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High Level Review of Training Packages
Phase 1 Report

An analysis of the current and future context in which Training Packages will need to operate

The views and opinions expressed in this document are those of the author/s and do not necessarily reflect the view of the Australian National Training Authority.

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Contents

Tables and Figures

Executive Summary

This report reviews recent Australian and European research and outlines a number of issues that can inform decisions regarding the future of Training Packages in the context of changes to work and work organisation, together with new ideas concerning knowledge, skill and learning.

The research suggests that these changes and new ideas present significant challenges and have important implications for public policy and education and training practices, and are directly relevant to the development, maintenance and use of Training Packages intended to develop a workforce to meet the demands of the contemporary economy.

Major features of the report are summarised below.

Changing employment patterns

- Standard employment – that is, permanent full-time employment – is no longer the norm for Australia's workforce. Increasingly part-time, contract, labour-hire and casual work are significant features of the contemporary labour market. Traditional career pathways are breaking down, and job change has become an increasingly common aspect of working life. Further, these trends vary considerable between industry groupings.

Organisational changes

- Industry and enterprises are no longer sufficient by themselves as the key categories to understand changes to work. Today, new ways of organising and coordinating work including inter-organisational networks of production, supply chains and outsourcing arrangements are in some senses the new dynamos of changes to work.

Changing skill

- The concept of skill can no longer be simply defined in terms of the knowledge and skill required for a job or occupation. The new concept includes an array of general and personal capacities and attitudes deemed essential to the contemporary world of work, in addition to job and occupational knowledge and skills.

- While a high-skills high-performance economic model is the goal of many OECD governments, evidence of the emergence of this model is ambiguous. Australian evidence suggests that low skilled work has emerged as the main contributor to employment growth. Other evidence suggests that high skilled work has emerged largely in new knowledge based industries such as Information and Communication Technology (ICT), biotechnology, and nanotechnology. However, there is some evidence that all contemporary work is more highly skilled because flatter management structures have led to increased work expectations being placed on all employees.

- Contemporary workplaces require workers who are more than highly skilled in the traditional technical sense. Increasingly employers look for workers who bring more of themselves to work and invest more of themselves in work. They seek workers who have an array of aptitudes, capabilities and dispositions that move far beyond the vocational knowledge and attributes as traditionally understood.

- At the same time, changing employment arrangements with more casual, part-time and contract workers tend to weaken the relationship between employers and employees, with perhaps many employers less likely to invest in workforce training and development. As a result individual workers rather than employers are increasingly responsible for their own skill development. In addition, collective arrangements may also be increasingly

required which involve networks of employers, industry support arrangements and other institutions for support.

Changing knowledge

- Knowledge work is increasingly seen as the critical ingredient for economic success. It drives innovation, increases productivity and is the raw material that produces new products, processes and services. Moreover, there is evidence that knowledge work is needed in all industries and at all levels, not just in new industries.

- Knowledge work is very different from knowledge as traditionally understood. It is produced at work, is high in use-value, is often context specific, and is short lived. It is less foundational or disciplinary and is rarely the product of individuals but arises through collaborations and networks that exist within specific sites and particular contexts.

- This working knowledge is also rarely codified in text books, formal training programs, competency standards, or procedural manuals and text books. Instead, it is developed within the context and environment of the immediate workplace from the base of relevant skills and knowledge, including technical knowledge, held by workers.

Changing learning

- Australian vocational education and training (VET) policies are designed to integrate all forms of work-related learning into a coherent and unified system of recognition. However, the context in which such policies are implemented is one where contemporary ideas concerning learning and work have moved beyond the provision of formal award courses; for many, learning is now an integral and continuous part of working. This suggests that education and training cannot be seen as a stand-alone intervention that improves economic productivity, but needs to be more systematically linked to wider human resource management strategies that promote new approaches to job design and work organisation.

- Learning through work is what most workers nominate as the most important contribution to their learning. Indeed the new worker-learner has emerged as a major focus of research. However, work is often not organised in ways conducive to learning. Creating the conditions for learning-conducive work is a major challenge for both business and education and training sectors.

- Further, in this environment education and training sectors need to create programs and practices that lead to more work-conducive learning. This kind of learning is often not guided by pre-specified content; it is context bound driven by specific and immediate work requirements and is learning that occurs at work facilitated by a number of people in the workplace.

Changing pedagogy

- The widespread changes outlined above have significant implications for the learning requirements of workers and the pedagogical methods used to facilitate such learning. In addition, pedagogical questions are complicated by the diversity of VET providers involved. One of the consequences of this diversity is that standardised curricula that contain recommended teaching, learning and assessment practices are much less useful in a VET environment characterised by increasing diversity of contexts, clients, learning sites and practitioners.

- This means that VET must rely more than ever on learning specialists who have a sophisticated appreciation of the full pedagogical choices that are open to them and which are consistent with the context, clients and learning sites that make up the arena in which they work.

- An even greater challenge has come about because of the changing nature of work and the requirements of the contemporary economy. These changes point to new and different pedagogical practices and orientations than those that have traditionally formed the basis of vocational learning.

- Research evidence suggests contemporary VET pedagogy must become more learner-centred, work-centred and attribute-focused[1].

- Contemporary learning theories downplay transmission pedagogy and promote constructivist pedagogy commonly used for example in adult learning, experiential learning, and problem and project-based learning. This does not mean that teacher centred pedagogies are no longer useful or relevant, rather that they are one category of a much larger available pedagogical repertoire.

- The integration of learning and work is a major feature of the contemporary work environment, particularly as today learning is increasingly seen as the distinguishing feature of successful organisations. Increasingly, businesses are seeking workers with general employability skills that enable them to adapt and contribute to workplace change. These kinds of attributes are not additional outcomes of programs designed to achieve something else. Rather, the pedagogical processes chosen have the greatest influence on whether particular attributes are achieved.

- The concepts of organisational competence and collective competence have recently joined the concept of individual competence as important features of contemporary work.

Changing clients

- VET providers recognise their client groups as including industry, through Industry Training Advisory Bodies (ITABs); employer and industry groups; enterprises; government; and local communities and individuals.

- These client groups have different needs and different relationships with VET providers. These different needs are sometimes contradictory, creating tensions in terms of meeting the needs of all VET clients.

- Individuals and local and regional communities have become increasingly important stakeholders for national and international policy interventions in education and training.

Changing education and training relationships

- Policy interest in lifelong learning is based on the assertion that contemporary societies and economies are subject to ongoing change. This means that learning is seen as a vital feature of human activity throughout the life span.

- Consequently, all sectors of education and training are now expected to contribute to lifelong learning by offering choices, recognition and seamless pathways that enable learners to move through the sectors gaining the skills and qualifications needed in both their social and working lives.

- Cross-sectoral linkages are developing between schools, VET and Higher Education often through local partnerships and collaborations.

- Changing conceptions of knowledge, skill and learning, and the contemporary requirements of work are in many ways reducing the boundaries that have traditionally been used to distinguish the different sectors of education and training. Indeed the focus on generic skills, knowledge production and learning at work increasingly influence education and training provision in all sectors.

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[1] We have used the term attribute here as a collective term, which includes a variety of generic, key and employability skills as well as other qualities, attitudes and dispositions.

Introduction

This report draws on recent research undertaken in Australia and Europe. It details a number of contemporary issues in the context of changes to work and work organisation together with new ideas concerning knowledge, skill and learning that are important in informing decisions regarding the future direction for Training Packages.

The research suggests these changes and new ideas present significant challenges and implications for public policy and education and training practices around the development, maintenance and use of Training Packages in order to develop a workforce capable of meeting the demands of the contemporary economy.

Australian vocational education and training (VET) policies for 15 years or more have attempted to align education and training systems to new demands placed on the Australian workforce because of rapid economic change. Measures include:

- The development of competency-based VET programs, built on industry defined competency standards, qualifications and assessment guidelines identified in nationally endorsed Training Packages.

- The national recognition of training, important in a country of 8 States and Territories.

- The national recognition of quality assured qualifications.

- Increased pathways between educational sectors, and between education and employment.

- A robust training market comprising public, private and community providers offering real choice and a wider range of programs to clients, which helps ensure that the supply of training programs is cost-effective and relevant.

- Flexible delivery through a range of approaches such as new learning technologies that aim to provide the training that employers and learners want, when they want it.

Importantly these reforms have moved VET from a provider-led and educationally focused system to an industry-led labour market focused system. The results have been generally positive.

However, since the initiation of these reforms there have been significant changes in the labour market. New patterns of employment have emerged, new kinds of work and work organisation have appeared, and new ideas concerning skill, knowledge and learning have come to the fore, all of which raise new questions concerning the operation of VET.

This report focuses on what all this might mean for one aspect of contemporary VET reform – the development of competency-based VET programs, built on industry defined occupational standards and national qualifications, identified in nationally endorsed Training Packages.

Training Packages are industry endorsed vehicles that connect work and learning, describing the knowledge and skills required at work. Therefore any significant shifts in our understanding of work, skills, knowledge and learning need to have an impact on Training Packages.

The report is organised into the following sections:

- **Section 1 Changing Work – Changing Workers** provides an overview of evidence that indicates the nature of the changes to work including employment patterns and the organisation of work in contemporary economies, using national and international research. It outlines some of the latest research evidence that informs thinking in the area of changing conceptions of skill, knowledge and learning.

- **Section 2 VET Pedagogy** discusses the implications these changes have for contemporary VET pedagogy. It uses research evidence to outline a direction for VET pedagogy in the context of the contemporary economy and the latest thinking in terms of learning theory.

- **Section 3 Changing Clients – Changing Needs** outlines the ways in which an increasingly diverse VET sector is faced with increasingly diverse client groups, and provides some illustrative examples of how this diversity is being managed.

- **Section 4 Changing Complexity and Interrelationships of Education and Training Sectors** provides an overview of the ways in which the various sectors have traditionally been differentiated and suggests that the changing nature of work together with new conceptions of knowledge, skills and learning are eroding the boundaries that separated the different sectors.

- **Section 5 Where to from Here?** brings together the research evidence that the report summarises and outlines the possible implications of the findings in terms of VET policy and provision based on Training Package development and delivery.

Section 1 Changing Work – Changing Workers

Introduction

In this section, we outline the latest research evidence that can inform thinking in the area of vocational and workplace learning.

A common feature of much of the discussion about work is its emphasis on the changes to work brought about by the contemporary economy (Marginson 2000; Castells 1993; Reich 1993). Although there are a number of different views on what is meant by the contemporary economy, for the most part they all involve reference to:

- the impact of Information and Communication Technology (ICT)

- globalisation

- technological innovation

- organisational change

- changing employment patterns

- new forms and organisation of work.

At the same time new ideas concerning the nature of knowledge, skill and learning have emerged which also have important implications for vocational education and training systems.

Changing employment patterns

Recent research in Australia and overseas provides compelling evidence of significant organisational change, changed employment patterns, and new forms and organisation of work.

- Marginson (2000) points to the rise of non-standard work, much of which is found at the low skilled end of the employment spectrum. This point is also highlighted in a recent International Labour Office report (2002).

- Marginson (2000) also suggests a trend in contemporary work organisation, referred to as the core/periphery model, where a core group of permanent staff in an organisation manages a shifting network of temporary employees, outsourcing and consultants.

- Kerka (2000) points to the increasing mobility and career movement of contemporary workers. She suggests that current employees can expect more career shifts in their working lives. Moreover, these career shifts are both vertical and horizontal, and within and between occupations and industry sectors.

- There is also evidence of an increase in 'portfolio' or 'free agent' workers who contract to work for organisations on specific projects for specific amounts of time (Imel 2001).

- The work of Maglen and Shah (1999) shows that in Australia the biggest growth in employment over the last decade has been in areas of lowest skills, in the personal services sector, and mostly in casualised form.

- Noonan (2001) suggests that the requirements of the new economy are uneven in terms of their impact on work. He argues that a large number of jobs are likely to continue to be performed in traditional ways well into the foreseeable future, and that many workplaces will continue to operate much as they have in the past.

A recently published study on the nature of work (BVET 2001) confirms many of these findings. The report provides evidence that over the last 15 years, Australia has gone through a period of dramatic occupational upheaval. This empirical study reviewed extensive literature concerning work and its organisation, investigating 6 Australian industries – metals and engineering, construction, finance, information technology, cleaning, and family support services. Some of the more significant findings of the study indicate that:

- There has been an overall reduction in middle level skilled jobs in the Australian economy. At the same time, there has been an increase in both the high and low level ends of the job skills spectrum.

- Standard employment – that is, permanent full-time employment – accounts for only half of the employed workforce. There has been a significant increase in casual and contract work. Further, permanent part-time workers now constitute 10% of the employed workforce.

- Workplace flexibility has largely been achieved through casualisation, outsourcing and labour-hire.

- The case studies reveal that, within standard employment, problems of understaffing and work intensification are evident in all of the 6 industries.

- In the 6 industries studied, nearly all net employment growth has been in part-time, casual, labour-hire and contract employment, although there the mix differs between industries.

- Traditional career pathways are breaking down in industries where they were once common, for example in banking and finance.

As a result, the study concludes that:

- New models of work characterise the contemporary Australian labour market. Standard employment based on a full-time permanent employment is no longer the norm. Part-time, casual, contract and labour-hire employment patterns are now central ways through which workers in Australia are employed.

