be guided by an overarching national sustainability policy;
- The forces of globalisation that are changing the nature and future of work need to be understood and critiqued from a sustainability perspective. The VET sector has an important stake in this process through its role in training people for work; and
- Training organisations (such as TAFE NSW) need to work closely with industries already aligned with and supportive of sustainability to commence the “ground truthing” of vocational education and training for sustainable industry in practice.

The ability of the current VET system to deliver sustainable industry practices through Training Packages, and the development of specific environmental or sustainability units of competency as the primary strategy, has to be questioned. Despite the recommendations emanating from the research presented that point this way, evidence suggests this process will not only be long and exhausting<sup>16</sup>, but may not result in the VET policy shifts needed. VET policy and strategic direction (exemplified in ANTA’s *Shaping our Future. Australia’s National Strategy for vocational education and training 2004-2010*, recently endorsed by MINCO) fails to recognise Ecologically Sustainable Development to a significant extent or the principles that underpin it<sup>17</sup>. Until this basic recognition is achieved at a national level within VET and reflected

in its guiding policy, efforts to drive sustainability through VET will be frustrated. As Schofield (2003) states “VET needs to more actively seek to acknowledge and influence wider social and economic policies beyond VET.” (p. 162)

One way to ensure this integration would be the development of an overarching national sustainability policy. Such a policy would provide the template for complimentary policy development and implementation strategies across the breadth of national interest, including education. In the UK such a model exists. Better quality of life: a strategy for sustainable development for the UK, for example, aims to “bring the environment, social progress and the economy alongside each other at the heart of policy making”<sup>18</sup> In response, the UK Department for Education and Skills (DFES, 2003) has developed the Sustainable Development Action Plan for Education and Skills. The Action Plan sets out four key objectives for the UK education sector that cover:

1. education for sustainable development;
2. the environmental impact of the Department and its partner bodies;
3. the environmental impact of the education estate; and
4. local and global partnership activity. (p. 6)

It is the first objective that speaks particularly to vocational education and training and requires “understanding, developing and implementing sustainable technologies and working practices.” (p. 7)

The rapid change in the nature and future of work is now a focus of VET discourse<sup>19</sup>. Skilling people for work is the “core business” of VET. Yet there is less emphasis placed within the sector in developing policy positions to address these emerging scenarios. It has been suggested for example that our work/ employment reality is “antithetical to either lifelong learning or resolution of skill shortages at a societal level” (Schofield, 2003, p. 163), despite these being key VET policy objectives. There needs to be an open and far-reaching debate within Australia on the changing nature and future of work and the ability for workers and employers to contribute to sustainable industry. The 2003 ISOS Conference Communique on Australia and Sustainability recommends “that a national enquiry into the nature, meaning, organisation and funding of work in a sustainable society be undertaken. The enquiry should bring together a broad cross-section of thinkers and policy-makers with no constraints on the outcome.”<sup>20</sup> There is a role for VET in driving such processes.

The difficulties of engaging industry in the important work of education and training are commonly expressed throughout the history of TAFE and VET in Australia. (Goozee, 2001) Recent research suggests that industry is actually reducing its commitment to workplace training. (Callus & Lansbury, 2002, p. 238) Despite a clearly articulated industry-led training system, this theme is again reflected in the research presented. There is now a growing momentum within industry towards sustainability but it appears to have been more focussed on “operationalising” sustainability through, for example, environmental management systems or sustainability reporting. Little attention to sustainability education and training can be identified from these processes. The pilot Mining Certification Evaluation Program<sup>21</sup>, a partnership program involving WWF Australia, CSIRO and several global mining corporations provides one such example. The program which is working to “ground-truth” sustainability within the mining industry has no education or training partner nor, at this stage, is there recognition of the role of VET in meeting sustainable industry objectives.

This gap between training delivery and industry/workplace reality needs to be urgently addressed if indeed sustainability is to be truly embedded within business and industry. Training organisations need to engage with industries already adopting

sustainability to “ground truth” sustainable educational approaches in practice. This evidence based research should then provide the basis for better overall vocational education and training to support sustainability.

### **Conclusion – Finding the Common Ground**

This paper has briefly explored the ability of the Australian VET system to deliver sustainability outcomes in industry. In considering the history and current context of VET in Australia and its emerging policy and theory it is clear that there are endemic challenges. Emerging concepts in sustainable education call for transformative responses and imply that big changes are required to our education systems to support sustainability. There may however be another way forward through identifying and working with the common elements that exist between the rising trends fundamental to both VET and sustainable education.

There are three areas of VET policy noted here that may form the common ground on which to base both VET and sustainable education: the rise of the individual learner; lifelong learning; and generic skills.

