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Building innovative vocational education and training organisations

Victor Callan

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Building innovative vocational education and training organisations

Victor Callan
University of Queensland

The views and opinions expressed in this document are those of the author/project team
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Contents

Key messages	4
Executive summary	5
Research questions and methodology	7
Key research questions	7
Overview of the methodology	7
Overview of the report	7
Innovation and vocational education and training	9
Innovation as a national priority	9
Past research into innovation in vocational education and training	10
Findings from past research into the leading innovators	13
Introduction	13
Innovative organisations create learning cultures	13
Innovative organisations have failure-tolerant leaders	14
Innovative organisations identify their innovators	15
Innovative organisations reward people	16
Innovative organisations use partnerships	16
Innovative organisations promote teamwork	17
Case studies and vignettes about innovation in VET	19
Innovative organisations create learning cultures	19
Innovative organisations have failure-tolerant leaders	20
Innovative organisations identify their innovators	20
Innovative organisations reward people	21
Innovative organisations use partnerships	22
Innovative organisations promote teamwork	23
What other strategies can create more innovation in VET organisations?	26
Potential areas for increasing innovation	26
Practical steps for increasing innovation	27
References	29
Appendix	31

Key messages

Highly innovative organisations engage in at least six practices. They:

- ✧ create learning cultures which promote innovation as a core capability
- ✧ have leaders who are failure-tolerant
- ✧ identify their innovators
- ✧ reward people who bring forward innovative ideas
- ✧ use partnerships
- ✧ promote innovation through teams, teamwork and communities of practice.

A series of case studies and vignettes revealed that vocational education and training (VET) enterprises:

- ✧ are making good progress as innovators but this progress is uneven
- ✧ have predominantly used only three of the six characteristics to build innovation: identification of innovators; partnership with industry; and teamwork
- ✧ are experiencing a gap between the rhetoric about innovation and its funding
- ✧ are needing more leaders who, rather than just playing around at the edges, want to build corporate cultures which deeply value innovation and innovators.

Executive summary

This report addresses three questions. These are:

- ✧ What are the practices of highly innovative organisations?
- ✧ How are vocational education and training (VET) providers currently promoting greater levels of innovation?
- ✧ What other strategies have the potential to create further innovation in VET organisations?

Central to this report was a review of past research designed to identify the key practices or habits of innovative organisations. This review revealed that truly innovative organisations:

- ✧ create learning cultures which promote innovation as a core organisational capability
- ✧ have leaders who are ‘failure-tolerant’
- ✧ identify their innovators
- ✧ reward people who propose innovative ideas
- ✧ use partnerships
- ✧ promote innovation through teams.

The aim of this ‘report card’ was to describe how well VET providers are faring in promoting these six practices in their organisations.

The VET organisations which were the focus of case studies were the Gold Coast Institute of TAFE (Queensland); Victoria University of Technology; Institute of TAFE Tasmania, and Onkaparinga Institute of TAFE (South Australia). In addition, minor case reports or vignettes were completed for the following organisations: the Australian Institute for Care Development; Construction Training Centre; Aviation Australia; Barrier Reef Institute of TAFE; Brisbane North Institute of TAFE; Australian Ikebana Centre College of Art and English; and Workplace Australia Group.

VET organisations were using all six of the characteristics of innovative organisations to varying degrees. In particular, they were good at identifying their innovators, at developing partnerships, and using teams. Their champions of innovation typically operated in partnerships with various specialists, such as business development managers, business managers, enterprise officers and partnership managers. However, they are engaging in innovation with little time or financial rewards for their efforts. Their organisations recognise this but, with the exception of funding to release staff from teaching or other responsibilities, the organisations are still working through how to reward or more fully support their innovators.

Innovation in VET organisations is also being driven through the development of often substantial training partnerships with industry. Of the six characteristics of innovative organisations, this was by far the most dominant strategy in shaping and driving innovative thinking and practice. Industry training partnerships are promoting more flexible training programs, good financial returns and staff development opportunities for both the VET and the

industry organisations. The partnerships have allowed experimentation and fine-tuning of practices, such as flexible and individualised training, customisation of training, blended models of delivery, the use of workplace assessors, and the mapping of competency development within existing workplace projects.

The use of teams, teamwork and communities of practice is the other major tool being utilised to promote both learning and innovation. Teams have reinvigorated a number of training programs which were losing the support of learners. Teams, in the form of cross-functional working groups, are being used to promote more collaborative approaches across institutions in processes of collecting, sharing and distributing relevant information to enable the needs of industry to be more effectively met. In addition, communities of practice are providing team-based structures which allow people to share stories and learning, and serve to turn implicit understanding into more explicit knowledge which can be used to solve future problems. Many examples exist of such communities of practice among teachers, workplace assessors, administrators and senior managers. Teams and communities of practice have been integral to the successful growth of skills centres which themselves facilitate innovative practices.

What other strategies have the potential to create more innovation in VET organisations? The case studies profiled here do suggest that these organisations will continue to be enthusiastic innovators, but they will need to broaden their strategies to ensure that innovation becomes a core focus.

If the six characteristics of innovative organisations in combination are proposed as the benchmark, then it is clear that the development of innovation in the VET sector is uneven. This research has shown that certain individuals and teams linked to larger industry partnerships are leading the way. Moreover, there appears to be little evidence that VET organisations have established either well-developed organisational capabilities for innovation or clear structures for rewarding innovators. Given the financial and operational constraints faced by organisations in the VET sector, this is understandable. However, there is still tremendous potential in the VET sector to increase innovation within their enterprises. They need to be serious about building and funding learning cultures and promoting innovation as a core capability within their enterprises. In addition, failure-tolerant leaders of VET organisations need to be even more creative in how they continue to support and reward their leading innovators and educational entrepreneurs.

Research questions and methodology

Key research questions

This project addressed three research questions, all of which are important to leaders and managers in the vocational education and training (VET) sector as they promote even greater levels of innovation and the establishment of competitive advantage for their organisations. The questions are:

- ✧ What are the practices of the world's leading innovative organisations?
- ✧ How are VET providers currently promoting greater levels of innovation using such practices?
- ✧ What other strategies have the potential to create further innovation in VET organisations?

Overview of the methodology

The first question was addressed through a review of previous research into the current drivers for innovation and was largely located within the broader management literature. The review identified six practices or habits of high-performing innovative organisations. The six characteristics were subsequently adopted to provide a framework to investigate how selected VET enterprises rated as innovative enterprises; that is, for addressing the second research question. This 'report card' was based primarily on the findings of four major (based on visits) and several minor (based on telephone interviews) case studies of innovation in vocational education and training which were completed specifically for this report (see appendix for details).

The third research question focused on future strategies, and was addressed using the findings from both the literature review and the case studies.

Overview of the report

It is important to note that the project was not funded for the primary purpose of providing in-depth and detailed case studies of examples of innovation in the VET sector. The foremost intention of the project was an examination of the literature relating to innovation. Funding for a limited number of cases and vignettes was provided as a result of the initial findings of the literature review. Thus the report is essentially in two parts.

The first part of the report provides an integrative review of the management and innovation literatures to define some of the primary characteristics of innovation organisations. The second part of the report tests the extent to which a small sample of VET organisations engaging in the six practices identified as being a feature of innovative organisations have become even more innovative in their particular VET contexts.