- These models of work are the product of changing forms of competition across all sectors of the economy, brought on by globalisation.

- The enterprise as a key category in understanding changes to work is no longer useful. Today new forms of inter-organisational collaborations that include networks of production, supply chains and outsourcing arrangements, are in many ways the dynamos of changes to work.

- While there are general trends in changes to work, there are significant deviations from such trends in particular industries.

This evidence suggests that increasingly workers are unlikely to gain the necessary skills in a single enterprise. They will also need to acquire skills other than those traditionally associated with a specific job or occupation. In developing those skills, particularly in lower skilled work, they may best be served by training that takes a broader approach to skills development rather than a narrow sector based approach.

Organisational changes

Arguably, the most significant change in the organisation of work over the past 20 years is a move from bureaucratic to flexible modes of organising work. This focus on flexibility has resulted from a range of both local and global developments as summarised below.

TREND	ISSUE	ORGANISATIONAL REQUIREMENT
Global competition	Removal of international trade restrictions creating significantly more competitive market conditions.	Requirement for organisations to be more market and customer focussed, and to be able to respond quickly to customer needs and market opportunities.
Technological change	Rapid increase in the rate of technological change, especially in relation to information and communication technology.	Opportunities arising from new technologies need to be harnessed as a means to secure competitive advantage.
Changing market regulation	Removal of trade restrictions within many Australian industries leading to the entry of non-traditional competitors.	Need to be able to adjust competitive positioning to take advantage of new markets and/or to secure position against new competitors.
Increased customer sophistication	Change in customer expectations and call for more specialised and customised products and services	Requirement for organisations to be able to rapidly adjust product and service range to meet changing and varied customer demands.

These trends all point to the need for organisations to be more agile, to be able to respond quickly to changing market conditions, and to develop new collaborative capabilities both within and between organisations. Generally, this has meant that organisations have had to re-examine how they are organised and managed in order to increase their flexibility and market responsiveness.

This focus on flexibility has led to a number of structural changes in organisations across industry. The most significant of these can be summarised as follows:

- **Increased use of collaboration such as outsourcing to manage non-core functions**

    Organisations are increasingly managing work through collaboration with other organisations. In complex markets, individual organisations are finding it difficult to retain the capabilities and infrastructure required to manage all aspects of production of particular goods and services. Some organisations see these arrangements as a way of reducing costs, particularly labour costs. Increasingly, individual firms manage specific aspects of the production value chain and collaborate with other firms to produce an end product or service (Evans & Wurster 2000). The most common form of such collaboration is outsourcing.

- **Flattening of traditional bureaucratic hierarchies**

    In order to become more responsive and flexible, organisations have tended to restructure their traditional hierarchical and bureaucratic ways of organising. The trend has been towards flatter structures characterised by fewer layers of management, increased staff-to-manager ratios, and increased levels of discretion and decision-making authority in non-managerial jobs. In many occupations this has meant broadening the responsibilities and skill requirements of workers to include, for example, continuous improvement, quality management, teamwork, and inter-personal and inter-organisational collaboration. Rather than just being responsible for performing specific technical tasks, today's workers are increasingly expected to contribute to the strategic performance of their organisation as a whole.

- **Restructuring and downsizing as a 'business as usual' strategy**

  Since the 1980s, in response to increased competition, pressure on costs, and requirements for flexibility, organisations have increasingly used restructuring and downsizing as a strategy for maintaining flexibility. In today's economy, many organisations are no longer offering their employees the job security they enjoyed in the past. Today's work environment is one where downsizing is a strategy that organisations see as a part of normal business.

- **Rise of non-standard work**

  In order to increase flexibility and reduce labour costs, contemporary organisations have restructured their workforces to employ more people through non-traditional employment relationships. Whereas in the past, the most common form of employment was that of the full-time permanent worker with a relatively high level of job security, today labour market de-regulation has led to a significantly increased use of part-time, casual, labour-hire and contract workers. This includes a rise in 'portfolio' or 'free agent' contract workers (Imel 2001). The rise in non-standard work enables organisations to adjust their workforce size and composition quickly in response to market requirements (BVET 2001).

  These changes also mean that, as many of today's workers are not full-time permanent employees, they lack traditional job-security and employment stability within a single organisation. As such, the responsibility for career-management and skill development is falling more and more with individuals than with organisations. Simultaneously however, industry requires such workers to continually develop new skills in order to be employable. With many workers having to manage their own career development and employability, vocational learning is required to provide individual workers with skills development services. This in turn is leading to the development of different collective arrangements between companies, at both the local level and industry level.

- **Breakdown of traditional occupational demarcations**

  In order to maintain flexibility, starting in the 1980s, Australian industry has undergone a significant process of multi-skilling across all major occupations. Driven through award restructuring, such changes have removed traditional demarcations between occupational requirements and increased the breadth of skills required by individual workers.

  All this has created a very different work environment in which many workers are expected to be more flexible in their skill-sets, have a wider range of skills and be able to take on responsibilities traditionally reserved for managers and supervisors. They are expected to contribute to knowledge production and innovation within organisations. This in turn suggests workers must be more knowledgeable about their industry and enterprise, and then utilise this knowledge to contribute to the innovation process.

  In this context technical skills are insufficient; cognitive skills, together with an array of generic skills and dispositions, are of equal importance. Attributes such as problem solving, continuous learning, communication and teamwork, are joined by others such as curiosity, motivation and risk taking. This suggests that contemporary vocational learning should be as much in the business of constructing new worker identities as providing workers with vocational knowledge and skills as traditionally understood. Perhaps most importantly in this contemporary environment, learning is seen as an integral and on-going feature of working.

> In many ways the skilled worker of the manufacturing economy has become the new learning worker of the knowledge economy, seen as increasingly responsible for their own skills development and career trajectory.

Changing skill

The contemporary policy position of many governments is based on the idea that the economy requires a new workforce capable of responding to new economic times. In order to compete in the global economy, countries and companies must invest in raising the skills of the workforce (OECD 2000; Papadopolous 1996; Maglen & Shah 1999). This suggests that a country's economic performance is intimately connected to the level of skill of its workforce. By raising the skills level of the entire workforce, improved economic performance follows. This view is the cornerstone of public policy in this area in most OECD countries.

The concept of skill has also been transformed from being defined in terms of the technical knowledge and skills required of a particular job or occupation, to one that includes an array of general and personal capacities and attitudes. Some commentators suggest that this new concept of skill is so loosely defined that it is possible to argue that these general skills are required in both high and low skilled sectors of the economy (BVET 2001). A consequence of this is that technical knowledge and skill have, in some senses, been lost in the discussion concerning the new skills required in contemporary workplaces. Further, there is little indication of the differences in the use of these general skills at different levels of employment.

In the following sub-sections we outline some of the issues that now dominate discussions around skill.

High skill/low skill work

The OECD (1998) position on workplace change is that the emerging workplace is characterised by:

- further increases in job complexity, multi-tasking and multi-skilling

- increased requirements for qualifications for employees as evidence of skills

- ongoing use of enterprise training for skill formation

- further reduction in organisational hierarchy

- increased distribution of responsibility to individuals and teams

- increased used of performance-based pay

- more inter-firm collaborations including sub-contracting and outsourcing.

The implication is that in order to meet these challenges countries must strive to develop a high skills workforce. However, current evidence to support the high-skills high-performance economic model promoted by the OECD is at best ambiguous.

A recently completed study that surveyed work skills in Britain between 1986 and 2001 (SKOPE 2002) provides some supporting evidence for the emergence of this model. It concluded that:

- work skills have generally been increasing in recent years

- employers' requirements for qualifications have increased significantly

- most generic skill requirements of jobs have risen

- there has been a modest increase in the requirement to learn new things, from 76% to 81%

- there has been a striking increase in the use of advanced technology.

Although these findings appear to support the idea of a general increase in the skill levels of British employees, the study also notes that:

- there has been a rise in the number of workers who hold qualifications at a higher level than required for their jobs – specifically, 6.4 million people hold qualifications at level 3 but only 4 million jobs require that level for employment

- there are also 2.9 million people in the workforce with no qualifications while there are 6.5 million jobs in the labour market, which require no qualification.

Australian commentators (BVET 2001) also note that there are considerable skill variations among different occupational and industry groupings. Some suggest that the high-skills high-performance model operates only in the more obvious new knowledge based industries such as ITC, biotechnology and financial services. Others suggest that all industries – be they predominantly high, middle or low skilled – have become more knowledge intensive because competitive pressures have forced firms to move to flatter structures and this has led to increased work expectations for all employees (Cairney 2000).

Recently Brown, Green and Lauder (2001), completed a comparative study to see how the high-skills model of workforce development is playing itself out in Britain, Germany, Japan, Singapore, South Korea and the United States. They concluded that the model is understood in different ways, reflecting the historical, cultural, social, political and economic conditions of each country. They also noted that there is no evidence that the emergence of high-skill jobs leads to a general increase in wage rates or higher standards of living. Indeed, they suggest that often the opposite happens; it produces greater wage disparity and in many cases causes increased low-skilled employment.

Knowledge work

Contemporary economic thinking highlights the importance of knowledge and knowledge production in the contemporary economic environment. Indeed, for many, a distinguishing feature of the economy of today is its reliance on the creation, application and manipulation of new knowledge in workplaces (Castells 1993; Johnston 2000; OECD 2000).

Increasingly, knowledge work within industries and organisations is seen as the critical ingredient to economic success. It can drive innovation, increase productivity, and is the raw material that produces new products, processes and services. The knowledge worker is therefore in some senses regarded as the star of the new economy (Cairney 2000).

There is also some evidence that there has been a shift to more knowledge work not only in the more obvious new industries such as ITC, biotechnology and nanotechnology, but also more traditional industries including manufacturing.

Table 1 Occupational structure of the Australian manufacturing industry 1989-2001

Occupation	1989	2001
Managers, professionals & para-professionals	15.5%	25%
Trades	28.5%	25.5%
Lower skilled white collar	15%	15%
Plant & machinery operators	18%	19%
Labourers	23%	15%
TOTAL	100%	100%

Source: AEGIS Analysis of Productivity Commission and ABS data.

The change in occupational structure shown in Table 1 indicates a large increase in jobs traditionally regarded as involving more knowledge work in the manufacturing sector.

There is also evidence to suggest that the manufacturing sector relies on the knowledge work of all employees, not just managers, professionals and para-professionals. For example, innovation in manufacturing is reliant on the knowledge all employees have of the enterprise. In Australia, manufacturing firms have attributed the initial idea for innovations as follows:

- 23.4% to production employees

- 17.8% to technical employees

- 12.1% to research and development project staff.

The same firms also indicate that during the life of an innovation project 44% of the technical aspects of the innovation can be attributed to production employees (source AEGIS; ABS).

This suggests that at least in the manufacturing sector workers at all levels are in a position to contribute knowledge of their own work to the innovation process.

Researchers in Europe have investigated the role of production employees in the innovation process. These researchers suggest that in the contemporary world of manufacturing employees must not only have the technical knowledge and skills required to perform particular tasks, but also knowledge of the full production process – 'work process knowledge'. This includes work-flow, planning and control, together with knowledge of wider societal concerns that impact on the work of the business such as sustainability and environmental damage. This work process knowledge is essential if workers are to contribute to innovation (Boreham, Samurcay & Fischer 2002).

The emphasis on knowledge production and the knowledge worker in the economy has also resulted in a number of commentators criticising education and training providers. They question the adequacy and utility of the content and the organisation, production and transmission of knowledge that traditionally takes place in education and training institutions (Senge 1994).

This position proposes that the knowledge required by the contemporary economy is different from the knowledge that has occupied traditional education and training programs. Current thinking emphasises knowledge constructed as practical, interdisciplinary, informal, applied and contextual over knowledge constructed as theoretical, disciplinary, formal, foundational and generalisable.

In many ways, this take on knowledge could be seen as supporting the traditional VET position on knowledge – that vocational education and training is about providing people with relevant knowledge that can be applied in vocational contexts. However, this position is no longer quite so straightforward. As Tennant (2001) suggests:

> Relevance no longer equates with the 'application' of knowledge to the workplace, rather the workplace itself is seen as a site of learning, knowledge and knowledge production.

Workers in the contemporary economy are now expected to use their technical and generic knowledge and skills to contribute to the production of new knowledge within the workplace on an ongoing basis, rather than merely applying existing knowledge to workplace activities.

Moreover, this new knowledge is significantly different from more traditional conceptions in that:

- The production of new knowledge within organisations and enterprises is different from the knowledge outlined in traditional subjects or disciplines and common in education and training programs.

- This new knowledge is high in use-value for the enterprise or organisation. Its deployment has immediate value but, as it is context specific, its value within the enterprise or organisation may well be short-lived.

- This new knowledge is not foundational and cannot be codified into written texts such as competency standard descriptions, procedural manuals or textbooks – rather it is constructed within the context and environment of the immediate workplace.

- This knowledge is therefore rarely the product of individuals but is constructed through collaborations and networks that exist within specific sites and particular contexts (Symes & McIntyre 2000).

The implications for education and training of these new ideas concerning knowledge remain unclear. As Cairney (2000) points out, the emergence of the knowledge economy is highly contested, with some commentators arguing that its proponents are more in the business of mapping the future than describing the present.