The growing role and importance of individual learners challenges the dominance of industry in VET. (Anderson, 2003) The characteristics of such learners as they craft a path through learning and employment, is described by Schofield (2003):

But individual learners are not following linear pathways anymore. They “swirl” – dropping in and out of different learning sites and institutions and transferring freely between them and study and work. Linear pathways embodied in traditional models of learner progression from education to work, as conceived by policy makers, no longer apply. Learners are increasingly constructing their own routes – formal and informal – according to their own needs, aspirations and circumstances and assuming greater responsibility for their own employability. (p. 150)

The importance of individual learners to VET is also recognised in ANTA’s National Strategy. (ANTA, 2003) Learners are adopting much greater responsibility and self-direction for their learning in response to the changing nature of work. Flexible learners that can competently adapt to changing work practices and circumstances are not only a desirable feature of the new workplace. These skills are also valuable adepts in moving a society towards a (yet unknown) sustainable future.

Schofield also identifies the need to broaden the sphere of VET beyond the bounds of the workplace and industry and similar to Moore (2003) calls for greater integration within the educational sector and the broader community:

But lifelong learning is not the preserve alone of the VET sector, which must now join-up more effectively with all other parts of education and training in a whole of government approach. Lifelong learning can be advanced in workplaces & in institutions, but also in the community more broadly. (p. 150)

Lifelong learning is a common policy objective for both VET and sustainable education and as Schofield indicates above must be promulgated more widely through workplaces and the broader community. There will no doubt be challenges here, given the nature of changes occurring in work and organisations. However if lifelong learning is to be the main thrust of VET policy there will need to be an opening up of the sector to these external influences.

Workplace change and innovation is leading to new emphases in training by industry. A significant trend is towards generic skills training. These skills include “communication, team-building, negotiation and problem-solving.”<sup>22</sup> This skill set



makes a surprisingly good fit with those identified for sustainable education of: capacity building, critical thinking, partnerships and participation.

Armed with this knowledge the time is ripe for sustainable education to have a greater role within VET and industry.

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### Endnotes

1. For example two recent works: Dunphy, D., & Griffiths, A. (1998). *The sustainable corporation: Organisational renewal in Australia* and Dunphy, D., Benviste, J., Griffiths, A., & Sutton, P. (Eds.) (2000). *Sustainability: The corporate challenge of the twenty-first century*.
2. Ecologically Sustainable Development (ESD) is defined as “using, conserving and enhancing the community’s resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased.” (Commonwealth of Australia, 1992).
3. The term “sustainable education” is used throughout to mean Education for Sustainability. Education for Sustainability is defined as: “a new vision of education that seeks to empower people of all ages to assume responsibility for creating a sustainable future.” (UNESCO (2002) as quoted in NZ Parliamentary Commissioner for the Environment (2004), p. 36).
4. “Substantial public funding is allocated to VET (around \$3.5 billion per year)” (Schofield, 2003, p. 155).
5. Statistics quoted sourced from the National Centre for Vocational Education and Research (NCVER) website. See [www.ncver.edu.au/statistics](http://www.ncver.edu.au/statistics).
6. National ITABs are being progressively replaced by ten new Industry Skills Councils.
7. Training packages provide the “architecture” of the VET system. They specify the competencies that must be learned, the industry requirements for assessment and the resultant qualifications.
8. Information in this section adapted from Goozee (2001).
9. ACOTAFE (Australian Committee on Technical and Further Education) (1974). *TAFE in Australia: Report on needs in technical and further education*, (Kangan report), p.9 as quoted in Goozee (2001).
10. As quoted in Goozee (2001), p. 79.
11. “The OECD has adopted a “cradle-to-grave” concept of lifelong learning, that is, all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competencies within a personal, civic, social and/or employment-related perspective. Thus the whole spectrum of learning, formal, non-formal and informal is covered in the broad definition, as are active citizenship, personal fulfilment, social inclusion, professional/vocational and employment related aspects.” (Behringer & Coles 2003, p. 7).
12. The report and the professional support materials can be downloaded from the TAFE NSW website at: <http://www.lg.tafensw.edu.au/enviro/>
13. The AQF is the system of thirteen national qualifications that cover post compulsory education. AQF levels 1-6 can be attained through VET. These levels correspond to qualifications ranging from Certificates I-IV, Diploma and Advanced Diploma.

14. Five of the 37 identified Training Package qualifications and TAFE NSW accredited courses were selected for review.
15. "How do you drive sustainability in education when it is premised on training for mature industries and existing practices?" – Focus Group feedback, Moore (2003), p. 86.
16. Training Packages take at least three years to be developed and their review process commences at about 18 months after adoption. <http://www.anta.gov.au>
17. ANTA's National VET Strategy does recognise the need for learning and employment solutions in building "sustainable communities" but does not recognise or endorse the broader ESD agenda.
18. See <http://www.dfes.gov.uk/sd/strategy.shtml>
19. Callus & Lanbury (2002), for example.
20. Source: [www.isosconference.org.au](http://www.isosconference.org.au)
21. See [http://www.minerals.csiro.au/sd/SD\\_MCEP.htm](http://www.minerals.csiro.au/sd/SD_MCEP.htm)
22. Dawe, S. (2003) "The changing training practices in large Australian firms." NCVER.