Submission no: 46
Received: 31 March 2003

Issues in Employer-based Training and Development

Submission to the Senate Employment, Workplace Relations and Education References Committee on Current and future skills needs

Associate Professor Andy Smith
Acting Director, Centre for Enhancing Learning and Teaching
Charles Sturt University
PO Box 588
Wagga Wagga NSW 2678
AUSTRALIA
Ph (02) 6933 4305
Fax (02) 6933 2986
Email asmith@csu.edu.au

March 2003

There is a widespread and persistent belief in Australia that employers do not spend enough on the training and development of their employees. In the early 1990s, this belief permeated government thinking (Dawkins, 1988) and resulted in the implementation of the Training Guarantee Scheme. This was a form of levy-exemption scheme (Gasskov, 2001) with payroll costs in excess of A$200,00 to spend up to 1.5 per cent of their payroll on "structured" training for their employees. Employer protests at what was perceived as a training tax or impost, particularly from small business, led to the demise of the Training Guarantee in 1994 and its final abolition by the incoming coalition federal government in 1996.

In more recent years, moral panic overt the perceived flight of Australian employers from training in the wake of the abolition of the training guarantee has prompted calls for governments to take action to compel employers to invest ion the training of their workforces (Hall, Buchanan and Considine, 2002; Cully, 2002). Concern over the apparent decline in employer investments in training has been based on data collected by the Australian Bureau of Statistics in the early to mid 1990s on training expenditure (*ABS, 1990, 1991, 1994, 1997). These statistics are summarised in Table 1 and show a clear rise in employer expenditure on training to 1993 followed by a decline in 1996.

Table 1
Employer Training Expenditure (July - September 1989-96)

	1989	**1990**	**1993**	**1996**
% Employers reporting training expenditure	*22*	*24*	*25*	*18*
% Payroll Spent				
Private Sector	*1.7*	*2.2*	*2.6*	*2.3*
Public Sector	*3.3*	*3.2*	*3.4*	*3.2*
Total	***2.2***	***2.6***	***2.9***	***2.5***
Average expenditure per employee (A$)	*133*	*163*	*191*	*186*
Average training hours per employee	*5.5*	*5.9*	*5.6*	*4.9*

Source: Australian Bureau of Statistics (1990, 1991, 1994, 1997).

The ABS data shows that during the early 1990s employer investments in training rose but that from 1993 to 1996 investment declined in terms not only of expenditure but also in hours of training per employee and spending per employee. Commentators have seized upon this data to show that the demise of the Training Guarantee has led to a significant fall in employer commitment to training.

However data from other sources has produces a more optimistic view of employer training activities. The Survey of Education and Training shows that 80 per cent (ABS, 1998) of Australian workers receive some form of training from their employer. This may not be the formal, structured training that is recorded in the Training Expenditure Survey but most training provided in workplaces is informal and in many cases on-the-job. Data from 2001 (ABS, 2002), shows that the

proportion of Australian workers undertaking work related training grew from 30 per cent of the workforce in 1993 to 45 per cent in 2001. 37 per cent of workers completed at least one work related training course in 2001. Despite the apparent decline in employer training expenditure since the mid 1990s, the majority of Australian workers are receiving some form of training from their employers and many are undertaking formal, off-the-job training in their firms.

A companion survey to the Training Expenditure Survey confirms this more optimistic picture of employer provided training. The Training Practices Survey followed up the same sample of employers who replied to the training Expenditure Survey in order to gain more detailed information on the nature and extent of the training they provided to their workers (ABS, 1994b, 1997b). The results of this survey showed that 61 per cent of employers provided training to their workers in 1996 with 35 per cent providing structured training. A key finding from the training expenditure survey is that larger employers provide more training than smaller employers. The Training Practices Survey underlined this finding showing that 93 per cent of large employers (employing more than 200 people) provided structured training for their workers (ABS, 1997b). The notion that small businesses do not train their workers was also investigated in the training practices survey. In this case the data revealed that it was in the micro-business end of the spectrum of firm size that the provision of training declined sharply. 60 per cent of employers employing between 10 and 19 people provided structured training for their workers but only 20 per cent of employers with less than 5 people.