The report begins by documenting the findings from previous work on change, innovation and partnerships in the VET context. The report notes that there are already many well-documented examples in the literature which demonstrate how VET organisations are behaving innovatively, especially in the areas of partnerships, networks and knowledge brokering (see Callan & Ashworth 2004; Gientzotis Consulting 2003; Mitchell et al. 2003). New relationships are emerging between VET organisations and their teachers, managers and supervisors in businesses, and with members of local communities. These new relationships are leading to major innovations in how training is being delivered, the involvement of industry as partners and greater levels of customisation of training. As Mitchell and his colleagues (2003) note in their report on innovation in teaching and learning in the VET sector, such change is requiring new and intensified professional, technical and educational roles for VET practitioners, especially among teachers, workplace assessors and supervisors.

As the literature also reveals, major shifts in demand are placing considerable pressures upon VET organisations to be more responsive, flexible and relevant in the teaching and training they deliver. The response of VET organisations is at best uneven, and as noted in many other industries, change does clearly result in some innovators, but also in many more who, if they are given the capacity, becoming followers.

Innovation and vocational education and training

Innovation as a national priority

Australia has become very serious about its intentions to be a major player in the knowledge economy. Today national prosperity is being linked increasingly with aspirations towards the creation of a knowledge-based economy which rests on the production, distribution and use of knowledge and innovative ideas (see Bell 1997; Clarke 2001). Significantly, the Commonwealth Government's Innovation Action Plan for the Future, and the Backing Australia's Ability program have provided \$2.9 billion over five years. Related developments are state government initiatives to back innovation, including 'Smart State' (Queensland) and 'Learning Regions' (Victoria) initiatives, with their associated funding incentives.

Enterprises today in both VET and other contexts are focused on selecting the best set of strategies which will allow them to stay ahead of their competitors and to meet the needs of their customers more effectively than their rivals. A major source of competitive advantage is the ability to be more creative and innovative than one's competitors.

The terms 'creativity' and 'innovation' are often used interchangeably. In recent times, however, writers have made a distinction between the two concepts. Creativity is concerned with the production of novel and useful ideas. Innovation is described by Wolpert (2002) as 'pursuing radical new business opportunities, exploiting new or potential potentially disruptive technologies, and introducing change into the core concept of your business'. Innovation is concerned with the successful implementation of creative ideas within the organisation.

In reality, a substantial amount of innovation is incremental innovation. Radical innovation is a rare phenomenon in any industry, and it is best seen as examples of products and services which have changed customers' expectations. While we tend to talk about product or service innovation, the real goal is to create extensive innovation across a business or industry so that every component of the organisation is open to rule-breaking change and innovation. As Hamel (2002, p.63) notes in his book, *Leading the revolution*, 'To what degree does the idea depart from industry norms (how radical is it?); and to what extent does the idea stretch beyond the product to encompass other elements of the business concept (how extensive is it)?'.

While Australia has long been viewed as a nation of inventors, there is considerable evidence that a large gap exists between our creativity and the application of these creative ideas as innovation. A major hurdle has been the inability of Australia's institutions to offer adequate support for the ideals of innovation, through either extra funding or time. Significantly, many would argue that public funding has been just sufficient—or even insufficient—for the operational costs of training organisations, let alone providing access to strategic initiatives to support innovation.

In more recent times, however, funds from large and successful industry partnerships and fees from international students and consulting activities, to name just a few developments, have provided some of the extra funding which VET institutions have been able to invest into strategic initiatives. In addition, structural and cultural change has freed-up many individuals and their teams and allowed them greater flexibility for the pursuit of more entrepreneurial activities.

VET organisations have also recognised the need to seek a point of differentiation from their competitors, and to be unique in the bundle of benefits they can offer to students, industry partners and others who want to be associated with them. This drive for distinctiveness or competitive advantage goes hand in hand with the desire to be incrementally innovative, but also in more transformational ways, where possible.

Finally, it is imagination not merely investment which drives innovation. As the case studies conducted as part of this research illustrate, it has been some investment mixed with the considerable imagination of passionate individual managers and teachers that is driving most of the more exciting thinking and innovations occurring in vocational education and training today.

Past research into innovation in vocational education and training

Innovation and managing risk are core challenges for VET managers

Research undertaken for a previous National Centre for Vocational Education (NCVER) report on the capabilities required to lead and manage in training organisations (Callan 2001) identified that VET managers required nine capabilities. One of these—business and entrepreneurial skills—focused on the manager's ability to promote innovation, creativity, risk-taking and learning among staff. Significantly for VET leaders, it is being argued that the management of risk will increase rather than diminish, as more organisations begin to accept that failure is often a requirement for innovation (Denhardt & Denhardt 2002). Unfortunately, the media's interest in exposing mistakes by career public servants still exists as a major impediment to innovation in an increased number of public sector environments (Borins 2002). The TAFE innovators interviewed as part of this research were very aware of the consequences of not spending the taxpayer dollar wisely or appropriately.

It takes many strategies to develop learning cultures

The literature demonstrates that truly innovative organisations are continually thinking about how well their culture supports learning and feedback. Johnston and Hawke (2001) in their research relating to Australian innovators reveal that the cultures of these organisations show a strong commitment to learning. They investigated, as case studies of learning enterprises, six Australian organisations—AstraZeneca, Royal District Nursing Service, Banrock Wine and Wetland Centre of BRL Hardy, Bartter Enterprises, Novell and Unley City Council. They found that these organisations adopted a range of strategies to promote learning and used the often frequent structural changes to establish new ways of working together, as well as feedback systems to support employees to engage in new work practices. This commitment to learning was further demonstrated through the establishment of formal on- and off-the-job training and learning programs. New training structures and cultures contributed to building and expanding the learning culture, and in accordance with this commitment, they established assessment systems, provided formal skills acquisition programs, and used partnerships with others, to either provide or to monitor employee training and development.

In a related examination of how well technical and further education (TAFE) organisations were doing in performing as learning organisations, Comley and associates (2001) examined six VET institutions (Northern Territory University, Swinburne University of Technology, Central Metropolitan College of TAFE, Kangan Batman Institute of TAFE, Mt Isa Institute of TAFE, Sunraysia Institute of TAFE). They found that the vast majority of staff believed that their organisations were learning organisations. Senior managers, while still supportive, were more critical of the efforts of their enterprises to achieve the standard of a learning organisation. Dual

sector staff (that is, both university and TAFE within one institution) rated their organisations more positively as having achieved learning organisation status. The research showed however there was evidence that staff were not risk-takers, being especially fearful of criticism from management if innovations failed.

Larger industry training partnerships are driving a lot of innovation

Earlier reports have provided considerable detail on the nature of VET industry-provider partnerships, teaching and learning innovations and how VET enterprises are responding to the complex training needs of industries undergoing considerable reform (see Callan & Ashworth 2004; Gientzotis Consulting 2003; Mitchell et al. 2003). Large training partnerships have driven the development of innovation-friendly cultures and innovative solutions to training. A number of reports describe how the Ford Motor Company of Australia, for example, is using training partnerships to achieve a variety of strategic and change management objectives. The Ford Deakin Prime Alliance provides a range of innovative education programs at the undergraduate and postgraduate levels as well as supervisory training, research and consulting services for Ford. Ford is promoting the careers of students by partnering with various universities in the provision of scholarships to outstanding female students to encourage careers in engineering.

The research cited above also highlights the many innovations in training delivery. The Barrier Reef Institute of TAFE in partnership with Russco, a body repair shop in Townsville, has re-conceptualised block release. This provider now has the capacity to provide automobile trade apprenticeship training in Far North Queensland without having to send apprentices to Brisbane for block release. Students are trained through exposure to clients and through workplace projects.