While there is general agreement that new industries such as ICT are highly knowledge intensive, the extent to which other industries can be similarly described remains a matter of conjecture.

However, if Cairney (2000) is correct in suggesting that, as firms move to flatter organisational structures this inevitably leads to increasing work expectations being placed on all employees, then more knowledge work is involved in jobs at almost all levels of the organisation.

This perspective leads to the idea that all workers irrespective of the industry in which they work, now require higher levels of cognitive and intellectual abilities than were previously expected.

In summary there are three competing claims regarding knowledge work:

- A general move to a high-skills high-performance model in the new economic environment.

- The specific development of knowledge work in knowledge-based industries such as ICT and biotechnology.

- A general increase in the use of knowledge in all industries brought on by increased competitive pressures and new economic conditions.

Which of these scenarios is most persuasive is important in many ways in terms of the nature and future direction of VET provision.

For example:

- Research has shown that in general new, high skilled, knowledge intensive industries have low levels of investment in formal training (Cairney 2000). Rather, informal learning in these new industries is regarded as more useful in developing knowledge needed to perform in a rapidly changing environment.

- On the other hand, the high-skills high-performance model points to the need for an even greater investment in education and training in order to raise the skill levels of the whole of the workforce.

- The scenario that all industries are now more knowledge intensive suggests that the VET system has a major role to play, albeit a different one than that which it has traditionally undertaken.

- Finally, new knowledge literature appears to focus more on the importance of general cognitive abilities and behavioural dispositions than technical expertise. They emphasise the workplace as the most authentic and useful site for new knowledge production and suggest that workplace teams and networks rather than individuals are the source and generators of new knowledge within the new economy.

Changing workers

While there is considerable evidence showing the extent of contemporary changes to work, some economic commentators also point to the need for a new workforce capable of responding to new economic times. They suggest that in order to compete in the new economy, countries require a highly skilled workforce capable of contributing more than their labour to economic activity. Moreover, these new workers must be more than highly skilled in the traditional vocational sense. New economy workplaces require new kinds of people with new knowledge, skills and dispositions. As Champy (1995) puts it:

> New workers in post-industrial organisations must be in the know, able to display the imagination, the resourcefulness, the steady willingness, and the sensitivity to the marketplace needed in today's changing environment.

This kind of thinking suggests that there are significantly changed demands being placed on contemporary workers. They are being asked to bring more of themselves to work and to invest more of themselves in work. They are being asked to internalise sets of general behaviours or dispositions seen as essential in the new work order. New vocational outcomes appear to be focused as much upon the characteristics, identity and orientation of the person as on skills and knowledge as more traditionally understood.

The recognition of this shift can be found in the changed focus of a number of theorists. Among sociologists, for example Young (1998), du Gay (1996) and Bernstein (2000) there is new interest in worker identity as a key issue in understanding social and economic matters. In psychology too, the emergence of 'critical psychology' (Henriques et al 1984) is a related recognition of the socially shaped demands being placed on the way in which individuals experience themselves and their interests. Moreover, theories of identity formation and theories of the self widely found in contemporary research often focus on the formation of identity at work.

This position is also reflected in reports that outline what employers now expect of workers. The study by Curtis and McKenzie (2001) reviews the characteristics that Australian and international employers consider important in the contemporary worker. Although described in different terms, the important characteristics include aptitudes, capabilities, capacities and dispositions, under the broad category of generic, employability, essential and key skills.

This includes characteristics such as personal discipline; responsibility; willingness to take risks; loyalty; team spirit; curiosity; learning continuously; and the management of motivation, emotion and desire. Such human attributes move far beyond vocational knowledge as traditionally understood.

This position advocated by some employers and organisations suggests that VET pedagogy should be as much concerned with constructing new worker identities as providing workers with vocational skills and knowledge.

A related feature of this focus on the learner is that skill development is increasingly being seen by some employers as the responsibility of individuals in the workforce rather than a responsibility of the industry or employer for which they work (BVET 2001; SKOPE 2002). At the same time, there has also been a major shift of discourse, policy and practice both in organisations and in educational institutions from a focus on teachers, training and courses to a focus on learners, learning and learning outcomes.

Changing learning

Australian vocational programs that lead to nationally recognised qualifications are delivered both on and off-the-job; by public, private and non-government providers; in workplaces, industries and classrooms; in schools, colleges, universities and enterprises. Government policies have been designed to integrate all forms of work-related learning including public and private, formal and informal, structured and unstructured, into a coherent and unified system of recognition.

Measures to facilitate this integration include competency based training; recognition of prior learning; the extension of provider registration to industry, enterprises and non-government providers; the development of the Australian Qualifications Framework; the Australian Quality Training Framework; and Training Packages.

However, contemporary ideas concerning learning and work have moved beyond the provision of formal award courses by recognised and systemic providers of education and training. As Perelman (Kanbrain Institute Virginia) suggested in 1999 'Learning is what most adults will be doing for a living in the 21st century'. If this position is correct, it seems unlikely that any formal education and training system can possibly be sufficiently resourced either publicly or privately to support the continuous learning of every adult for all of their working lives.

Indeed, if learning has become an integral part of working, arguably formal education and training systems would need to consider what new role they might play in the development of the workforce. One specific implication is that formal education and training is no longer a stand-alone intervention in economic productivity – to have full effect, it must be more systematically linked to wider strategic human resource management strategies encompassing new approaches to job design and work organisation.

This last point is illustrated by a recently completed research project (Skule & Reichborn 2002) in which a team of Norwegian researchers investigated the ways in which different Norwegian companies organised work. The research indicated that more than 60% of workers nominated learning through work as the most important contribution to their learning. Only 10% nominated organised training at work, while 16% nominated vocational training. However there was wide variation in terms of how conducive their work was to learning. The research team attempted to identify what characteristics or conditions of work were learning-conducive, and identified seven conditions.

Table 2 Learning-conducive conditions of work

High degree of exposure to change	Degree to which employees are exposed to changes in the form of new technology and new work methods
High degree of exposure to demands	Degree to which employees are exposed to demands from customers, management, colleagues or group/network
Managerial responsibility	Degree of managerial responsibility in the job
A lot of external professional contact	Degree of opportunity to participate in professional forums outside the company, conferences, trade fairs etc, contacts with suppliers and customers
Direct feedback	Degree of opportunity to learn through seeing direct result of one's own work
Management support for learning	Degree to which the individual employee experiences support and encouragement for learning from management
Rewarding of proficiency	Degree of direct and indirect rewarding of increased productivity at work

The researchers suggested it was insufficient to strengthen just one or two of these characteristics to try to transform existing work into more learning-conducive work. Rather, the strengthening of all these characteristics in combination creates learning-conducive work. Furthermore, the organisation of such work inevitably interacts with the human resources policy of the company or business.

Dialogue around learning in the workplace (Marsick & Watkins 1990), learning organisations (Senge 1994), work-based learning (Boud & Solomon 2001), informal learning (Garrick 1997), and workplace learning (Billett 2001) promotes learning outside educational institutions as crucial sites for learning in the contemporary economy.

From these perspectives, learning becomes the means by which employees at all levels in organisations are able to contribute to knowledge production, and its swift application in workplace settings. Interest in developing workforce capability has turned to workplace learning rather than structured training as legitimate, indeed crucial, to the development of a workforce capable of meeting the numerous and changing demands of contemporary work.

The contemporary workplace becomes the most authentic, relevant and situated place for vocational learning, particularly when work is organised to facilitate learning (Elmholdt 2001; Billett 2001). Workplaces routinely provide and structure learning experiences as part of everyday work activities and through guidance from other workers.

This form of learning is different from that involved in formal award courses in that it:

- does not rely on the intervention of institutionally based teachers or organisationally based workplace trainers

- is not structured around pre-determined vocational outcomes

- is not determined by qualifications frameworks and endorsed Training Packages

- is not guided by pre-specified content

- is not organised around the enabling disciplines.

Instead the main characteristics of this learning are that it:

- is context bound, driven by specific and immediate work requirements

- emphasises learning over teaching or training as a defining characteristic

- depends on the responsibility for learning being spread between a number of people within the workplace

- is consistent with new learning concepts such as learning networks, learning organisations (Senge 1994), and communities of practice (Wenger 2000).

These new learning theories, together with the idea that continuous learning is integral to work, raise questions concerning the relationship of the VET system to industries and organisations.

Training goals vary from industry to industry, government to government, region to region, organisation to organisation, learner to learner, and educational sector to sector (Chappell & Hawke 2003). They are also likely to vary depending on the rate of change that occurs in particular jobs, industries and employment sectors. The extent to which learning is integrated into other aspects of business processes and strategies also varies. Consequently, VET's relationships with stakeholders have become more complex and multifaceted.

Finally, while there may well be merit in the idea that learning at work is the most authentic and successful form of vocational learning, this cannot have universal application. Such a view relies on learners being in work – and the majority of learners in VET undertake

learning, not for the purpose of improving their current employment skills but rather to enter the employment market or to change employment (Booth 2001).

This suggests that while learning at and through work is now a significant focus of VET practice, it has not replaced the need for VET programs for individuals who wish to change or improve their prospects within the labour market.

Moreover, the organisation of work characterised by non-standard employment including labour-hire, casual and contract work, complicates the workplace learning story in that it is predicated on a relatively stable and ongoing relationship between the learner and the workplace.

Section 2 VET Pedagogy

Introduction

This section discusses the implications of the changes to work and work organisation and new ideas concerning knowledge, skill and learning to VET pedagogy. It proposes that the contemporary environment presents significant challenges and has important implications for education and training practices designed to develop a workforce that can meet the demands of the economy.

In order to set the scene for this discussion we begin by suggesting that any link between Training Packages and VET pedagogy is tenuous. Training Packages were developed on the basis that they should be:

- developed and endorsed by industry

- competency based descriptions of work

- outcomes focused.

They were designed in part to inform the relevant content of vocational programs and appropriate assessment tasks. They were not designed to provide guidance in terms of the selection of suitable pedagogical practices or strategies.

In many ways this focus on outcomes rather than processes is a logical position to take, given the other reforms that created a very different VET system. Today Australia has a VET system characterised by increasing diversity of contexts, clients, learning sites and practitioners. Providers delivering vocational education and training programs include schools, TAFE colleges, Adult and Community Education (ACE) providers, industries, and private providers. TAFE, once the near monopoly provider of VET is now only one of many – a new VET market has been created with many providers competing with each other to supply vocational programs and services in this newly established market.

This transformation has also increased the organisational complexity of the system. VET programs are now delivered both on and off-the-job; by public, private and non-government providers; in workplaces and in classrooms; in schools, colleges and in-house; face-to-face, on-line and by distance. Furthermore, VET programs are delivered by practitioners with quite varied qualifications and work experience, and to a wider variety of client groups and students.

One of the consequences of this diversity is that standardised curricula that contain recommended teaching, learning and assessment practices are much less useful.

VET teachers and trainers

However this development places much greater responsibility on the increasingly diverse group of practitioners who are now involved in preparing, delivering and managing VET programs at the local level.

It requires practitioners who have a sophisticated appreciation of the pedagogical choices that are not only available to them but which are also consistent with the context, clients and learning sites that make up the arena in which they work. In short, the successful implementation of VET programs relies on learning specialists who have expertise and a pedagogical orientation that they are able to deploy to meet the increasingly diverse requirements of clients. For example, the learning needs and expectations of remote Indigenous communities, urban regional communities and inner city communities are likely to be quite different. VET teachers and trainers must be able to recognise and adapt their teaching and learning practices in order to respond to such diversity.

Of course many VET practitioners are highly experienced and very capable learning specialists, able to organise and implement pedagogical strategies that support the achievement of outcomes described in Training Packages. Nevertheless, research suggests that VET increasingly relies on casual and part staff. This contingent VET workforce is employed to deliver specific courses and usually requires qualifications of a lower order than their full-time counterparts. Since its introduction in 1990 the Category 2 qualification, and more recently the Certificate IV in Assessment and Workplace Training, has become the standard qualification for this sector of the workforce (Chappell & Johnston 2003).

> While this development is a challenge for VET providers to provide curriculum and pedagogical support for staff, it also has implications for Training Packages in so far as their successful implementation is intimately connected to the quality of VET teachers and trainers.

A much greater pedagogical challenge has emerged as a result of the changing nature of work and the requirements of the contemporary economy. These changes in many ways point to quite different pedagogical practices and orientations than those that have traditionally formed the basis for vocational learning for they suggest that the contemporary worker has to be more than highly skilled as this has been traditionally understood.

Challenges for pedagogy

The widespread changes outlined in Section 1 have significant implications for the learning requirements of workers, and for the pedagogical methods used to facilitate that learning. The effects of this are not yet fully apparent, but there is a widespread belief in the importance of learning for increasing productivity, innovation and competitiveness (Ellstrom 2001). What is evident is that these changes suggest a significantly different role for VET from that which it has traditionally fulfilled. Indeed this suggests that a contemporary VET pedagogy is one characterised as being more:

- learner-centred
- work-centred
- attribute-focused [2].