Internationally also, the bleak picture of Australian employer commitment to training that informed the deliberations surrounding the introduction of the training guarantee (Dawkins, 1989), particularly in terms of the training of existing workers, are not necessarily borne pout by comparative studies. Comparable international data on employer training is notoriously difficult to gather and to interpret (Freeland, 2000). Differences in national training systems lead to significant variation in the definitions of employer training that are adopted by international agencies. However, broadly comparable data collected by the European Union, the American Society for Training and Development and the ABS is presented in table 2.

Table 2

Percentage of wages and salaries spent by employers on employee training

Country	**% payroll**	**Country**	**%payroll**
United Kingdom (1999)	3.6	France (1999)	2.4
Singapore*(1997)	3.1	Norway (1999)	2.4
Denmark (1999)	3.0	Canada ***(1998-2000)	2.0
Netherlands (1999)	2.8	USA ***(1998-2000)	1.9

Australia (1996)**	**2.5**	Germany	1.5
Finland (1999)	2.4	Japan ***(1998-2000)	1.4

Source: All figures derived from the Eurostat CVTSII database except those marked with asterisks.
* Brown, Green and Lauder, 2001.
** ABS, 1997a
*** van Buren, 2002

The data in this table suggests that Australia lies towards the upper end of the normal range of employer expenditure on training of existing workers of between 1 and 3 per cent of payroll costs. It is interesting to note from this data that countries such as Germany that have been held up in the past as models for the Australiuan training system, fare less well when comparisons are based on the continuous training provided by employers than on the training provided for young people through the apprenticeship system.

In summary, it appears from the available data that there is a significant amount of training provided by Australian employers. Some 80 per cent of Australian workers are receiving some form of training from their employers. Between one third and one half of Australian workers are taking part in formal, structured training in the workplace with 70 per cent of workers taking part in on-the-job training. Some 60 per cent of Australian employers provide training and between a quarter and a third of enterprises are providing formal structured training.

Why do employers train?

Quantity, of course, is no guarantee of quality. As Hall et al (2002) have pointed out, recurring skills shortages in the Australian economy highlight the fact that the training provided by Australian employers is necessarily meeting the long term skills requirements of employers. However, the reasons that employers train their workers depends more closely on the specific business needs of the enterprise rather than the general skills requirements of the economy or the industry.

Work undertaken in Australia on the factors that drive employer provided training underscores the complexity of the training decisions taken at the firm level (Smith and Hayton, 1999). The model developed by Smith and colleagues from Charles Sturt University and the University of Technology, Sydney in their case study based research into the drivers of enterprise training distinguishes between the drivers of training decisions which are often quite simple and at the time of the research comprised the introduction of workplace change, the implementation of quality assurance schemes such as Total Quality Management and the introduction of new technology. But the final form that the training takes is determined a complex set of moderating factors which shape the initial impetus of the enterprise to train. Theses moderating factors include the size of the enterprise (larger enterprises with greater resources are more likely to implement formal, structured training as described by the training statistics), the traditions of the industry, the occupational structure of the workforce and the industrial relations climate.

Further research into the relationship of employer provided training and the incidence of workplace change (Smith *et al*, forthcoming) confirmed the central driving role of change programs to enterprise training. Of five programs of organisational change investigated only the implementation of lean production with its emphasis in the Australian context on downsizing and cost cutting (Dawkins *et al*, 1999) resulted in a lower commitment to training, Other programs, particularly the implementation of TQM and teamworking had a strong positive effect on the provision of enterprise training. This research also founds that, aside from organisational change, business strategy was a key influencing factor in the provision of training emphasising the enterprise specific nature of much of the training that occurs at the enterprise level and providing an explanation for the disjuncture between the relatively high incidence of enterprise training and the persistence of national skills shortages. The research revealed that the nature of training is changing in Australian enterprises. Training was becoming more decentralised with much of the responsibility passing from training specialists to line managers and training occurring more frequently in the workplace rather than in formal classroom style settings.