Remote locations also create special challenges in relation to delivery that are leading to new innovations. A partnership between Argyle Diamond Mines and Kimberley Group Training, for example, is providing training organised in this remote location which is tailored to meet the mines' two weeks on, two weeks off, work schedule. The training organisation is providing technical advice, literacy and numeracy assessments, and administration of the training.

Different modes of delivery are also being combined in innovative ways by the Hunter Institute in New South Wales. This organisation is delivering courses in its maritime industries partnership by combining teleconferencing, online learning and the use of workplace mentors. In another example of customisation, Western Sydney Institute in its partnership with P & O Cold Logistics is providing customised training for Woolworths staff who work in cool rooms in temperatures as low as minus 28 degrees.

In addition, VET organisations are continuing to take their programs off-shore as they forge innovative alliances with international institutions. For example, the Institute of TAFE Tasmania and the Australian Maritime College are partnering to support the new Australian College in Kuwait. Teaching staff are travelling from Tasmania to Kuwait to complete a number of roles, including conducting external audits using the Australian Quality Training Framework. The quality process being provided through this partnership is ensuring the continued improvement in the Australian College in its customer focus and the development of well-informed students.

Learners are partners in innovation

Previous VET research has shown that students are major partners in learning and innovation with their providers. For example, Royal Melbourne Institute of Technology textiles students undertook, as a project, the product re-development of a sock they had designed. This led to a contract with Big W for the distribution of the new product. Boulevard, a wholesale producer of vines, citrus and nuts, in partnership with the Victorian Department of Natural Resources and Environment, is developing qualified horticulturists. The company has adopted the innovative

decision to provide land and some bulbs to trainees to enable them to run their own cut flower and bush food enterprise at the end of their training program. It has hopes that some of these student ventures will prove useful to the company.

Skills centres and shopfronts are becoming popular vehicles to showcase innovation

Skills centres have emerged as an important component in a strategy to bring innovators together. For instance, in Western Sydney, the Brick Industry Training Company is partnering with Mirvac and Lend Lease Corporation in the construction of 1800 homes over a five-year period. For their on-the-job training, apprentices are working under the supervision of a Mirvac trainer. Off-the-job training provided by the Technology Park Skills Centre supports this skills development and learning. Another purpose-built centre is the Transport and Logistics Centre at Kangan Batman TAFE. This centre, which is funded by the Australian National Training Authority (ANTA), offers a training service for the transport and logistics industry and includes a fully functional warehouse with pallet racking, dock loading, a cool room and an overhead crane for loading and unloading vehicles.

VET institutions are also using shopfronts to establish better public profiles. Shopfronts portray programs as accessible, innovative and community-minded. For instance, a mobile tyre training centre in a form of shopfront is delivering nationally accredited training to youth at risk in South Australia. The partnership is between Youth Education Australia and Bridgestone. This initiative is funded by ANTA, and has received the support of Bridgestone, Cummins, Performance Wheels and Beissbarth Australia in the construction and design of the training unit.

Another shopfront concept is the Great TAFE Home Work project launched in 2003, in which TAFE students from over 15 course areas are involved in the renovation, electrical work, plumbing, interior decorating, furnishing and landscape design of houses and land provided by the Redcliffe and Caboolture councils in Queensland. Brisbane Institute of TAFE is coordinating the project. Upon completion of the renovations, a further group of TAFE students from marketing, business and tourism will become involved.

Findings from past research into the leading innovators

Introduction

The innovation literature is predominantly based upon case studies and other research into the activities of some of the world's best-known businesses. Not surprisingly, innovative businesses also tend to be among the highly successful and most recognised international enterprises. However, there is no universally accepted classification of the practices or habits of highly innovative enterprises. This section of the report is focused upon an examination of the predominantly non-VET literature to enable an identification of the habits of innovative organisations. What lessons can be learned from those who innovate so successfully?

In summary, the research literature identified six characteristics of innovative organisations. Leading innovators:

- ✧ create learning cultures which promote innovation as a core capability
- ✧ have leaders who are 'failure-tolerant'
- ✧ identify their innovators
- ✧ reward people who bring forward innovative ideas
- ✧ use partnerships
- ✧ promote innovation through teams, teamwork and communities of practice.

Innovative organisations create learning cultures

The literature has shown that innovative organisations take steps to build cultures which promote learning (Senge 1990). Organisational learning is concerned with the processes used to capture and to convert tacit knowledge into explicit knowledge (Nonaka & Takeuchi 1995; Durrance 1998). Learning organisations are skilled at creating, acquiring and transforming knowledge, and at changing their behaviours to reflect this new knowledge and insights. In particular, they permit a basic organisational curiosity which promotes a desire among employees to be innovative.

A true learning organisation promotes innovation by empowering its people, by integrating quality initiatives with quality of work life and by creating free space for learning. These learning-focused enterprises also encourage collaboration, promote inquiry, and create continuous learning opportunities for their employees, and often with their customers and partners (Lam 2002; Watkins & Marsick 1993). Organisations which harness tacit knowledge as a source of learning are more likely to produce strong innovative capabilities.

Innovative organisations create cultures in which diversity is a source of advantage. They promote and actively manage diversity. Furthermore, organisational cultures such as these are vigorous promoters of creativity and innovation. Finding the right balance between innovation,

diversity and openness influences the degree to which an organisation encourages innovative collaboration. Homogeneity or sameness in staff can stifle innovation. Research has long demonstrated that, within organisations, strong relationships between individuals—because of the practice of conforming and an unwillingness to challenge established practices and beliefs—actually hinder innovation.

The literature has also shown that groups which spend too much time maintaining relationships tend to suppress the exchange of new ideas. Innovative businesses weaken ties within groups in order to promote increased collaboration and sharing of information by group members. At the same time, however, new entrants and their diverse ideas are welcomed into the group (Farson & Keyes 2002). Strategies to accomplish a scenario of this nature include re-organising staff regularly and re-allocating people into new structures which stimulate them to rethink their day-to-day activities. People who move around as a result of change, job rotation or as part of multi-disciplinary teams or special project groups outside their ‘silos’ are more likely to raise new questions and consider new approaches (Denhardt & Denhardt 2002).

Innovative organisations prize learning and innovation as a core capability. Leonard-Barton (1999) describes core capabilities as a ‘capacity for action’. Core capabilities make an organisation unique and give it a competitive advantage. To build core capabilities, an organisation needs to adopt an incremental approach to improving and expanding current capabilities. It focuses on process as well as product, and looks for innovative ways to challenge conventional thinking.

Innovative enterprises can lose ground, however, when their core capabilities become so embedded in the culture of the organisation that they prevent change. In many instances this is the result of the organisation becoming complacent over its success, becoming too insular and failing to recognise what is happening in their external world. On the other hand, the best companies initiate organisational practices which prevent their developing rigid views about their success in their particular area.

The companies comprising the Virgin group are well-known innovators. Virgin Management Investment, for instance, continually asks four questions which challenge any possible sense of complacency: What is the potential for restructuring the market and bringing new benefits to the customers? Is the opportunity radical enough to justify the Virgin Brand? Will the opportunity benefit from the skills and expertise Virgin has accumulated in its other businesses? Is there a way to keep the investment risk within the acceptable boundaries?

Innovative organisations have failure-tolerant leaders

Risk is an integral part of innovation. Successful innovative organisations use risk constructively to assist the organisation to improve and to learn (Denhardt & Denhardt 2002). Within this environment of managers taking greater risks, many writers write about the ‘failure-tolerant leader’ (Farson & Keyes 2002). This individual demonstrates unequivocally that stumbles on the innovation path will be forgiven. Failure-tolerant leaders help people overcome fear, and in the process, create a culture of intelligent risk-taking which leads to sustained innovation. Moreover, these leaders are more likely to engage at a personal level with the people whom they lead.