While there is evidence that patterns of workplace training and learning are changing to meet the new demands placed upon them by both employees and organisations (Matthews 1999), the changes to work have not been fully matched by educational models and practices used by vocational and workplace educators (Torraco 1999). The challenge is that the new learning needs and required training methods differ from those traditionally provided for by the VET sector. This is not to say that the current focus on nationally recognised qualifications, on and off-the-job delivery, and deregulated provision are not of value. Rather it suggests that such approaches must be augmented if new market demands on VET are to be met. Moreover responding to these opportunities requires pedagogical approaches and strategies that vary from those traditionally used in the VET sector.

Learner-centred

In a recent report, the OECD (2003) provides a useful contribution to discussions concerning vocational pedagogy. It offers a model of pedagogy in which the learner, teacher and knowledge (broadly defined as both theoretical and practical knowledge) are relationally located through three different, albeit related, processes of teaching, training and learning.

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[2] We have used the term attribute here as a collective term, which includes a variety of generic, key and employability skills as well as other qualities, attitudes and dispositions.

Each of these relational processes brings with it a suite of pedagogical practices supported by particular theories of learning, for example behavioural, cognitive, humanist, social theories, and various assumptions about learning.

Figure 1 Model of pedagogy: Relational locations of teaching, training and learning
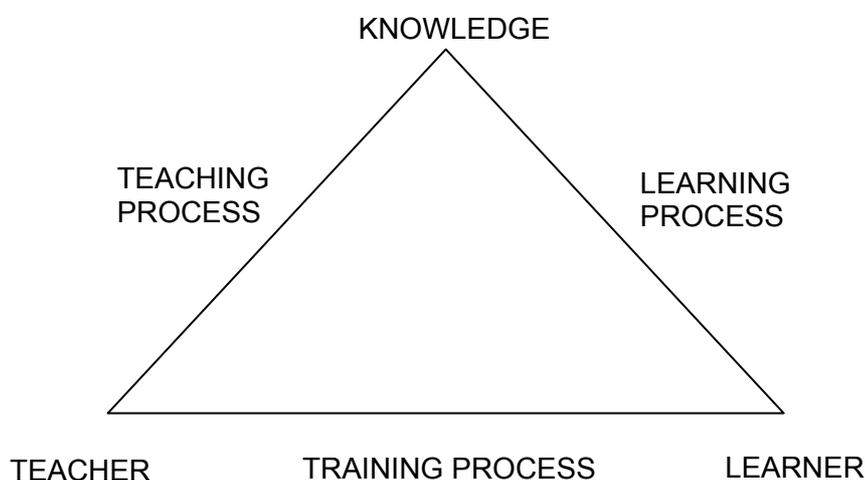
Source: OECD (2003)

Arguably until quite recently the teaching and training processes, rather than the learning process, have dominated pedagogical thinking in almost all sectors of education and training.

The role of the teacher or trainer in this transmission model of learning, is to provide the learner with the necessary knowledge and skills. However, the model is not uncontested. Educational theorists such as Dewey, Piaget and Vigotsky have argued at length, albeit from different positions, against conceptions of learning that assume it involves the transmission and unmediated accumulation by learners of existing bodies of knowledge and skill delivered by teachers. Rather, they regard learning as the active construction of knowledge by individuals; this active construction involves learners individually and socially constructing meaning for themselves as they learn.

Indeed familiar pedagogical strategies commonly associated with adult learning, experiential learning and problem and project-based learning are all influenced to a greater or lesser extent by this view of learning.

A second important feature of the view of learning as active construction of meaning, particularly for VET, is that it is a process that involves the inseparability of physical action and mental reflection. Arguably, vocational education has been constructed more by the former than the latter, often portrayed as essentially concerned with the performance of particular and discrete technical tasks which, however skilled they may be, involve a minimum of thought (Hager, 1994).

This valorisation of the manual over mental, skills over knowledge and body over mind although more imaginary than real, has nevertheless influenced the ways in which vocational education and training has traditionally been understood and practiced. Technical skill development has always been a central goal of VET, and VET pedagogy has more often than not been directed at developing practical skill outcomes over cognitive outcomes.

However today the contemporary requirements of work in some senses changes all this. As the OECD (2003) suggests, today:

Pedagogical questions now encompass everything the individual 'actually' learns, over and above the formal requirements of an educational programme.

The OECD goes on to argue that today, contemporary learning including vocational learning:

…places more emphasis on the complete transformation of individuals and enhancement of their well-being.

Moreover contemporary pedagogical questions:

…focus more directly on ways of transforming professional and social identities… there is a shift from the notion of instruction to that of learning.

This implies that the goal of contemporary VET needs to move beyond skill development; it must shift its pedagogical orientation by utilising pedagogical practices that are more holistic, recognise the full learning potential of individuals, are focused on cognitive skill development, and can contribute to the transformation of working identities.

> This suggests that VET must more fully embrace pedagogical practices that are more learner-centred.

Work-centred

As described above, contemporary learning theories often suggest that the workplace is the most authentic, relevant and situated site for vocational learning particularly when work is organised to facilitate learning. Workplaces can structure and routinely provide learning experiences as part of everyday work activities and through guidance from other workers.

Perhaps the most significant pedagogical issue resulting from structural changes to workplaces is the increased integration of learning and work (Bryans and Smith 2000). The need for such integration for the good of both organisations and individuals has been the focus of increasing attention by researchers and decision makers over the past 10 years (Ellstrom 2001). As organisations respond to market changes through flatter, more flexible structures, employees too must be able to respond in flexible ways. This means that workers who are increasingly faced with novel and unpredictable work demands must be able learn on the job as requirements emerge. As new technologies are introduced, new collaborations formed, and new competitive challenges faced, individual workers must learn to adapt *in situ*. This calls for pedagogical methods that encourage and enable such learning.

An illustrative example comes from research recently conducted by Skule & Reichborn (2002) that investigated the workplace conditions in Europe that led to learning-conducive work. The research identified seven conditions that promote learning at work, each one of which is positively correlated to what is referred to as the 'learning intensity' of a job. Although not regarded as a pedagogical intervention in the sense that it does not concern itself with traditional notions of classes, courses and curriculum, we would argue that it is a pedagogy implemented through managing aspects of the workplace environment.

While we accept that approaches such as that researched by CEDEFOP are unlikely to become the norm for training and learning, they do illustrate a broader trend towards more work-based pedagogies.

This trend has seen a move away from classroom based pedagogical practices to non-classroom based and work-integrated development programs. What is said to be required is an approach that enables the work environment itself to be seen as an authentic learning situation (Bryans & Smith 2000). Further, the types of skills to be developed from such training have moved away from the exclusively technical or discipline based, towards the more general development of cognitions, skills, and attitudes that relate directly to improved work performance (Lang & Wittig-Berman 2000).

A range of, now common, workplace development activities also illustrate this departure from narrow definitions of training to broader concepts of work-centred learning. We argue that these are work-centred pedagogies. Examples include:

- Talent management – the integration of recruitment practices, reward and recognition processes, succession management, and career planning, in order to ensure the acquisition and development of top-performing employees.

- Performance management – the use of performance and development planning between managers and employees to focus work based performance and learning on strategic organisational goals.

- Coaching and mentoring – using one-on-one relationships between employees of different levels of seniority and experience (mentoring) and different level of skills (coaching) as the basis for skills acquisition, performance development and career development.

- 3600 and multi-rater feedback – implementing formal surveys as a means to provide feedback to individuals on their performance and work behaviour; such feedback is used to help employees instigate highly customised work based development plans to address issues raised by their managers, peers, staff or other stakeholders.

In addition to the use of development strategies such as those mentioned above, changes to organisational conditions and structures have also led to a new focus in terms of the subject of learning. Whereas traditionally the individual person was the main focus of learning, there is now also a focus on team learning and organisational learning.

The role of the group or collective as the basis for learning is increasingly being seen as important because, although employees come and go, learned norms, behaviours and values persist in organisations (Easterby-Smith, Crossan & Nicolini 2000). In conditions where employees are less permanent than they once were, practices of organisational learning enable individual learning to be retained within an organisation.

The learning of individuals in thus critical to organisations, not only because of its influence on an individual's own work performance, but because such learning can be disseminated and used by other people and organisational units (Popper & Lipshitz 2000) and can be stored in the organisation's collective memory. In this sense, learning is not just about an individual's acquisition of pre-defined skills and knowledge, but also about building on existing organisational capabilities and developing new ones (DiBella, Nevis & Gould 1995).

This suggests that VET should not only become involved in promoting the concept of learning-conducive work but also integrate contemporary organisational learning strategies into programs in order to promote work-conducive learning.

It may also mean that VET's capacity to lead change in this area is substantially constrained and, that consequently VET needs to understand that it does not, and cannot, take total responsibility for all learning for, or about, work.

Attribute-focused

The increased incidence of non-standard work, outsourcing and downsizing in the contemporary economy as described earlier, means that many workers must be able to apply their skills and learning capacities across different work-place settings. For organisations, this means that when they employ a worker on a part-time, contract or casual basis, often for a short time period, they will not invest heavily in their education and training. Instead, they expect the worker to arrive ready for work and with the required skills. Thus organisations require workers who not only have the specific occupational and technical knowledge and skills but also non-organisation specific skill-sets and capabilities, which can quickly be adapted to new organisational settings.

As the ILO reports (2002) it has been demonstrated that, although employers benefit from worker education and training in terms of productivity, it is the individual who is increasingly 'becoming the architect and builder responsible for developing his or her own skills' (p.6). As the report also shows, this responsibility is less related to formal education and training and more to people learning to learn so that they can develop skills and acquire knowledge independently. Learning to learn has become one of the more desirable attributes of contemporary workers.

New organisational structures demand workers who can manage their own learning throughout their career, adapt their skills and learning capacities to flexibly meet the changing demands of work, and use their learning to the strategic advantage of the organisation. The challenge for vocational education is to develop the means through which it can support this new type of learning.

The increased focus on general, generic, key and employability skills such as learning to learn has emerged in recent times as a result of a number of interconnecting factors:

- Technology innovations, particularly in ICT and robotics, have reduced demand for production workers with technical skills in manufacturing. Moreover the shelf-life of many technical skills is decreasing.

- Increasingly, many jobs in manufacturing have moved offshore to countries with lower wage structures.

- Flatter management structures have led to an increase in demand for workers with higher levels of interpersonal, communication, problem solving, and decision making skills.

- The increasing recognition of the collective nature and importance of knowledge work and innovation in the contemporary economy also requires workers with an array of skills related to teamwork, problem solving and project management.

- Individuals now recognise that having these skills gives them an advantage in an increasingly uncertain labour market. Therefore they seek to develop these attributes through formal education and training qualifications

One of the difficulties providers face when designing attribute-focused programs is that a large number of work related attributes have been suggested. These attributes are wide ranging including for example basic skills such as literacy and numeracy, interpersonal skills such as communication and team work, and personal attributes such as learning to learn, self-management and independent problem solving (Curtis & McKenzie 2001). Other attributes also mentioned include things such as integrity, honesty and initiative.

In terms of classification, a comparative review of work related attributes in a number of countries suggests that they can be categorised as including foundational skills, intellectual skills and values, and attitudes and motivations (Curtis & McKenzie 2001).

The difficulties presented by these categories are that:

- there is little indication of what these attributes mean in terms of levels of work, for example much of the literature suggests that all workers at all levels need these attributes

- some of the attributes may not be amenable to being developed through the vocational learning process

- some of these attributes present ethical difficulties for providers of education and training.

Despite these difficulties, it is possible to identify attributes that can and indeed should be the goal of VET. For example, attributes such as teamwork, problem solving and learning to

learn are laudable goals and a strong case can be made that these attributes can be achieved only through the process of learning.

If attributes such as these are central to VET outcomes then the pedagogical practices – the processes of learning – are inextricably linked to the achievement of outcomes. In short, it is not sufficient to identify particular attributes as some additional outcome of a program that is primarily focused on achieving something else. Rather, the pedagogical processes chosen have the greatest influence on whether a particular attribute is achieved; developing work related attributes requires the use of specific learning strategies.

For example, if learning to learn is an important goal of VET, a pedagogy that enables people to take charge of their own learning rather than being limited by a set of pre-determined prescriptions is required. The skill requirements for contemporary workers are such that they cannot all be provided at the beginning of their careers. The flexibility required by today's employment environment requires workers to continually develop new skills across the duration of their careers through an ongoing involvement in both formal, informal and independent learning.

This suggests that if work related attributes are important outcomes for the VET sector, then much greater consideration needs to be given in terms of supporting and monitoring the pedagogical processes and strategies that are deployed to achieve these outcomes.

Integrating pedagogical practice – an example

Given the evidence presented in this report, we argue that pedagogical questions concerning vocational learning should in many ways be determined by looking to examples of how well chosen pedagogies are consistent with the concepts of learner-centred, work-centred and attribute-focused learning. Moreover these concepts cannot be regarded as mutually exclusive but are three parallel threads that taken together must inform practice decisions.

Project-based learning

An illustrative example of such an approach is project-based learning. Here the learner, or group of learners, is encouraged to identify and negotiate a workplace project with the employer or enterprise. The project provides value to the business and the teacher acts as a support and guide, ensuring that the project is both realistic in its scope and within the capability of the learner or learners. In project-based learning, learners are responsible for identifying and sourcing the knowledge and skills needed to undertake the project, and are responsible for managing the project.

With this approach many elements of contemporary VET learning practices are covered at the same time. It is an approach that is learner-centred in so far as it is led by the learner, albeit with support from the teacher. It is work-centred in that the project is located in the workplace and is of value to the business and employer. It is attribute-focused in so far as it is a process that calls for independent learning, taking responsibility, problem solving, interpersonal communication.