Skills requirements of enterprises

There are a number of forces that are changing the skills requirements of employers. Firstly the occupational structure of the workforce has changed significantly in the last 20 years. Australia., in common with many developed nations, has moved from an economy based on primary industry and manufacturing to one that is based on service industries. This change has been reflected in the kinds of occupations that have risen and fallen in those years. Maglen and Shah (1999) used the categories devised by former US Labor Secretary, Robert Reich, to analyse the changing composition of the Australian workforce over the period 1986 to 1996. This analysis shows clearly that the strongest growth in employment over the decade was in higher level symbolic analytic services and in in-person services, particularly at the lower skill end of the in-person service category. Thus, occupational change has been polarised with most of the growth occurring in the higher skills and lower skills services sectors but with only low growth or decline in the middle skill level jobs—especially in the routine production services sector. This polarisation of employment growth has also been noted by Cully (1999) who showed that over the period 1993–99, the highest employment growth occurred in the professional and associate professional categories (skill level 1) and in the elementary clerical, sales and service workers category (skill level 5).

The nature of work has also changed, there are fewer full-time workers and many more part-time and casual workers in the Australian economy. Australia has one of the highest levels of workforce casualisation in the developed world (Hall, Bretherton and Buchanan, 2000). The proportion of workers employed casually by Australian employers grew from 16 per cent in 1984 to 27 per cent by the end of the 1990s (VandenHeuval and Wooden, 1999). Many jobs have been outsourced as Australian enterprises have attempted to reduce the costs of their operations and focus on core activities. VandenHeuval and Wooden (1999) estimated that in 1999 between 4 and 10 per cent of workers were employed as contractors to other organisations, although this figure may understate the actual extent of outsourcing as many self-employed workers may not categorise themselves as contactors.

Fin ally, demographics is exerting a significant and growing influence on the skills requirements of employers and their ability to meet those requirements. The Australian population is rapidly ageing in line with international demographic trends. The median age of the Australian population currently at 34 years will increase to about 45 years by 2051. By this time, over 25% of the population will be aged over 65 years compared to 10% in 1997 (Smith, 1999). A key contributor to the greying of the population is the increasing health of older people. Advances in medical technology have led to a steady increase in the life expectancy of people, particularly in the developed world. For non-indigenous Australians, life expectancy at birth in 19967 was 81 years for females and 75 years for males. These rates are confidently expected to grow in coming years.

At the same time, the ageing of the population is being accompanied by a significant demographic 'bust', with the lower birth rates of recent years contributing to a steep decline in the numbers of young people aged 19–24 years. The combination of more people living longer and fewer young people in the population will have a significant impact on the age structure of the Australian workforce. As employers compete for a decreasing number of younger workers, they will be compelled to reconsider the role of older workers. Labour force participation rates decline sharply for both men and women after the age of 50 years (Ball, 1999). In the future, it is unlikely that employers will be quite so willing to let their older employees leave or retire as they find it increasingly difficult to recruit younger people.

Employers in Australia, as in most developed nations, believe that the skills requirements for jobs in their enterprises are rising. Work carried out for the Australian Industry Group showed that not only were the technical skills requirements of jobs increasing but that the nature of the skills which employers were demanding was also changing (Allen Consulting Group, 1999). Increasingly employers are looking for generic rather than technical skills. Skills such as the ability to work in teams, to communicate, to solve problems and provide leadership were central to employers hiring decisions. Employers felt that they could meet the technical training requirement for many of their jobs but possession of these generic skills, required across a range of occupations and industries, were the critical skills required by the workforce of the future. In the USA the requirements for generic skills has been associated with the rise of the high performance firm (Osterman, 1995). There does not appear to be any single set of high performance work practices, rather firms tend to introduce groups or 'bundles' of practices that suit their individual circumstances. However, high performance work practices will often involve the introduction of some form of team working, benchmarking against industry and world best practice, and an emphasis on reskilling the workforce through the extension of training and development opportunities. In Australia, Curtain (2000) has analysed the results of the 1995 Australian Workplace Industrial Relations Survey to produce a list of characteristics associated with high performance in the Australian context. These include:

- flexible working arrangements
- development of a corporate ethic and culture
- higher investment in human resources
- co-operative employee relations

- use of performance indicators and benchmarking

Curtain argues that the adoption of these forms of work practices help firms to increase their performance and compete more effectively on a global scale. A key element in these high performance bundles is the focus on the development of individual employees and their intellectual capital.