Indeed, research on workplace creativity shows that it is not the individual employee’s freedom as much as managerial involvement which produces really creative acts in this location. Numerous case studies reveal that highly competitive companies like Sony, Canon, 3M and Virgin have failure-tolerant leaders who tend to treat mistakes as an opportunity for organisational learning (Harryson 1997; Farson & Keyes 2002).

A fact of life is that few companies know how to deal with the large number of innovations and new ideas originating from middle and lower management. Related to this issue is that many new ideas appear to be quite outrageous and highly risky. Such ideas are proposed with little

assessment of their costs, risks, time and resources. It is a brave manager who champions many of these suggestions. To encourage ‘responsible behaviour’ by the innovators rather than wild ideas, some businesses have adopted the procedure whereby employees must scope the innovation in terms of risks and costs. In addition, they are given time and support to make the business case for their idea as thoughtful and convincing as possible. Only then do managers consider the ideas with definite potential and take them to the next stage for consideration.

Modern communication technologies are diminishing organisational hierarchies which can stifle innovation. Innovative enterprises use a variety of communications channels, including the ubiquitous suggestion box and basic email, but also chat groups, news groups, conferencing systems and real time and asynchronous electronic connections. Royal/Dutch Shell group of companies, another business identified as a world leader in innovation, has found that many of its most worthwhile innovations have come from employees via email.

Communication technologies are opening the doors for idea-sharing by all levels of employees, as well as providing access to idea generation processes for customers, suppliers and other partners. Truly innovative organisations are, therefore, those which provide a range of communication channels to assist staff to communicate innovative ideas to management. In this context also it is important for employees feel they have access to senior people with separate budgets who are put in charge of innovation and related activities (for example, directors of innovation, business development managers). It is reputed that Richard Branson of the Virgin group of companies remains accessible to employees who have novel proposals. At one stage, every employee had Branson’s phone number. He does this to promote what he calls a ‘speak up culture’.

Innovative organisations identify their innovators

When comparing the levels of innovation of Silicon Valley businesses with other organisations, it is argued that businesses in the valley are successful because ideas, capital and talent are allowed to circulate freely. In most companies elsewhere, ideas, capital and talent are ‘stagnant prisoners’. Truly innovative organisations require ‘entrepreneurial heroes’— innovators who set out to create wealth and attract resources— whether they be capital or talent.

In the large multinational company, 3M, for instance, the company uses dual career paths to promote innovation within the company. Researchers can choose to follow a technical or a management career path with equal advancement opportunities. Innovative organisations select people to be ‘innovation head hunters’. These employees are entrusted with details of a new concept, technology or service and are encouraged to share this information among others inside and outside the organisation in the hope of finding appropriate partners (Leifer et al. 2000; Wolpert 2002). Because it is in their best interest, the intermediaries are trusted by their enterprises to maintain confidences.

Innovative enterprises also identify their customers as sources of ideas about innovation. Many production companies today are using their customers for feedback on their products, even giving customers user-friendly tools (for example, performance kits, materials, prototypes) for their use and customisation. In this way their customers are able to more effectively determine their needs (Thomke & Von Hippel 2002). In another strategy to get customer feedback, companies are establishing ‘open market’ innovations (Rigby & Zook 2002) which include internet sites that provide an opportunity for innovation exchanges between customers, buyers, suppliers and others. Rather than keeping new products and prototypes secret, these sites welcome outside interest and are designed to attract the buyers and sellers of new technologies, services and products, all of whom might add value to the existing product or idea.

The reality of truly innovative ideas is that they typically originate from across several disciplines, or are the result of the combination of quite different technologies. Such sites have engineers talking to customers, information technology specialists, academics and manufacturers about how their technologies or ideas can advance the innovation to another level or get it to market in a more cost-effective form.

Innovative organisations reward people

It is people who innovate, not processes or cultures. Successful innovative firms align an organisation's rewards and recognition with the goals of innovation. Innovation is not without cost, and inadequate forms of rewards and recognition are impediments to fostering innovation. It is managers in particular who send the signal that innovation is valued, rewarded and important in the organisation. They do this by providing adequate resources, and by aligning the company's rewards and recognition with the goals of innovation. If there is inadequate reward, employees have little financial or professional incentive to innovate. In addition, those who are innovators become frustrated by the lack of rewards and often move to other places where the financial and non-financial rewards are more apparent (Tarry 2002).

True innovation requires time. Innovative enterprises make the best use of their resources by managing the time devoted to innovation. While there are excellent examples of 'truly creative acts' which have emerged under extreme time constraints, the research shows that, ideally, creative activity should be protected from such pressures (Amabile 1998; Amabile, Hadley & Kramer 2002). Allocating time for employees to be innovative removes pressure and allows employees to focus on their work. In addition, employees are likely to be more productive if they are able to work in blocks of time and can collaborate with others on an 'as needs' basis. Support for innovation can also include time to attend conferences, workshops, to bring in outside visitors and experts, site visits, and participation in professional networks.

Research suggests that, if time pressures cannot be avoided, it is essential that employees understand the reason for the urgency and can clearly see the links between this need for urgency and their company's vision and mission. Innovative businesses understand the reality of the time required to get new ideas to the market. The lead time for knowledge to become applicable technology and to begin to be accepted in the market is between 25 and 35 years (Drucker 1994). A gap of this magnitude appears to be inherent to the nature of knowledge and it seems that little can be done to speed up this process.

The private sector multinational company 3M has built a corporate culture which helps to support and increase innovation activity (see Studt 2003). To accomplish this, the company has implemented a number of programs over the years, one of the best known being the 15% option. Employees are encouraged to spend up to 15% of their working week on projects of their own choice with seed capital being made available to researchers in several ways. The researcher can apply for seed capital from their business unit manager. However, if this request is denied, they can take their idea to another business unit within the company. If both these avenues fail, 3M has a 'genesis grant', an independent source of funds of up to \$100 000 which can be requested by researchers.

Innovative organisations use partnerships

The literature indicates that there appear to be two contrasting positions about innovation. One view is that innovation is an internal capability, whereby outsiders are excluded from this knowledge development for fear of losing intellectual property. The alternative view is that innovation is best seen as a form of 'knowledge brokering' across organisations through partnerships and networks. Many researchers (Wolpert 2002; Leifer et al. 2000) argue that

successful innovation requires the latter, including an ability to harvest ideas and expertise from a wide array of sources.

One way to accomplish this is through more formal partnerships which facilitate ways for organisations to share their skills and knowledge. Because all partners are interested and involved, partnerships are more likely to mean that innovative projects can be maintained in the event of cutbacks or changed priorities. Partnerships between organisations build levels of trust and produce implicit and explicit arrangements which promote exchanges of resources and knowledge which, in turn, promote innovation in organisations (Callan & Ashworth 2004; Tsai & Goshal 1998).

Most partnerships emerging today are two-way relationships which provide benefits to both parties. Such partnerships involve cooperation, the sharing of resources and the development of 'partnering skills'. Over time, this knowledge and these skills related to successful partnering become a source of competitive advantage for the enterprises involved. The best of these partnerships are focused upon longer-term outcomes. Good partners allow both organisations 'to punch more than their weight'.