Of course we recognise that this approach cannot be used with all learners, in all contexts. Nevertheless it is a learning strategy, which if used at an appropriate time in the program integrates previous learning in ways that are meaningful, practical and valuable for learners and the workplaces to which the learners are heading.

Training Packages and pedagogy

A case can be made that Training Packages should not address pedagogical issues. They were not designed to replace curricula. They were also not developed to support pedagogical decision-making. At best they provide information that informs the content of

vocational education and training programs and provide information about how assessment of competence can be determined in particular contexts.

Training Packages do not, and many would argue should not, enter the area of pedagogy, firstly because of the diversity of sites and conditions in which Training Packages are used and secondly because pedagogical issues are best left to teachers and trainers.

From this view, the responsibility for translating Training Package requirements into teaching, learning and assessment strategies and programs is clearly that of VET providers, with perhaps a robust quality assurance process that monitors implementation including the pedagogical strategies that are deployed.

However, leaving things to 'the experts' is not without problems. For, although Training Packages were not designed to directly inform pedagogical decision-making, they do nevertheless contain a number of implicit pedagogical assumptions. Therefore they influence how practitioners construct their teaching, learning and assessment practices.

Further, some of the implicit pedagogical assumptions contained in Training Packages are now under some pressure given the new requirements of the workplace, which suggest a pedagogical orientation that is more learner centred, work centred and attribute-focused.

Implicit pedagogical assumptions

Competence

The development of Training Packages in Australia has largely taken a work-orientated approach to competence. Work is the point of departure when identifying and formulating competency standard descriptions. From these descriptions the underpinning knowledge, skills and attitudes needed to achieve competence are derived. From this perspective workplace competence is seen as being held by individuals through the possession of a suite of knowledge, skills and attributes, which they use to accomplish their work.

Different approaches to developing competency descriptions have also been developed (for example attribute-orientated, worker-orientated, multi-method approaches) and each has been shown to have a number of shortcomings (Sandberg 2000). However, what all these approaches have in common is that they conceptualise competence as being embodied in the hands and minds of individuals.

This leads to the idea that to achieve competence individual workers need to be provided with the requisite suite of knowledge, skills and attitudes identified as necessary to perform competently at work.

As such it tends to support a transmission conception of learning in which the teacher, trainer or instructor provides these components of competence to the learner.

More recently, there is increasing recognition that this conceptualisation of competence, which separates work from individual workers is inadequate. It fails to recognise the context dependent nature of competence – that is that competence is derived from the workers lived experience of work. In this model, competence emerges as workers experience work; competence is not context free but is situationally dependent.

This understanding of competence is of course not new. The centrality of work experience in developing competence pre-dates vocational education; the traditional apprenticeship system was based on this model of learning. The increasing requirement for work placements and work experience within VET programs today attests to its durability. In short there has always been recognition of the context dependent nature of competence.

Competency standards and Training Packages have attempted to address this issue through the range of variable statements and assessment guidelines. However, it can be argued

that there is a weak relationship between the competence that emerges through the experience of work and the competence that is described in competency standards.

Individual competence

Training Packages contain descriptions of competence that individuals are thought to need in order to perform competently at work. From these descriptions the underpinning knowledge, skills and attributes are derived. The focus on individuals in these descriptions almost inevitably translates into pedagogical practices that also focus on the goal of developing the competence of individuals.

However, recent changes to work and the organisation of work, in particular the rise of the knowledge economy, have shifted the emphasis from individual to organisational competence. Here competence is seen as the interaction of individual, group, managerial, and technological systems which when brought together affect organisational competence.

This suggests that competence at work is never individual but collective. In addition, the work of Sandberg (2000) proposes that collective competence is always the product of the interaction between people at work. He suggests that although each individual's contribution may be a specific competence, it is only through their interaction with others that the job or task is successfully completed.

If this position has merit it also suggests that collective competence depends on each individual having a shared understanding of their work. That is, while their individual contribution may depend on having a particular knowledge and skill set, collective competence relies on all of the contributors having some shared understanding of the work.

This position also appears to be reflected in recent European work, where a great deal of interest has been afforded to the concept of work process knowledge (Boreham et al 2002).

> Work Process Knowledge is defined as an understanding of the labour process and the production process in the organisation as a whole. Knowledge of this kind is needed by employees of flexible organisations to enable them to deal with new situations and work across boundaries. Work process knowledge is also crucial wherever communication and information technologies are introduced to make better use of knowledge assets.

A shared understanding of work is increasingly seen as an essential ingredient if individuals are to contribute their particular knowledge and skills in contemporary workplaces.

This development does not negate the focus on individual competence in Training Packages. However, it does point to an important feature of contemporary work that is not captured in existing descriptions of competence used by providers to inform pedagogical practice, and suggests that VET providers may need to look further than Training Packages to inform their programs if they are to address contemporary workplace needs.

Section 3 Changing Clients – Changing Needs

Introduction

Part of the policy rationale for creating a diversity of VET providers was to give the clients of VET greater choice in terms of selection of providers while creating a more competitive VET market with benefits flowing to its clients.

These changes have been the subject of much policy debate in recent times, including issues of quality assurance, funding mechanisms, human resource issues and VET responsiveness. However, there has been less focus on the issue of the changing needs of clients. This is our focus in this section.

We understand 'clients' very broadly and include those who in the past might have described as stakeholders. We believe that, for most such groups, the nature of their relationship with VET has changed and the concept of client now more appropriately defines that relationship. We begin by suggesting that the newly diversified VET system brings with it distinct groups of clients who have quite different relationships with VET.

Changing clients

A core OVAL research project conducted in 2002 investigated how both public and private RTOs understood their role in building workforce capability (Chappell and Hawke 2003). The study provided evidence that VET providers are generally well aware of the different client groups they now serve each having a diversity of needs that may be contradictory in some cases.

Most of the VET providers involved in this study indicated that they understood their client groups to be:

- industry, through ITABs, industry and employer bodies
- enterprises, especially SMEs
- government
- local communities
- individuals.

Industry

In many ways industry has always been a client of VET. Indeed the Australian vocational education and training system was initiated by governments as a result of intense industry lobbying at the turn of the last century. Industry at that time led the call for governments to address critical skill shortages in the emerging Australian economy, arguing that the school system was inadequate in terms of meeting industry skill needs (Goozee 2001). The VET system was founded to supply Australian industry with middle level skilled and semi-skilled workers. It was based public provision with industry playing a subordinate role to government in terms of influencing the direction and development of the VET system.

Over the last 15 years, governments have initiated reforms to the VET system designed to increase industry involvement in VET (MEST 1995). ITABs were established to manage competency standards development by industry and today Training Packages are the key device through which industry influences the VET system.

VET providers regard the involvement of industry in defining the vocational outcomes required for work and informing the sector of its changing training needs as its most useful contribution to VET (Chappell & Hawke 2003). In addition the emphasis placed on

workplace assessment, work experience and work placement, is seen by providers as creating closer, and in some cases new, connections between VET and industry. There is a slow but increasing move for VET to move out of classrooms into workplaces in some industries. Indeed the requirement in some Training Packages for work placement has meant that VET providers have identified staff responsible for developing and coordinating work placements.

> Therefore industry, through the vehicle of Training Packages, is a major influence on VET providers, and for both historical and contemporary reasons is regarded as a major client of the VET system.

However as we suggest later, the concept of industry as client does not imply that all industry has similar needs or makes similar demands on the VET system. Indeed, the concept of 'industry' is being increasingly questioned by the ways in which new relationships, new processes and new structures are developing. There are good grounds for asking whether such a label retains the value it had in the early stages of VET reform.

Enterprises, especially SMEs

At a local level, however, VET providers typically have little direct relationship with industry. Their involvement is with individual enterprises – large and small.

In 1999-2000, there were over 1 million private sector non-agricultural SMEs in Australia. SMEs account for approximately 30% of Australian GDP and 50% of total private sector non-agricultural employment. Almost 85% of SMEs have fewer than 5 employees. However the share of SMEs in total employment has been rising since the early 1980s, with SMEs responsible for over half of all new jobs generated. This is largely the result of structural changes that have occurred in the Australian economy (OECD 2000).

The importance of SMEs in the Australian economy is reflected in increasing interest in the VET system becoming more involved in meeting the training needs of small business (Kearns 2002). Research suggests that VET providers both public and private also work with local employers, enterprises and communities, many of whom have different priorities and perspectives than those offered by national industry bodies.

Many SMEs feel that the needs of big business hold more sway than the needs of SMEs in the work of peak industry bodies. Often they have little contact with, interest in, or the resources to influence, the work of peak industry bodies. They are often unimpressed with the content of Training Packages endorsed by their peak industry body. More often than not SMEs look for training that addresses their immediate and specific skill needs and are less interested in training programs that lead to qualifications.

Furthermore a more commercially focused VET system is looking to expand commercial relationships with individual employers and enterprises. Indeed a number of private providers are so interested in developing commercial relationships that they are now less involved or interested in delivering government funded vocational programs endorsed by peak industry bodies.

VET providers typically report that larger enterprises are easier to deal with, as they are capable of providing both economically viable intact groups and infrastructure to support on-site training. Moreover, their needs generally are better aligned to the 'industry norm' than is true of smaller enterprises.

> Although many enterprises identify with particular industry sectors, their interests are not identical to those of 'the industry'. They are quite different clients of VET and this is especially the case for SMEs.

Government

As we noted earlier the policies of deregulation and expansion of VET are aimed at creating a competitive VET market where clients of the system select a provider that can provide them with the products and services that they want, at a time and place of their choice.

However, while the system is described as industry-led, VET agencies must still deal with the inevitable tensions that arise in a system that remains overwhelmingly government funded.

Governments are interested in developing the capabilities and skills of the labour market in general. This is regarded as particularly urgent in light of the changing nature of work and the contemporary labour market. Government interest, therefore, moves beyond the immediate needs and interests of employers or specific industries, and concerns itself with issues such as transferable skill development, future skill needs, articulation, national recognition, quality, equity, community development and accountability.

This in turn positions the VET system as an agent of government, bound to uphold the interests of government; at the same time, it is also asked to meet the needs of industry.

> This means that VET providers also act as brokers of government policy, explaining to employers why particular VET programs include learning outcomes that, from the employer's perspective, appear superfluous to their needs and do not include outcomes they require.

In some senses, VET providers consider themselves as the major communication bridge between national industry bodies and government on the one hand, and individual employers on the other.

Local communities

Interest in the local is now a feature of debate among VET commentators including public policy makers both here and overseas. For example, the ILO (2002) suggests that decisions on training:

> …are best made at the regional, local and sectoral levels, close to economic demand and social needs. For example, decisions on training in an area of booming economic growth will differ greatly from those where deindustrialisation and job loss are prevalent. Such differences can be accommodated by developing training decisions closer to local realities (ILO 2002, pp 21-22).

In many ways, this reflects a much wider public policy direction taken by governments particularly in Europe, which seeks to develop social partnerships and collaborations that are more responsive to local needs and conditions (Green, Wolf & Lehney 1999). The intent of this policy direction is to devolve decision-making to local stakeholders who are seen as being in a better position to interpret and do something about the specific and contextual needs of local communities, economies and businesses.

This position is of particular importance in the Australian context where local and regional communities have quite different economic and social concerns. For example, remote Indigenous communities would have quite different views and expectations in terms of VET provision and teaching and learning practices than urban communities. Indeed a move towards greater local decision-making may well assist the development of greater responsiveness by VET to the specific needs of its clients.

Overall, these initiatives can be read as a retreat from the idea that national policies, which mandate common approaches to issues such as skill development and education and training, are in themselves a sufficient response to new economic conditions. As one policy maker remarked during this research.

The grand narrative is dead as a public policy mechanism. The world moves too fast and it moves in different ways and public policy is now a different beast to what it was in the mid 1990s even.

At least part of the reason for this shift may reside in the rapidly changing characteristics of the contemporary economy brought on by the globalisation of markets; new information and communication technologies and their impact on work; and the organisation of work, skill, knowledge and learning. We know that their impact on different industries, workforces and regions as well as the new skills mix they require, is highly variable. This, therefore, limits our capacity to produce general policy responses to increasingly diverse socio-economic circumstances.

To date in the Australian policy context, much of the progress in VET reform has occurred as a result of peak industry bodies becoming involved in national VET policy formulation. The emergence of local partnerships and collaborations as the vehicle for further reform to the VET system is a significant departure from the past. Indeed if this new direction has merit, it suggests that the central question for policy makers is now:

How, and in what ways, can a focus on more local and collaborative arrangements of VET provision be achieved without losing the gains of the last decade?

Individuals

As we have canvassed in this report the multiple and diverse changes in work and working arrangements have had significant impact on the changing needs of VET clients.

Significantly this is occurring through two interrelated mechanisms. Firstly, the pool of potential clients is changing dramatically, and secondly the nature of the needs of existing client populations is also undergoing change. It is worth briefly exploring these two processes before exploring the implications of these changes further.

The composition of the VET learner population is changing dramatically. Important trends include:

- The total population of VET students has increased by 78% since 1991 – an annual growth rate of around 6%. Consequently, the proportion of working age people engaged in VET has grown from 11.6% in 1997 to 13.2% in 2000.