Innovative organisations promote teamwork

Teams are a major tool in promoting both learning and innovation. Recent case studies show that such teams must draw upon expertise from across the organisation (Leonard-Barton 1999; Amabile, Hadley & Kramer 2002). The advantage of cross-functional teams is that they enable relationships to be strengthened between functions, while still allowing room for individual expertise to become apparent. Kodak's development of the disposable camera is an excellent example of the benefits of integrating functions across a company. Kodak set up a cross-functional team which brought together design and manufacturing under the one project leader. The project developed a small, dedicated team, and for the first time, engineering, marketing and manufacturing shared the same work space. The project was successful, with Kodak introducing its first disposable camera in 1988 and successfully taking a sizable share of the market.

The Kodak case demonstrates firstly, that to be successful, the project must fit the objectives of the organisation. Kodak's film division did not support the idea for a disposable camera and therefore was ineffective at conceptualising the product. Secondly, learning is much more successful if it is communicated through small project teams rather than through a company-wide approach.

An extension to the success of project groups is the creation of more informal, collaborative work groups called 'communities of practice' (Wenger & Snyder 2000). In communities of practice, members choose to work together because of a shared expertise and passion for a joint enterprise. They are self-selected, team-based structures which can be formed either within a business or across organisations. Collaborative work groups such as these are usually formed in response to an external catalyst, or for the purpose of networking with peers and keeping up to date.

Because of their informality, communities of practice are not easy to build or sustain, and are often difficult for management to regulate. However, Wenger and Snyder (2000) discuss the need for communities of practice to be encouraged. It is important that management recognises that organisational knowledge or knowing emerges when people collaboratively examine what they do every day in accomplishing their jobs. They might not have an agenda, but they share their experiences in free-flowing, creative ways which foster new approaches to various problems and challenges. The manager's role is to bring the right people together, and to provide the infrastructure and support in which such communities can thrive. Typically, however, it is up to the members to invite others to join, and membership is self-selected. These conversations, with

associated stories of various trials and tribulations, turn implicit understanding into more explicit knowledge which can be shared and possibly used in solving new problems.

'Innovation labs' are another tool being used in a variety of public and private sector organisations to promote teamwork and to teach innovation (Abramson & Littman 2002; Jones & Thompson 1999). The 'lab' concept provides a useful model for establishing innovation think tanks, the results of which can be applied elsewhere either fully or in part. Experimentation is encouraged through a relaxation of departmental and central agency controls. Labs typically involve a process which lasts two to three days and aims to assist employees to develop 'rule busting' ideas and to give out seed money. Attendees are encouraged to learn from radical innovations outside their industry and in groups of eight they brainstorm ideas for new businesses or new approaches to existing businesses. Through a process of elimination, selected ideas are nominated for funding and volunteers choose those they will support. To ensure the ideas are implemented, a follow-up 'action lab' sees teams' venture plans, including identifying potential partners and sources of competitive advantage. As well, employees are coached in developing low-cost, low-risk ways of testing their ideas. Finally, the best ideas are presented to a 'venture board' for possible funding.

Case studies and vignettes about innovation in VET

In this section, the six characteristics of innovative organisations are used as the benchmark for examining innovation and innovative practices within the VET sector. As noted in the previous section, the literature identified innovative organisations as those which:

- ✧ create learning cultures which promote innovation as a core organisational capability
- ✧ have leaders who are ‘failure-tolerant’
- ✧ identify their innovators
- ✧ reward people who bring forward innovative ideas
- ✧ use partnerships
- ✧ promote innovation through teams, teamwork and communities of practice.

As explained earlier, this section combines the findings from already published VET case studies on innovation or related topics (see Callan & Ashworth 2004; Gientzotis Consulting 2003; Mitchell et al. 2003) with the findings of the four major case studies and several smaller studies relating to innovation undertaken specifically for this report.

Innovative organisations create learning cultures

A true learning organisation promotes innovation by empowering its people. It integrates quality initiatives with quality of work life and creates free space for learning. These learning-focused enterprises encourage collaboration, promote inquiry, and create continuous learning opportunities for their employees, and often with their customers and partners.

This research and its case studies shows that VET organisations are promoting learning and innovation, in particular by encouraging staff at all levels to feel empowered in how they develop new and different ways of meeting the training needs of employers. In its partnership with Mitsubishi, one of the case study organisations, Onkaparinga Institute, has established an industry-led model which has moved to a consortium arrangement between several companies in the region. This consortium is underpinned by the knowledge that it is a learning community, with each partner learning from the other. Through the South Australian Chamber of Mines and Energy, schools and the institute, this same approach has been extended to innovative learning partnerships with mining companies with the aim of promoting training and careers in mining.

The Institute of TAFE Tasmania has adopted a learning culture approach to training packages, whereby more flexible and work-based strategies to facilitate the learning of students are explored. Training packages were an integral part of the overall TAFE Tasmania submission which resulted in their winning the National Training Provider of the Year Award in 2000.

Innovative organisations prize innovation as a core capability. Core capabilities act as a ‘capacity for action’. In these VET case studies, Gold Coast Institute of TAFE has explicitly built the goal of developing and nurturing an innovative culture which encourages research and

implementation of innovative products into its strategic planning. This institute plans to build a range of innovative tools and competencies and intends to measure the success of these tools by recording the number of innovations on an innovation register.

Also looking to the future in terms of using further change to build more innovation capability, the Institute of TAFE Tasmania is using an explicit benchmarking process to review the relative merits of its achievements on its key performance measures. The senior team at the institute has built benchmarking into the everyday discussions of achievements, and more significantly, the next strategic goals to be targeted. Like Gold Coast Institute, they also have key performance indicators relating to the learning experiences of students as well as staff.

Many organisations emphasised that their management boards strongly supported the development of innovation as a core capability in the organisation. Senior managers of Gold Coast Institute of TAFE, for example, believed that an essential part of their role was to take new ideas and projects to their management board regularly for debate and possible endorsement. At the other end of the scale, much smaller providers like the Australian Institute of Care Development reported that their board expected them 'to have a go' at bringing forward new ideas, and staff were judged on how well they managed risks and new projects.

Innovative organisations have failure-tolerant leaders

In innovative enterprises failure-tolerant leaders create a culture of intelligent risk-taking which leads to sustained innovation. Employees' freedom, as much as managerial involvement, produces truly creative acts.

Are there failure-tolerant leaders in VET? Almost all of the senior managers interviewed for the case studies described how they were attempting to change cultures from being risk-averse to being more risk-tolerant. Staff were being empowered to use training packages to develop more innovative, flexible and customised approaches to the delivery of training outcomes. Senior staff were seeing tremendous changes in the willingness of their staff to engage more directly with industry, and to build upon existing partnerships to find additional fee-for-service income. However, a number of those interviewed noted that, in some parts of their organisations, such cultural change was slow.

A number of the larger and more commercial industry partnerships have involved decisions about risk and resources. Partnerships such as these, as will be described later in this report, require the sharing of staff, resources and risks between the provider and the industry partner. By way of example, the Victoria Institute of Technology has successfully managed a number of large partnerships in transport logistics with bodies like Connex, MTrains and Linfox. In these partnerships, risk has been recognised and managed through the considerable support of failure-tolerant leaders. High levels of trust, close working relationships and shared risk-taking have delivered clusters of practical skills in these training partnerships to various parts of the workforces of their industry partners.