- The gender composition of VET students has been consistently moving towards a better balance since 1991, however learners from non-English speaking backgrounds, those with disabilities and Indigenous learners are typically under represented and this has, at best, remained unchanged in that time.

- The greatest growth since 1994 has been in clients aged 40 years or more. From being the lowest participation group in 1991, they now only just fall below the traditionally largest group, those aged 25-39 years.

- An upturn of clients aged 19 years and under since 1997 is probably associated with the introduction of both school based traineeships and VET in schools.

- The proportion of learners located within urban areas is growing, while rural and remote learners decline as a proportion of the total learner population.

- As a proportion of all VET learners, those engaged in the traditional VET domains of engineering and building have declined significantly. Simultaneously, fields of VET provision such as Health and Community Services, Hospitality and other service sectors have grown dramatically, albeit from relatively small initial bases.

- Graduate surveys identify two reasons for undertaking VET – 'to get a job (or own business)', and 'to get a better job or promotion' – as falling consistently since 1995. By

contrast, 'non-vocational reasons' now represent over a quarter of the reasons for undertaking VET, up from 21% in 1995. The other area of growth in reasons for undertaking VET was because 'it was a requirement of my job'.

- The typical duration of a learner's engagement with VET has declined. In 1991 only 37.8% of learners had a load of less than 100 hours; by 2000, this had increased to almost half at 49.8%. Similarly, average annual hours have declined from 207.2 in 1997 to 197.9 in 2000. (Source: NCVER 2002a, 2002b)

These changes suggest significant shifts in the typical requirements of the VET learner over this short period and are consistent with other pictures that are emerging of the changing nature of the workplace itself. Together these give strong support for the view that, at least in broad terms, the changes we have seen can be projected into the immediate future.

Among individual clients, we discern three significant patterns of change:

- the mix of learners is changing in respect of their gender, age and disadvantage

- areas within which learners are most strongly clustering is changing

- the positioning of learning within the lifespan is shifting.

Changing patterns of learner engagement

Disadvantage is one of the few features of the VET learner population that remains relatively unchanged. In domains such as gender and age, changes are substantial and their potential impacts on our approach to VET are significant.

In the case of gender, the proportion of women is increasing in general but more significantly, the numbers studying in various fields is changing. Proportionately enrolments are growing in the fields of Business, Administration and Economics; Health and Community Services; and Education, and are declining in Arts; Humanities and Social Sciences; and Multi-field. This is not so much about women moving into non-traditional fields as it is about the movement of women into the new service occupations.

With respect to the age of learners, however much greater changes are evident. The pattern is more complex and contradictory than for gender, as it is both younger and older learners whose numbers are growing, while the numbers of what might be regarded as in their early working life are declining as participants in the formal VET system.

The changing areas of vocational learning

In line with changing patterns of employment, VET learners are migrating from the traditionally strong areas of engineering, construction and the like into the emerging service sector areas of learning. This brings with it not only a need for reallocation of human and capital resources but also a need to consider new forms of knowledge, new understandings of skill and new approaches to learning.

The changing location of VET within the learner's lifespan

Until recent times, VET in Australia was predominantly concerned with either pre-vocational preparation or early-career concurrent vocational preparation. However, the shifting demands of contemporary work have created a rapidly growing demand for ongoing, if not continuous, learning throughout one's working life. This is represented within VET enrolments by the growth in existing worker participation that can be identified across most sectors of VET provision.

Further, as the demand for such learning increases, there is evidence that employers and learners alike are increasingly interested in the creation within workplaces of a culture of continuing learning rather than simply the provision of one-off training solutions.

Implications for VET

The implications for VET of the various demographic changes in its client population are considerable. So too are the changing patterns of need among current client groups.

The changing roles and interests of client groups – industry, government and communities

The key issue is the need for VET, and specific policy instruments such as Training Packages, to simultaneously deal with the very different needs and expectations of these client groups.

Looking first at industry, there is growing evidence of a struggle between the needs and expectations of broad based bodies such as employer and industry bodies, and the needs and expectations of individual enterprises. On the one hand, employer and industry bodies advocate broad based skills development organised around the concept of a reasonably coherent industry and transferable to a range of settings, and on the other hand, individual enterprises focus on skills that are immediately applicable and specific to the individual enterprise and its context, which is often unique.

The current situation places the power to control the content and structure of Training Packages primarily in the hands of employer and industry bodies. Many individual employers are increasingly finding that Training Packages are too confining and/or that they lead to skills that are not relevant to their enterprise needs.

Increasingly, individual enterprises do not identify themselves with any industry sector but use a range of skills and knowledge drawn from a much more broadly defined pool. Firms and individual learners are responding to this changing need by constructing their own learning packages drawn either from a range of Training Packages, or from outside the formal VET system. At the moment this is largely cast as an all or nothing debate. However, there appear to be grounds for considering that, while generic qualifications might not always be required at Certificate I and II, there are more compelling arguments that qualifications, possibly occupationally-based, are of increasing importance at Certificate IV and above.

> The concept of Training Packages located within defined industry sectors may need to be reconceptualised to reflect the greater diversity and flexibility that is needed. This may have implications for the bodies charged with their development and maintenance.

A further complicating factor can be found in the needs of governments for an orderly development and maintenance of a labour force in an increasingly competitive global environment. The deregulation of the training market has substantially reduced government's capacity to intervene to ensure stability of the labour market through volatile economic periods. The present alarm over the apparent shortages in many skilled trades is an example of this concern.

The current VET arrangements reduce the capacity of governments to shape the workforce but not their wish to do so. Governments retain a legitimate public interest requirement to ensure that the overall shaping of the labour market operates in the national interest.

The changing patterns of gender

New fields are developing in which female learners play significant, and often majority roles. These new fields and their feminisation, imply the need for new pedagogical approaches that focus on the development of appropriate professional identities. In this case, this new pedagogy will need to develop with, and alongside, the development of these new occupational roles. In other words, VET will not be in the position it has so often experienced in the past where the knowledge, skill and identity base of an occupation was

relatively stable and established. Rather, VET may need to become increasingly pro-active in the shaping of the new occupation.

There is a range of views as to whether or not women's 'ways of knowing' differ from those of men The most common position appears to be that women are more disposed towards integrating knowledge and are naturally multidisciplinary (Relke 1994; Fee 1986). It is noteworthy that this orientation is also commonly used to describe the emerging service sector occupations in which women predominate. However, there are also those who argue that this is not unique to women but rather that it is simply good learning practice and that, where they have the choice, there are no differences between women's and men's ways of learning (Zuga, 1999).

The changing patterns of age

The rapidly growing population of learners over 40 years of age represents a new client group for VET. Such learners are likely to be established within work and seeking to enhance their skills base and hence their marketability. Frequently they will be engaged in VET because it is a requirement of their job. Of particular importance here is that individuals are being required and expected to take much greater responsibility for their own learning. The growth, for example, of those designated as portfolio workers (Kerka 2000) has created a situation in which workers are increasingly designing their own portfolio of skills that reflects their own interests, needs and aspirations and not those of any external agency.

> There appears to be an increasing demand for training that is individually customised in a way that Training Packages are not always designed to allow.

The growth in the participation of older workers introduces a range of issues that have generally not been part of the experience of VET providers - issues such as who is the primary client and whose interests are to be served by the learning. As this sector of the workforce becomes increasingly mobile, learners will increasingly be engaging in learning with the intention of acquiring skills that are not necessarily those which, in the short-term their employers require.

This, too, requires new pedagogical practices that may involve new group management techniques of the sort more often associated with schooling or new techniques of creating interest and involvement in the learning process that have not been required to date.

Moreover, at least for the foreseeable future, many of these learners will not have engaged with formal learning for many years, may have negative images and experiences of learning, and may lack a range of important basic skills. These challenges are not new to VET, but they will be new to the experience of many VET practitioners where such learners have not been common. In this case, it is likely that established pedagogical practices concerned with providing underpinning support to learners will need to be both more widely available and more widely utilised by practitioners.

Experienced workers already possess a range of skills and knowledge that need to be taken into account in assisting them with their learning. Their needs are focused on achieving the greatest possible benefit in the shortest feasible time. Experience to date has shown that current arrangements for the recognition of skills and knowledge may not be responding to this demand effectively as might be wished.

However, with the recent resurgence of participation of learners under 19, a quite distinct set of issues emerge. Importantly, this group encompasses two distinct sub-groups whose needs will be quite different. The first are those whose participation comes through VET in Schools programs and the second is those young learners taking up entry-level New Apprenticeships and traineeships.

For learners whose participation comes through VET in Schools, the primary pedagogical issue arises from the context within which their learning occurs. Typically this will be a school, and often a schoolroom, setting. This creates substantial difficulties for the kind of immersed, authentic pedagogy that appears to be essential for the development of contextualised knowledge and for the development of the occupational and professional identity so important for the contemporary worker. Clearly, a school-based site of learning itself does not make such learning impossible, but it does create important barriers and limitations. These limitations are inherent not only in the site but in the person and experience of the teacher.

There has long been a clear recognition that an essential component of the pedagogy of vocational learning is the extent to which the knowledge, skills and identity of the professional are embodied in the person and practice of the teacher or facilitator (Rogers 2002; Gamble 2001). However, there are also new approaches to learning that envisage pedagogical practices that transcend the view of teacher as 'expert' (Boud & Solomon 2001; Fuller & Unwin 1998). At the moment it is fair to say that there is no consensus on this matter but it does appear from extensive research in a range of areas that vocational development lacking engagement with critical contextual issues is a contradiction in terms.

The second group of young learners – those who are taking up entry-level apprenticeships and traineeships as employees engaged in the practice of their occupation – have a very different set of issues. These focus on the learning that occurs in the workplace.

As discussed earlier in this report, there is a great deal that we now understand about creating workplaces that both enable learning to occur and, more significantly, that encourage and support leaning.

The pedagogical issues that arise in this context involve the pedagogical practices that occur within the workplace itself and those that occur in the intersection between the workplace and the off-the-job provider, where such an entity exists. Those issues relevant to the workplace are dealt with elsewhere in this paper, so we turn here to consideration of the relationship between the workplace and other providers.

Despite the central importance of this issue for many years, it remains an under-researched area. Much of the literature that is available involves only uncritical reportage of particular programs judged by the proponents as exemplary. Despite this, there are indications that the critical factors involved include at least:

- coordination in timing of attention to particular areas of practice, knowledge or skills

- adoption by both parties of similar understandings of the value, role and context of the full range of areas of practice, knowledge or skills

- mutual respect between the two parties.

These involve both parties in a range of pedagogical practices that are not normally understood as such. Rather they highlight the need for a new understanding of pedagogy as encompassing the full range of practices that enable, encourage and support learning.

Moreover, in the context of learning programs involving both workplaces and other VET providers, it highlights the need for the pedagogical responsibilities and practices to be both shared and reciprocal.

There is a need to recognise that pedagogical practices extend beyond the classroom and, indeed beyond the VET provider. Pedagogy in employment-based programs involves pedagogy in the workplace, in the classroom, and in the interaction between these two. This needs to be recognised in Training Packages, and the responsibilities of both parties to resource and enable learning in mutually supportive ways needs to be developed.

The changing areas of vocational learning

The shift in areas of learning from those based on production to those based on services reflects the shift in the economy and the workplace. However, it also marks a shift in the logic of the teaching and learning process from one that is based on goods to one that is essentially and fundamentally concerned with process.

The contemporary economy and the new learning areas fall broadly into two classes – those concerned with the provision of personal services, and those concerned with the creation of new knowledge. We will briefly consider each of these.

In the case of personal services, whether we are concerned with retail sales or with aged care, the learning process necessarily involves considerable interaction with others in increasingly realistic situations. The core skills will ultimately be embedded within the workers themselves and involve the construction of new identities, the acquisition of new interpersonal and highly context bound skills as well as those that are more readily transferred.

The implications of the increasing focus on knowledge work similarly challenges the existing conceptual underpinning of VET programs, based as they are on outcomes that can be identified in advance. Creativity and the creation of new knowledge do not readily fit within such structural models.

Training Packages may need to be developed which focus on the process of learning and related underpinning skills and knowledge that inform knowledge creation.

The changing location of VET within the learner's lifespan

Learning is no longer only associated with the formative years of one's life. Today, the demands of work and of society are creating a world within which both formal and informal learning will be a recurring feature.

Two important features of the emerging labour market are relevant here:

- Firstly, we are already seeing significant 'job churning'. Jobs come into existence and disappear at a rate not previously experienced and, just as significantly, workers occupy existing positions for increasingly shorter time spans before moving on to often very different work roles.

- Secondly, the content and nature of established positions is more volatile, and technological changes in both tools and work processes are requiring workers to adopt new identities based around new knowledge and skills.

Already we are seeing the growth in VET participation by existing workers. Indeed if the developments in Europe are any indication of the path that Australia will take, this will only grow. However, this raises a number of questions such as:

- What criteria could be used to differentiate the learning throughout life that needs to be recognised or formal, from the learning that does not?

- Should there be a different level or kind of recognition of learning that is foundational from that which is supportive or developmental?

- Is the national interest best served by supporting the current trend towards 'just in time' and 'just for me' learning, or is there a case for providing ongoing learning that is more broadly based and designed to support flexibility and labour mobility?