Innovative organisations identify their innovators

Innovative organisations have developed the capacity to identify their innovators. Earlier work on large industry-VET provider partnerships (Callan & Ashworth 2004) found that the success of these partnerships normally relied upon a few champions at different levels of the organisation who were passionate about the benefits to staff, students and others which could be gained from working more closely and innovatively with industry. These champions typically operated with specialists in partnering who held titles like business development managers, business managers, enterprise officers and partnership managers.

In these case studies many examples emerged of how individual teachers were leading the way in developing innovative responses to meet special training situations and learner needs. Through the use of pictorial text and workbooks, puzzles, flexible delivery and special developments in assessment, one teacher at Onkaparinga Institute has altered his delivery and assessment strategies to allow individuals with an intellectual disability to complete qualifications in the horticultural field.

TAFE Tasmania is driving a project-based learning approach to deliver training to engineering students. The Bleriot XI historic aircraft engineering student project is providing an affordable and achievable project in which the students and staff are involved in researching, designing and assembling a museum-quality flying replica of this aircraft, powered by an original 1909 Anzani aircraft engine. The project was an entry in both the Tasmania Division Engineering Excellence Awards 2003 and the National Engineering Excellence Awards 2003.

As noted earlier, innovative businesses understand the reality of the time needed to get new ideas to the market. Despite this, there was very little evidence in the case studies that staff were being given additional time or were being freed-up to pursue innovative ideas. However, a few examples did emerge. Brisbane North Institute of TAFE in reinvigorating various trade areas has taken staff out of classrooms to write new packages and training materials. Similarly, Barrier Reef Institute of TAFE, in developing the organisation's 'netlearn' community, received funding to support staff time for the development of this form of flexible learning network and technology-based support structure for both learners and teachers. Staff used the funding to buy small amounts of free time to work on innovation.

Many institutions included in these case studies emphasised that, while they valued very highly the abilities and enthusiasm of those who wanted to pursue innovative projects and ideas, they also recognised that many others did not want to be innovation champions. These individuals, who were generally the majority, supported innovation, but they had chosen not to be the public face of innovation in the institution. Those interviewed felt that it was important to invite people to be involved in innovative projects, but that a refusal to do so was more often due to an inability to break free of other demands, than a lack of interest or motivation. Again, most people were engaged in innovative activities on top of already very busy roles as teachers, administrators and managers.

Innovative organisations reward people

Innovative organisations are always concerned with how they will reward their innovators. Innovation is not cost-free. With inadequate reward, employees have little financial or professional incentive to innovate. In addition, those who are innovators can become frustrated by the lack of rewards and often move to other places where the financial and non-financial rewards are more explicit.

In TAFE institutes numerous examples were identified of how innovation is being rewarded through awards and prizes to those responsible for innovation. These rewards included additional access to training opportunities and visits nationally and internationally to view ways in which other enterprises are promoting learning and innovation. Such reward systems make innovation more tangible and serve to demystify the concept for staff.

In the context of responding more strategically to the issue of rewards for innovation, TAFE Tasmania and Gold Coast Institute of TAFE are implementing recognition programs which publicly support, recognise and celebrate innovative solutions to training. At another level, the Australian Ikebana Centre College of Art and English, a private provider, has engaged in a teacher exchange program with overseas countries designed to bring new teaching methods and skills, in this case in the areas of pottery, Ikebana arts and photography, into the institution.

In many organisations, however, it was felt that staff were unclear about how to introduce their innovations. For many there was the perception that any new idea became their sole responsibility for action. With already heavy teaching and administrative responsibilities, these individuals were unwilling to run with the idea since, understandably in such situations, they felt that they would carry all of the extra work.

At the same time, most institutions had some arrangements whereby staff could access funds to 'buy out' their teaching time to allow them to develop the project or concept further. But even then, the resultant hours were, in the majority of cases, not a true reflection of the time and effort needed to implement the innovation. For these individuals, the rhetoric urging innovation was not matched by the financial support and time required to turn creative ideas into action.

Innovative organisations use partnerships

VET organisations are developing this characteristic at a rapid pace. They have adopted the view that innovation is concerned with 'knowledge brokering' through partnerships and networks. Partnerships in vocational education and training are being used in numerous ways to promote more innovative programs, consulting opportunities, staff development and change in the workplaces of the providers and industry organisations. Partnerships have assisted teachers to change their role from delivering underpinning knowledge to classes of students according to set curriculum, to managing the learning of students by exposing them to a variety of experiences at the institution or workplace, or both.

In these case studies and vignettes, partnerships were two-way relationships which provided benefits to both parties. Those interviewed reported that their industry partnerships involved cooperation, the sharing of resources and the development of partnering skills. Over time, knowledge and skills related to successful partnering had become a source of competitive advantage for the enterprises involved.

Previous VET research supports such positioning. In an investigation of larger and typically more commercial VET industry-provider partnerships, Callan and Ashworth (2004) found that the highest performing VET partnerships were based on trust, open communication and the sharing of information. They were focused upon achieving a set of goals which both partners agreed were challenging and worthwhile. New goals were set as the training partnership grew, matured and established a track record of some success.

Partnerships, customisation and innovation go hand in hand. A Centrelink partnership with the Institute of TAFE Tasmania has pushed customised and innovative approaches to training and assessment. Possessing the accredited certificate IV, the staff are able to transfer to other call centres with evidence of their knowledge and skills. The institute is also delivering fully on-the-job training in horticulture in a partnership with the Hobart Botanical Gardens. This innovative partnership is providing flexible and individualised training that has mapped competency development around existing projects which need to be undertaken throughout the year to maintain the gardens.

In South Australia, manufacturing learning centres are using staff in manufacturing companies as coaches for students who are learning on the job as part of school-based partnerships with Onkaparinga Institute of TAFE and local schools. In this instance the manufacturing learning centre model involves a partnership between Mitsubishi Motors Australia, the Onkaparinga Institute of TAFE and various local schools. This partnership is raising the profile of manufacturing and employment in the community by offering school students the chance to undertake on-the-job learning programs.

Innovative organisations promote teamwork

Innovative enterprises recognise that innovation is based upon relationships. They have established the practice of creating opportunities for people, often from very different parts of their business, to get together to explore problems. Teams are a major tool in promoting both learning and innovation.

Are teams, and especially cross-functional teams being used to promote innovation in VET? Faced with the challenge of bringing together staff from geographically dispersed campuses across Tasmania, the leadership team of the Institute of TAFE Tasmania has established around 60 delivery teams within learning networks, with team membership ranging across the various campuses. Such teams are identified by the current leadership as critical to the success of the institution in being voted as one of the most innovative training providers in Australia. This institute, in its further efforts to relinquish control and to empower staff, is moving the organisation of delivery teams from institutes to programs, and discussing the further moves to clusters, and in the future, to a single networked organisation.

Gold Coast Institute of TAFE has established three cross-functional working groups (user choice, educational and international). Among the roles for these groups is the goal of driving innovation for all facets of educational delivery across the institute. The groups ensure a collaborative approach across the institution to activities in these three areas. In particular, they act as vehicles which collect, share and distribute relevant information between key stakeholders. In addition, the institute has over 30 industry reference groups which meet at least twice a year to gain industry feedback on the value of current courses and the development of additional courses to meet new training needs.

Teams have reinvigorated programs that were losing the support of learners. The panel-beating team at the Ithaca campus of Brisbane North Institute of TAFE has established a highly cohesive unit which has proved very willing to be flexible and innovative in how it responds to the different needs of its students. In particular, this flexible and cooperative approach to training has encouraged more employers to indenture apprentices. The team's relationship with employers is supported by regular industry nights. All in all, the team has turned an unprofitable program into a profitable one.