Such questions challenge existing arrangements in VET and suggest that there may be a need for forms of structured and/or recognised learning that should be the business of VET but are based around quite different models. A particular example of the greater range of

learning support structures that might be considered arises in the context of one response of firms to changing economic times – the learning organisation.

This, often-abused term, is usually understood as involving a firm in a fundamental rethinking of its organisational processes to involve it in an ongoing process of learning, review and improvement. There is an argument, and some examples, that VET providers could enter into partnerships with firms to support and enhance this learning, not through the provision of training services, as currently understood, but through acting as consultant and advisor on organisational change.

Training Packages may become one component of a more diverse range of structures and mechanisms for supporting vocational learning.

Section 4 Changing Complexity and Interrelationships of Education and Training Sectors

Introduction

The Australian VET system has undergone unprecedented change in recent times. Not since the changes to technical education following the release of the Kangan report in 1974 has the Australian VET system been the subject of such intense policy interest.

As described in Section 1, the past decade has seen immense changes to the VET system. These are not simply based on a renewed national recognition of the importance of VET but reflect an increased international focus on the economic importance of education and training.

The emergence of new knowledge based, post-industrial forms of work and the impact of new technological innovations, particularly in the information and communication technologies sector has been central to this international development (Marginson 2000; Waterhouse et al 1999). While governments have responded to this in a variety of ways a common feature of the policy response has been to reform education and training systems so they contribute to the formation of workers with the appropriate knowledge skills and capabilities required in these new economic times (Papadopolous 1996; Gee, Hull & Lankshear 1996; Waterhouse et al 1999; Marginson 2000)

These educational changes, labelled the 'new vocationalism' (Ball 1994; Grubb 1996; Symes & McIntyre 2000) have had effects in all sectors of education and training in Australia. Over the last 15 years efforts have been made to improve the quality, flexibility and relevance of vocational learning outcomes and industries and business have been asked to play an increasingly important role in the development and implementation of vocational curricula.

Traditional curricula in schools have also been the subject of critique with commentators arguing that they are inadequate in preparing young people for either work in the new economy or the emerging social and cultural changes invoked by new economic times (Cope & Kalantzis 1995). Today, vocational courses are an integral part of the school curriculum. Furthermore, new vocationalism is influencing contemporary Higher Education with universities, once identified as the producers and defenders of societies' disciplinary knowledge, looking at what new knowledge is being brought into being by the exigencies of new vocationalism (Billett 2000; Boud & Solomon 2000).

In Australia new vocationalism has also been marked by the establishment of a vocational education and training market with schools, TAFE colleges, universities, ACE providers, industries and private providers all competing with each other to supply vocational education and training services.

The requirement that State educational systems contribute to the development of national economies (Ball 1994; Goozee 1993) is not new. Indeed vocationalism has always played its part in the construction of national education and training institutions (Symes 2000). However, the current manifestation of new vocationalism goes further, not only in terms of its institutional reach but also in the goals it sets itself.

These goals move beyond the development of specific knowledge and technical skills required to competently perform the tasks that characterise particular occupations. Today, additional vocational outcomes are demanded of learner/workers who are asked to internalise sets of general capabilities that are seen as essential be in the new high performance workplaces (Waterhouse et al 1999; Overtoom 2000).

Furthermore, as contemporary societies and economies are subject to on-going change learning is regarded as a vital feature of human activity throughout the life span. Indeed the

establishment of lifelong learning has, in many ways, become the integrating policy goal of most OECD countries (OECD 2003) and all three sectors are expected to contribute to this ongoing need.

To date, increasing the range of players involved in vocational provision has opened up a significant number of learning and articulation opportunities for large numbers of learners. Indeed in terms of choices and pathways this has been a very positive outcome. However, the complexity of the interrelationships between education and training sectors has not gone away. Each of the sectors has a particular set of histories and cultures, which in turn contribute to the complexities of the interrelationship in significant ways. The following subsection draws attention to some of the challenges of this interrelationship.

The contemporary context

There are clear indications that cross-sectoral linkages are developing between VET and both Higher Education and schools. What is less clear is the real size or pattern of these linkages. School student participation in VET has clearly grown since 1996; however, the magnitude of the change varies greatly depending on the data source used to measure it.

The MCEETYA VET in Schools Taskforce reported that 153,616 school students were engaged in VET in Schools programs in 2001. However, AVETMISS data for the same year records only 102,600 VET clients identified as still at school. Indeed, from 1997 to 2000, AVETMISS numbers are consistently about two-thirds of the MCEETYA counts. Moreover, as not all of these would be VET in Schools students, the figure suggested by these data is even lower. Moreover, the MCEETYA figures show a pattern of declining growth suggesting that the numbers are moving to a stable position (see trend line in Figure 1), while the AVETMISS data shows a similar pattern of slowing growth until 2000, followed by a significant increase in 2001.

Figure 2 Estimates of VET in schools activities
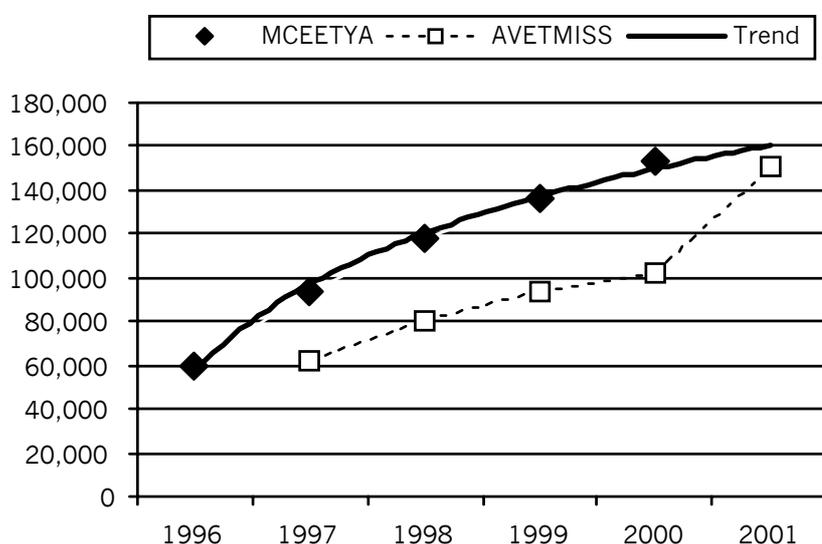
Sources: Compiled from MCEETYA VET in Schools Taskforce, March 2000; MCEETYA National Report on Schooling in Australia 2000 and NCVER Statistical collections and special reports 1997, 1998, 1999, 2000, 2001

With respect to transfers between VET and Higher Education, the data are even less satisfactory. The most widely accepted data (Golding & Valance 2000) indicate that the flow of University Graduates into VET is substantially higher in numerical terms than the reverse flow. The most recent indicative figures from the national VET data collection (NCVER 2002a, 2002b) indicate that in 2001, some 84,000 university graduates were enrolled in

VET, representing 6.5% of all clients whose highest educational attainment was known. Proportionally however, undergraduate commencements of students with TAFE backgrounds represent a significant proportion of all commencements at approximately 15% in 1997 (Golding & Valance, 2000).

As well as statistical studies, a considerable amount of research on the interrelationships of the sectors has been undertaken. For example, Wheelan (2000) examined service provision across vocational and university sectors and Malley et al (2001) specifically examined vocational education and training in Australian secondary schools. The research undertaken by Wallace (2000) is particularly relevant.

While, in this section, we focus on the complexities of the interrelationships we should also acknowledge here that there is an increasing number of successful relationships between the various education and training sectors. These can be found in senior colleges, where TAFE and senior high schools work together; in dual-sector provision, as in combined university and TAFE institutions; in other emerging structures; and in local articulation arrangements of VET qualifications into university degrees. Many of these successes are based not so much on national policy development but on local partnerships and collaborations that have emerged in contextual settings.

Indeed this is perhaps yet another example of a recent shift in emphasis concerning the governance of education and training both here and overseas which emphasise the importance of local and regional decision-making (ILO 2002). As Seddon, Billet & Vergonis (2002) put it, this is an attempt:

> …to devolve decision making to the local level where action consequences are more immediate and more readily realised than in more centralised forms of governance. Working to secure mutuality of interests and reconciliation of conflicting interests among client groups then becomes the hallmark of mature service delivery. (p. 73)

> A case can be made that the goal of a fully integrated cross-sectoral education and training system is best achieved at the local level through partnership and collaboration.

However we argue that this process can be facilitated by developing greater understanding among potential partners of the similarities and differences that continue to influence the ways in which schools, VET and Higher Education institutions are constituted. Without this, the goal of establishing a more seamless and equitable vocational system is made more difficult.

Changing VET

Before discussing the similarities and differences it is worth providing an historical background that explains the nature of the challenges related to establishing a more coherent vocational system.

Historically it would be fair to say that in Australia the VET system has been constructed quite differently from the school and higher education sectors. Indeed the boundaries that created each of these sectors can be understood as constituted through a related series of binaries: training vs education; practice vs theory; knowledge use vs knowledge production; manual vs mental; and skills vs knowledge.

In terms of Australian VET and its antecedents, we suggest that the institution was in the main constructed more through the first category items in each of the binaries rather than the second. This is apparent for example, when we see Australian VET characterised as an institution that services the labour needs of industry and the economy (Goozee 1993). It was an institution responsible for industrial training, with its goals quite distinct from the broad educational goals articulated by school and university education.

Education was for schools and universities while the emphasis for technical colleges was on training. Its legitimacy was in some senses dependent on its connections with government and industry. It employed practicing tradespeople as instructors, and more importantly had a near monopoly right to issue trade and other occupational certificates – the currency for gaining skilled labour status for the industrial workforce. Its status as an educational institution was at best marginal and limited to training the skilled and semi-skilled of the industrial workforce. The justification for this being claimed, not least by the universities themselves, that technical education concerns itself only with the transmission of technique, a position far removed from the broader educational goals pursued by schools and universities.

Educating VET

The positioning of VET, as a narrow training institution responsible for providing industry with a suitably skilled workforce was challenged by the publication of the Kangan Report (Australian Committee on Technical and Further Education 1974). This report articulated an institutional identity for VET that continued to celebrate its traditional vocational purpose but also provided the sector with an educational philosophy with aims and purposes similar to other educational institutions.

VET, however remained an institution for knowledge users, not knowledge producers.

The Report thus continued support for the distinction between vocational and higher education along similar lines to those of Ashby (Hermann 1976).

Universities continued to be constructed as the sites of knowledge creation, with the other institutions of education as the sites of knowledge use.

The Kangan Report constructed the newly established TAFE system using ideas that were largely consistent with those used to construct the institution of modern schooling. However, it reinforced the separation of vocational from higher education based on the assumption that vocational education and training was not in the business of creating generalisable knowledge, but was concerned with the use of this knowledge in practice.

So the legacy of Kangan was that the institutional identity of TAFE was shaped by discourses that construct it as an educational institution committed to the liberal democratic principles of the modern state. While continuing to emphasise its connection with the world of work, the institutional discourses also emphasised its role in individual development, educational access, second chance educational opportunities and social and economic progress. To this day, these discourses remain powerful identity forming practices within the institution of TAFE, not least in their influence on TAFE teachers' understanding of their role in education. However, contemporary economic conditions are disrupting all these institutional identities creating a crisis of identity both at the institutional level and at the local level of practice (Chappell & Johnston NCVER 2003).

Similarities across sectors

The earlier discussion draws attention to the context and manifestation of the new vocationalism and this has lead to a disappearance of the marked differences between the sectors. Indeed symptomatic of the new vocationalism is a difficulty in defining each of the education and training sectors, or at least the boundaries around each. Whereas previously there was clarity around sectoral boundaries, in terms of kind of programs, learning outcomes, learners, and qualifications, this is no longer the case. The desire to integrate vocational and academic studies, secondary and post-secondary education, and education and work, has contributed to a blurring of boundaries – not only in terms of the content of curriculum but also the institutions.

In terms of content, as discussed earlier, increasingly there is a shared understanding in terms of what is new about work, knowledge, learning and skills and the relationship between them. These include understandings of a new order of work, and an ascendance of working knowledge. This kind of knowledge overrides conventional binaries around theory and practice, as well as liberal and vocational educational goals (Symes 2000). Indeed while questions around what is knowledge and for whom it is working would no doubt be debated, they may well be answered in similar ways across the education and training sectors.

While specific technical skills are still integral to curriculum, across all sectors and institutions there is a foregrounding of non-job specific work skills. These are named variably as generic skills, key competencies, employability skills, or in the higher education sector, graduate attributes. While there is ongoing contestation and discussion around the definition of these skills their various manifestations point to a shared understanding of the significance of skills that provide a bridge between education and work. In a dynamic knowledge-based economy the job-specific skills that workers need cannot be readily predicted, and are subject to on-going change. What is important, therefore, is the capacity to continually adapt and upgrade through key or generic skills that can be applied in different settings.

Connected to this shared focus on generic work skills is the necessity to mirror changing pedagogical practices across the sectors. Typically, curriculum features learner-centred pedagogies with its focus on individual responsibility and a shift in talk away from teaching to learning, from the teacher to the learner, from the content to the process. Work experience, either real or simulated, is almost an obligatory feature.