Communities of practice are self-selected, team-based structures which can be formed either within a business or across organisations. These collaborative work groups allow people to share stories and learning, and serve to turn implicit understanding into more explicit knowledge which can be used to solve future problems. At its simplest level, staff like those at Australian Ikebana Centre College of Art and English hold regular morning or afternoon teas linked into broad discussions about content, delivery, curriculum and related issues which require continued adjustment and innovation. Barrier Reef Institute of TAFE holds a weekly 'communication corridor' which operates as a form of staff forum, think tank and support network for up to 25 of the institute's netlearn projects and where the aim is to integrate innovation into programs in, for example, aged care, nursing, information technology and hairdressing.

Workplace Australia Group, another of the small examples, is using a process whereby a wide variety of individuals, including managers, designers and subject experts, are brought together to brainstorm and pool new ideas. Their task is to challenge current practices and to locate new ideas in training content and delivery. This process has become mandatory for all new course development.

Action learning teams and in-house research have driven innovation in many enterprises. Again, Workplace Australia Group is using action learning groups to promote the sharing of information and to empower staff to work on areas which require improvement. In particular, they are finding that team leaders are using the action learning projects to promote skills transfer

to other staff. One of these projects is focused upon improving ways to respond to their highly diverse customer group, especially the diversity of age, culture and beliefs.

In many TAFE institutions, the Reframing the Future initiative has facilitated opportunities for staff to discuss and share stories and learning. The Institute of TAFE Tasmania used funding provided through this ANTA program to enable staff from three of its campuses to meet and share ideas and strategies. The institute facilitated their meeting with staff from Canberra Institute of Technology and Sunraysia Institute of TAFE to discuss their shared experiences with training packages.

In terms of in-house research that has driven innovation, Victoria University of Technology has funded research, for example, into the teaching and learning needs of 15 to 17-year-olds. This research, in turn, was used to drive various strategies which put more experienced teachers in front of such students to maximise learning outcomes. In addition, the research has led to professional development programs for teaching staff. These programs are focused upon the needs of this group of learners, as well as on the design of web-based materials which provide teachers with links to community agencies that support the personal and financial needs of this group of young people while they are studying.

In addition, TAFE Tasmania is using a workplace assessor group as a form of community of practice in its horticulture training. Its members meet monthly to discuss issues related to assessment, and to further develop assessor guides and to moderate assessment procedures. The moderation process now includes industry representatives. The institute has also developed a community of practice arrangement with Hewlett-Packard in Melbourne. One outcome of this arrangement was a visit to Tasmania by three senior executives from Hewlett-Packard who workshopped, with the senior team of the institute, the challenges involved in managing organisational change to produce more customer-centric organisations. At the time, these three executives were able to share their insights about the merger taking place between their company and Compaq.

Gold Coast Institute has developed a community of practice or incubator in which staff in clothing production in the institute are meeting with local industry to investigate new ways of classifying jobs, job roles and new approaches to multiskilling to attract new types of employees who will reinvigorate the clothing manufacture industry in Australia. Industry partners in this incubator arrangement are Billabong, Voodoo Dolls, Salty Tiger and Brothers Nielsen, all of whom specialise in youth and surf wear. Community groups are also encouraged to use the facilities and classrooms of this TAFE institute to hold meetings and community forums. This sharing of space brings teachers in contact with local community groups, and creates other spin-offs in terms of being closer to understanding the training and other needs of these groups.

As noted earlier, another tool for bringing employees together to promote opportunities for teamwork is the innovation lab. In this environment, employees are encouraged to trial 'rule busting' ideas and to learn from radical innovations outside their industry. These VET case studies suggest that, in some aspects, innovation labs parallel skills centres. Skills centres are typically high-profile and have involved substantial government funding, as well as some commercial risk for the partners.

In Queensland, various forms of innovation labs are emerging to provide skills development as well as innovation. The ANTA-funded purpose-built skill centre provided to Aviation Australia is allowing training partnerships in aero skills with a range of clients, including Qantas and Boeing. This centre is operating from a new facility which includes a hangar, workshops and classrooms to cater for up to 380 students who complete qualifications which will meet the aero skills requirements of local industry. Now that it is firmly established, the centre is exploring a variety of innovative partnerships with national and international airlines.

Also in Queensland, the Construction Training Centre has emerged as a centre of excellence for industry-led, directed and focused training and skills development. The centre acts mostly in a brokering role. Assessment, training and skills development programs at its Salisbury facility are delivered by the centre's training provider partners, all but one of which lease space at the center to deliver these programs. Another purpose-built centre is the Transport and Logistics Centre at Kangan Batman TAFE. This ANTA-funded centre offers a training service for the transport and logistics industry, and includes a fully functional warehouse with pallet racking, dock loading, a cool room and an overhead crane for loading and unloading vehicles.

Shopfronts are another potential form of innovation lab. They are being frequently used by VET enterprises to access clients, but through the often commercial nature of the shopfront, they also provide a working environment in which students and their instructors learn how to more effectively meet the needs of customers. Innovative practices emerge as teachers and students together deliver services to fulfil customer needs.

These shopfronts include actual or simulated call centres (Tasmania TAFE, Onkaparinga TAFE) which train students in customer service, monitoring call volumes and providing ongoing feedback and coaching. Other shopfronts provide fully operating beauty salons (Gold Coast TAFE), commercial farming operations (Tasmania TAFE), and a 'shop for the day' concept has students managing the stock control, pricing, advertising, display and float of the days takings in a small retail outlet on campus (Onkaparinga Institute). In addition, the Institute of TAFE Tasmania uses a shopfront in Hobart where the tourism industry accesses tourism diploma students to work on real projects.

What other strategies can create more innovation in VET organisations?

Potential areas for increasing innovation

VET organisations are emerging as very innovative partners with industry. This ‘report card’, does show how VET enterprises are being innovative, especially through good leadership, clever partnerships with industry and the use of teams. At the same time, the development of innovation in training provider organisations can best be described as uneven. In most cases, it is highly motivated individuals with an entrepreneurial flair who are leading the way, rather than any well-defined organisational capability for innovation being at the core of the institutional mission being the main driver.

In earlier case studies of innovation and partnerships (Callan & Ashworth 2004), and in the cases reported here, no single institution emerges as one where innovation is a core capability. Nor did any chief executive officer of a VET organisation in the current research claim that they were leading an ‘innovation organisation’. Rather they had begun the journey, with some exceptional individuals and their teams leading the way in developing more responsive and flexible training solutions for a variety of industry partners.

However, putting this in a national context, very few Australian businesses are being profiled in the media or in day-to-day conversations as innovation leaders. Innovation has become a national priority, as evidenced by the Commonwealth Government’s Innovation Action Plan for the Future, and the Backing Australia’s Ability program. Moreover, we are witnessing the successful growth of ‘smart states’—most publicly, the Queensland, Victorian and South Australian state governments. Importantly, the case studies and short vignettes profiled here reveal that the VET sector is already making some major contributions to the national endeavour to build more innovative Australian enterprises.

The current research reveals that, in the VET context, innovation is being pursued predominantly through the successful identification of innovators, successful partnerships, and through teams, teamwork and communities of practice. VET organisations do seem to be skilled in identifying their innovators. In addition, they assemble around these innovators or those with an entrepreneurial spirit, proactive managers and business development managers and offer the support of libraries and technical staff who will implement the innovations. However, these innovators are typically not being released from their day-to-day duties or given extra time to pursue innovative ideas and projects. In a few instances, they are becoming exhausted and are wondering who will pick up the baton next.