One of the unanticipated consequences of the latter is an increased competition for work placement and work experience sites and collaborations. There are simply not enough suitable workplaces that can provide links with educational institutions and learners to make the workplace learning experience a productive one.

While across courses and within courses there is some variation in pedagogical practices, many use project work as a deliberate pedagogical device to assist in the development of the skills and attributes considered essential in today's workplaces.

These pedagogical changes have had profound effects in every sector on the nature of the learning experiences of learners and, arguably on learner identities. Part and parcel of this effect is an accompanying redefinition of the identities of the institutions themselves and their staff (Boud & Solomon 2001). For example, in the higher education sector universities can no longer be seen, and can no longer see themselves, as the primary site of knowledge production. In the context of the increasing emphasis given to workplaces and work as a source of knowledge and as a site of learning, universities are busy repositioning and understanding themselves to be co-producers of knowledge. There are grounds for believing that for VET too this may be emerging as an important factor in its institutional identity (Boreham et al 2002).

Differences across the sectors

While boundaries between sectors are blurring as they increasingly share understandings about the nature of work and the importance of certain kinds of knowledge, skills, and learning, their distinctive histories, structures, cultures and purposes continue to shape their identities.

Importantly these distinctions in some significant ways are reinforced by the diversity of accountabilities demanded of the various stakeholders and systems of governance involved in the sectors and institutions. The most obvious is the dominance of federal funding sources for higher education provision and State funding for TAFE provision. This is accompanied by a diversity of government and agency groupings involved in the provision of vocational education and training in secondary schools. Further, this is complicated by

different departmental funding and structural arrangements across the States and the varying networks of clusters at the community or local levels (Malley et al 2001). While these variations can be understood as a complicating factor, at the same time, either in spite of or because of the complexities, at the local level a number of successful articulation arrangements have been organised. It seems that credit transfer across sectors is frequently and more successfully negotiated locally.

The blurring of sector boundaries discussed above has a number of contradictory effects. On the one hand, the 'sameness' has been taken on by institutions and there have been benefits in terms of the sharing of curriculum and pedagogical practices. On the other hand, this sameness, has also contributed to an increased move by institutions to differentiate themselves. In part this is a consequence of the competitive environment in which all the sectors find themselves.

We suggest that new institutional identities are being forged because of new vocationalism brought on in part by changing ideas concerning knowledge, skills and learning.

However, we also argue that goals of establishing recognition, articulation and seamless pathways between the various institutions of education and training hinge not so much on creating structural mechanisms that facilitate the achievement of these goals but rather on a settlement of the different goals that once established the boundaries between these institutions. We argue here that there are grounds for believing that the new ideas concerning knowledge, skills and learning provide an opportunity to reach such a settlement.

The possible way forward

Government desires to have a fully integrated education and training system that meets the social goal of life-long learning and supports the human resource needs of the contemporary economy. In many ways, however, this desire is complicated by education and training sectors having different funding mechanisms, governance structures and so on.

One suggestion has been that Australia move to a tertiary education model that eliminates the structural divide between VET and universities (Wallace 2000). Moves such as this would have to overcome not only institutional resistance but also public perceptions of the different social, cultural and economic roles of these educational sectors. However, it is beyond the brief of this paper to explore these issues and suggest what this might mean in terms of future policy directions that could be used to facilitate greater integration.

In this final sub-section we restrict our discussion to three possible mechanisms that can support better integration which remains a significant government goal.

First, almost all sectors of education and training now speak of developing a suite of general capabilities that appear to have a high premium in the world of work. These generic skills and attributes are in some senses a common focus across the sectors. They offer a common language through which the different sectors are able to negotiate the processes and outcomes of aspects of their courses and programs.

> Therefore, Training Packages should give at least equal importance to generic skills outcomes as performance outcomes.

Second, Training Packages are central to VET provision. They describe in detail competent work articulated by industry. This feature of their development has created tensions, as many VET providers felt excluded from the process. The question of educational input into the production of Training Packages is now even more significant given the spread of VET into schools. Moreover, achieving greater recognition and articulation between VET and Higher Education might also be accelerated if Higher Education is better informed and has some input into their development.

Consideration may need to be given to involving the different education and training sectors in the development, review and interpretation of Training Packages.

Third, there is increasing evidence that work is now a major focus for learning in all education and training sectors. Moreover this brings with it common pedagogical questions around the integration of work and learning that now occupy the minds of educators at all levels. Learning and assessment practices, generic skill development, knowledge acquisition and production and relationship building between education and work are common pedagogical issues facing all education and training sectors.

Making the pedagogical practices that can be used to achieve the new learning goals demanded by contemporary workplaces more explicit is an important step in facilitating better integration of education and training across sectors.

Section 5 Where to From Here?

Introduction

The evidence presented in this report shows that the contemporary work environment in Australia is significantly different from what it was 1989 when the national training reforms began. So too are the understandings of knowledge, skill and learning that were once used to define Australian education and training sectors and their different roles in social and economic development.

This evidence presents significant challenges and has widespread implications for both public policy and education and training practices in VET – which go well beyond the immediate concerns of the current review of Training Packages. However, in this section we confine our comments to three major issues emerging from this report which have significant implications for the future direction for Training Packages.

The issue of representation

Currently Training Package design and development is the responsibility of the relevant industry ITAB that involves national representative bodies from industry in the development of Training Packages. This report indicates that, although industry has a central role in determining skill needs, the issue of industry representation has become more complex.

- First, contemporary employment patterns and new organisational structures increasingly appear at odds with the concept of industry as traditionally understood. The contemporary economy increasingly consists of new forms of business organisation characterised by shifting networks of production and new business and enterprise alliances requiring more fluid combinations of skill sets. Often the mix of skill sets, their relationship with each other and the training needs of the work undertaken by people in these networks fall between industry sectors. It would be difficult for ITABs as currently constituted to represent or indeed recognise these new organisational arrangements. Further, reaching a consensus from an industry sector is likely to become increasingly difficult as these new organisational arrangements spread through the economy.

- Second, contemporary skill needs often emerge out of the local and regional economic realities that confront industry, and SMEs and are often best understood at local and regional levels. Different forms and levels of representation are needed in the more fluid environment in which cross-industry and inter-organisational collaborations have become more common. A further complication to this story is that the rates of change between and within industry sectors are highly variable, therefore standard system wide responses are not as useful as perhaps they once were.

- Third, stakeholder interest in the types and mix of skills required in the contemporary economy is not confined to industry. Indeed the changing nature of skill and its importance in terms of future economic development is such that input in determining skill needs must be more widely canvassed. Local, regional and State economic initiatives, SMEs and local and remote communities all have an interest in VET provision, which is currently under recognised.

- Fourth, the development and maintenance cycle for Training Packages complicates this issue. Ensuring rapid responses of the VET system to novel training needs at the local and regional level within the current Training Package arrangements is difficult.

How current Training Package arrangements can be organised to allow greater representation from, and responsiveness to, the different interests of industry, local employers and enterprises, and new forms of cross-industry and inter-organisational collaborations and networks is a major challenge.

The issue of flexibility

Training Packages are designed to specify the competence required to perform particular jobs within an industry. They also specify the standards that must be met through the specification of assessment before a qualification is awarded. Attempts have been made to make Training Packages more flexible in terms of the units of competency that must be completed and the mix of units that can be taken which lead to a qualification. However this flexibility option is limited and varies considerably between sectors and occupations and from industry to industry. This report suggests that for various reasons there will be increasing demand for Training Packages to be more flexible.

- First, many employers in an increasingly competitive environment are interested in training that focuses on the specific and immediate skill needs of their employees, and which if developed produce immediate and tangible benefits. They are less interested in training that results in a qualification. The weakening of the relationship between employers and employees because of changing employment patterns can only add to this view of training by employers.

- Second, on one hand, new employment patterns characterised by portfolio work, short term contracts and frequent job change often prevent workers fully completing, or for that matter needing to complete, a qualification from a Training Package. On the other hand, employees demand a qualification that enhances their employability in an uncertain job market, where both vertical and horizontal career movements are increasingly common.

- Third, as individuals respond to new employment patterns and the uncertainty of stable employment, they are increasingly being obliged to draw on their own resources to construct and adapt their skills sets to compete in this new work environment. This opens up important equity issues for government. In addition, as individual clients of VET they expect a degree of service that matches their needs, work aspirations and the realities of their employment. They expect flexibility not only in delivery options but perhaps more importantly in the content of their course, in order to provide them with a marketable set of skills endorsed and recognised in a qualification. This may mean choosing different combinations of skill sets than those embedded in Training Packages.

- Fourth, VET providers are looking at ways to develop greater integration of work and learning. Providers are becoming more aware of the opportunities and limitations that the work environment places on learning and learners. They also recognise that there are different drivers of learning in workplaces. These drivers have little to do with the logic of learning contained in Training Packages and occur because of immediate and specific work requirements. VET providers are becoming more involved in designing learning around the needs and realities of work rather than the requirements of Training Packages.

How current Training Package arrangements can be made more flexible yet retain the integrity of meaningful and transferable qualifications required in an increasingly uncertain labour market is a further challenge for Training Packages.

The issue of implementation

Training Packages are not designed to provide detailed guidance regarding teaching and learning strategies. Indeed given the current diversity of providers in the contemporary VET system a task such as this would be a daunting one. Nevertheless successful implementation is important if the goals of Training Packages are to be achieved. Furthermore, the evidence in this report suggests that decisions about the processes of teaching and learning in VET programs have become even more crucial in the context of changing understandings concerning knowledge, skill and learning.

- First, research evidence suggests that VET teaching and learning practices are becoming more, learner-centred, work-centred and attribute-focused. This shift in orientation requires teachers and trainers to have a sophisticated appreciation of the pedagogical choices available and implement learning strategies consistent with the different contexts, clients and sites in which contemporary vocational learning takes place. Today different VET providers have different requirements in terms of the qualifications of their teachers and trainers and this has implications in terms of meeting the increasingly complex educational decisions that are now required.

- Second, there is evidence that the demands of contemporary work call for higher skill requirements irrespective of current skill classifications. This has been caused by the uptake of new technologies in a wide range of industries but is also the result of changing organisational structures and the hollowing out of middle management functions. This in turn has altered the working relationships in many contemporary workplaces. Further, these skill requirements focus more on cognitive, social, interpersonal and attitudinal skills than on technical skills that once dominated VET provision. These kinds of skills are less amenable to measurement, are highly contextualised and therefore difficult to classify in terms of tradition skill levels.

- Third, the role of VET practitioners is changing. The era of standardised training for particular occupations is coming to a close. The role of many VET teachers and trainers is increasingly becoming a mixture of human resource and development consultant, learning broker, curriculum developer as well as learning manager and teacher. Practitioners are increasingly involved in designing learning around the immediate needs of individual and business clients rather than the requirements of Training Packages.

- Fourth, the move to better integrate work and learning relies on VET providers finding employers willing and able to offer work experience and work placements to the majority of VET learners who are not part of their workforce. Given the extension of VET provision in schools and other RTOs this requirement is likely to become increasingly difficult to organise and manage. For these reasons it seems likely that increasing opportunities for learning at work rests largely with the relationships local and regional VET providers have with employers and other stakeholders in the community.

- Fifth, evidence suggests that the achievement of general employability skills nominated as being important in the contemporary economy relies heavily on the selected learning processes and strategies. In short, outcome and process are inextricably connected. Consequently, identification of these skills outcomes in Training Packages without sufficient attention to learning process is inadequate in terms of quality assurance.

Another important challenge is how and in what ways Training Packages need to be modified to support teachers and trainers in meeting the diverse and sometimes contradictory needs of VET clients and the requirements of existing Training Packages.

Final comment

The issues outlined above and throughout this report present real challenges for the future of Training Packages. VET is now a system characterised by increasing diversity. Vocational learning is taking place in many different sites, VET clients expect VET to meet multiple and sometimes contradictory needs, pedagogical choices in VET delivery are expanding, and the boundaries that separated educational institutions from each other and from workplace and organisational learning are becoming increasingly blurred. Training Packages are in many ways at the centre of this increasingly complex and changing system and a more diverse range of stakeholders are looking to Training Packages to provide guidance on a broad range of issues in contemporary VET provision – issues that Training Packages were not originally designed to address.

In this context, arguably the most important aspect of any review of Training Packages is to clarify their role and function in contemporary VET provision, and perhaps more importantly what Training Packages are not designed to do in this changing environment.

Conclusion

This report sets out the case and challenge for change in VET provision as a result of quite rapid changes that have occurred in work and the organisation of work in the Australian economy.

New ideas concerning knowledge, skill and learning can contribute to the change process, particularly in terms of promoting learning strategies and practices that integrate work and learning and encourage the development of key employability skills in the uncertain world of contemporary work.

An important goal for vocational education and training providers is to achieve higher levels of employer engagement in investing in skills development. This can be achieved in part through greater local and regional engagement with questions about what, how, where and when learning takes place.

Perhaps more importantly it requires employers and providers to find mechanisms that lead to much greater integration of work and learning. This requires employers to recognise the business value of learning-conducive work, and VET providers to recognise the importance of work-conducive learning.

Finally, education and training systems need to respond to individual learners who are increasingly the architect and builder of their own skills trajectory, demanding valuable and relevant learning experiences that are not only useful for immediate employment but which enable them to contend with and adapt to an increasingly uncertain labour market.

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