Currently, training partnerships with industry are by far the major vehicle for building innovation in VET organisations, and in the longer term, it seems that strong industry partnerships offer much in terms of building corporate capabilities and cultures concerned with innovation. Industry partnerships add value in many different ways. They build individual capability among teaching staff, take teachers and their courses back into the ‘real world’ and provide opportunities for clever solutions to shortages of staff, resources and the cost of expensive equipment. Importantly, a substantial amount still remains to be achieved by VET institutions in

relation to industry partnerships, including tremendous opportunities in new industries, regional communities and in consulting and training off-shore (see Callan & Ashworth 2004).

What other strategies can VET organisations use more productively to promote further innovation? The six characteristics of innovative organisations make it clear that VET organisations have considerable potential to increase the number of innovation drivers available to them. In particular, they need to set longer-term goals in relation to building learning cultures which will support and facilitate growth in their numbers of innovators. Learning cultures promote collaboration, inquiry and continuous learning in how an organisation responds to customer, staff and community needs. The development of these cultures also takes considerable time and investment by dedicated leaders who both value continuous learning and evolution, and ‘walk the talk’—their espoused values match their observed behaviours.

Central to creating learning cultures is strong leadership which recognises that leaders and managers need to be more failure-tolerant if they are to build supportive learning cultures. Arguably, more than many other industries, the VET system can afford to engage in moderate levels of risk-taking. They are in the learning business, and learning is about risk, growth and change. However, VET organisations are still conservative institutions, and without doubt, innovative activities will be closely monitored and reviewed, and probably more so than in most other industry sectors. In traditionally conservative organisations, large risks are very unlikely.

In summary, building innovative enterprises requires leaders who want to do more than just play around at the edges with innovation. Truly innovative organisations prize innovation as a core strategic capability and as a core value. Their vision, values, objectives and key performance indicators are focused upon innovation. All efforts are aligned to building a record of achievement that differentiates the organisation from its competitors.

At this time in the VET sector, the task to build innovation as a capability lies in the hands of the few rather than the many, while the few are not being given sufficient time and rewards to promote innovation. Many are sitting by the sidelines rather mystified about what is meant by innovation and how they can contribute to it. Partnerships have delivered much in terms of building the capacity and confidence to be more innovative, and in showing tangible examples of innovation at work. There is still a lot to be gained from more partnering. Partnerships are promoting experimentation, imaginative thinking and new partnerships. Whatever the tool adopted to promote innovation, the fact remains that the majority of staff have yet to be fully engaged in efforts to build learning cultures and innovative organisations.

There is no lack of imagination, but more staff need to be willing to come forward with their new ideas on how better to deliver the products and services of their organisations. Currently a gap exists between the rhetoric of innovation and the provision of the financial support and the time required to turn good ideas into exciting innovations. For an innovation culture to seed, grow and flourish in the VET sector, engaging VET staff will need to be a major objective for leaders in this sector if they are to build truly innovative enterprises which adopt some of the practices, as outlined here, of the world’s best innovators.

Practical steps for increasing innovation

A number of practical, relatively cost-effective actions emerge from the literature and case studies which VET organisations might consider adopting to increase their levels of innovation and innovation cultures:

- ✧ To bring new ideas into the organisation, encourage staff to attend conferences and workshops, to join professional groups, and to bring in outside experts who have a different or new opinion about issues.

- ✧ Provide seed funding which can be applied to initiate new projects. Initially, this funding might be limited to buying-out staff time to allow them the time to progress their ideas to some form of innovation or concept plan.
- ✧ Select and promote those partnerships that allow the organisation to develop its skills and knowledge, and to have staff work closely with partners through shared working arrangements, job rotations and exchanges of staff.
- ✧ As an organisation, identify whole-of-enterprise issues which can best be resolved through cross-functional teams with members from various business divisions in the organisation.
- ✧ Encourage the broad concept of communities of practice, including time for staff to meet informally and socially with others from inside and outside the enterprise to facilitate the sharing of knowledge and practical experiences.
- ✧ Build the expectation among staff and members of the institution's board of management that staff will be putting new ideas and projects to the board for consideration, debate and potential endorsement.
- ✧ Define and publicise a simple process which staff can work through to propose new ideas for initial consideration. If the ideas are seen to have some merit, subsequent steps need to be outlined which involve providing staff with time and support to prepare short feasibility statements outlining the benefits, risks and opportunities created by the innovation.
- ✧ Include within organisational websites details about innovations being considered, and invite those from both inside and outside the organisation to email comments and advice about how the idea might be further progressed.
- ✧ Implement recognition programs that publicly support and celebrate innovative solutions to teaching and learning and to partnering and related activities.
- ✧ Encourage innovative ideas from students through the sponsorship of 'enterprise competitions' in which students can compete for cash and in-kind support to take their innovations to market.

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Case study methodology

During 2003, the author visited four VET organisations in four states and interviewed senior managers, business development managers, teachers and others specifically about how they were promoting innovation. Additional materials were also provided by these organisations from annual reports, course materials, executive meetings and related sources.

Those case study organisations were:

- ✧ Gold Coast Institute of TAFE
- ✧ Victoria University of Technology
- ✧ Institute of TAFE Tasmania
- ✧ Onkaparinga Institute of TAFE.

In addition, smaller vignettes, mostly developed through telephone interviews and additional materials provided by the enterprises, were developed using information about innovation provided by the Australian Institute for Care Development, Construction Training Centre, Aviation Australia, Barrier Reef Institute of TAFE, Brisbane North Institute of TAFE, Australian Ikebana Centre College of Art and English, and Workplace Australia.

The organisations were selected to allow a good cross-section of institutions from across various states. Guiding some of the selections was evidence of success by these institutions or individuals in that they had won various awards for innovation, successful partnerships or quality initiatives.

In developing the four major cases, 42 interviews of half to one-and-a-half hours each were undertaken. Those interviewed included directors, members of the senior executive teams, business development managers and teachers. In developing the minor cases, telephone interviews of 20–40 minutes were completed with 10 respondents.

Below is a summary of the list of questions asked in each interview. A semi-structured format was followed to enable additional questions to follow-up issues raised by respondents.

Questions asked in the interviews:

- Q1. What do you understand by the term ‘innovation’?
- Q2. What are the key drivers for this institution wanting to be more innovative?
- Q3. Where is innovation most apparent in this organisation?
- Q4. How much does this institution make innovation a core capability?

- Q5. How much do you try to follow or apply the principles of learning cultures or learning organisations? That is, seek feedback, be positive about change, open communication, share ideas across parts of the enterprise, questioning old habits and practices?
- Q6. Innovation is linked to having diverse workforces. Do you recognise this in the institution, and how are you using diversity to promote innovation?
- Q7. What other features of the organisation promote innovation?
- Q8. How do you find and promote innovators?
- Q9. How are they resourced in terms of time to devote to innovate, seed funding, reward systems?
- Q10. What is the involvement of customers, students and others in the innovation process of the institution?
- Q11. How are partnerships being used to bring in new knowledge, skills and resources that might further innovation?
- Q12. How is the organisation measuring or recording its success in developing greater levels of innovation?
- Q13. What management systems and practices support innovation? With additional probes, how do staff communicate or bring forward innovative ideas or practices? What is the leader's attitude about failure? How are you teaching employees to be more innovative? What is your use of cross-functional teams and communities of practice? What other practices are you using?
- Q14. What other strategies do you believe have the potential to further create innovation?
- Q15. Anything else that you think we need to explore about innovation in your organisation?



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