However, the development of the new skills in the workforce will be complicated by some of the factors discussed above. Access to training in firms is not evenly distributed amongst the workforce. Baker and Wooden (1992) have shown that training provided by employers tends to be focused on those who are already well-educated , who work in white collar occupations, are employed full-time and come form native rather than an immigrant background. Those with lower skills or working in lower skilled positions tend to receive less training than those working in higher skilled jobs. The growth of occupations in both the low skilled and high skilled areas of the labour market suggests that an ever increasing number of workers will locked pout of receiving employer provided training. Similarly, those employed in casual jobs receive very little training from their employers (KPMG, 1998). Labour hire firms tend to rely on recruiting their skills they need from the labour market and pout the onus on individual workers to ensure that they maintain their own skills. VandenHeuval and Wooden (1999) analysed the incidence of employer provided training for casual and full-time workers. The results are presented in Table 3.

Table 3

Incidence of training by employment status and by hours of work, 1997 (% of persons who had a wage and salary job in last 12 months)

Employment status	In-house training	Employer supported external training	Other external training
Permanent			
Full-time	40.7	16.1	8.5
Part-time	38.5	10.9	11.6
Casual			
Full-time	14.4	3.2	13.6
Part-time	14.8	2.9	10.08

Source: VandenHeuvel and Wooden (1999)

Table 3 shows clearly that casual employees are significantly disadvantaged in terms of employer sponsored training, whether it is provided in-house or externally. This is not a surprising finding as employers may view casual employees are more likely to leave the enterprise as a result of their employment arrangements and therefore less worthy of investment. However, casual workers appear to undertake a significant amount of external training on their own account, more than their permanent counterparts. This finding supports the notion that workers are becoming more responsible for their own training and development and that training is becoming a more individualised process within Australian enterprises.

Older workers also tend to receive less employer provided training than younger workers. This reflects the traditional skills formation model that has operated in Australian enterprises. This model relied on the recruitment and training of young people to fill positions left by retiring workers – a front end model of skill formation. However, the increasing scarcity of young workers will compel employers to retain their older workers longer and provide them with the training to adapt to changing skill requirements of enterprises. This lends a new meaning to the much-abused concept of "lifelong learning". There will be a demographic and economic imperative on employers to ensure that workers are not only trained in their early years at work but remain learners throughout their working lives.

Changes to the national training system

The national training or vocational education and training (VET) system has been subject to major policy reform since the late 1980s (Smith and Keating, 1997). Australia's VET reforms have reflected an international concern with the link between economic growth and the performance of VET systems (Keating et al, 2002). In the early 1990s, the federal Labor government identified the need to make the VET system entrusted with the development of the skills of the national workforce more responsive to needs of industry (Dawkins, 1989). The result was a series of reforms that collectively became known as the National Training Reform Agenda. The major planks of the training reform, agenda included an ambitious push to reform curriculum in the VET sector by making all training competency-based. This involved the development of competency standards for all occupations in the economy, a task undertaken by a large number of tri-partite bodies, co-ordinated by the National Training Board and completed by the mid 1990s. Other reforms included the establishment of a framework for the national recognition of training so that qualifications gained in one state would be recognised nationally, the introduction of an "open" training market in which private training providers could compete with the large publicly funded VET providers, TAFE colleges, and the implementation of the Training Guarantee scheme discussed earlier (Allen Consulting Group, 1994). Together these and other reforms produced a revolution in the Australian VET system, fundamentally changing the basis on which vocational qualifications were awarded, breaking the public monopoly on training, giving industry bodies a major role in policy making in the sector and creating a national training system overseen by a joint sate-federal statutory authority, the Australian National Training Authority (ANTA).

Since the mid-1990s the pace of reform has slowed considerably. Many of the innovations introduced under the aegis of the training reform agenda have become integral to the VET system and are no longer controversial. However, changes continue to occur in the VET system which have significant ramifications for employers. Competency-based training has evolved with the implementation of the rather curiously named Training Packages (Smith, 2002). Training Packages comprise sets of qualifications, competency standards and assessment guidelines for for qualifications relating to particular industries and occupations. They describe the qualifications that are appropriate to the industry or occupation and set out the competencies that have to be passed in order to gain the qualifications. In all, there are some 80 Training Packages that have been developed through tri-partite industry and occupational bodies, usually the Industry Training Advisory Bodies. Although

subject to much criticism in their early days for their apparently rather narrow approach to vocational education (Down, 2002). Training Packages have become successfully embedded as the basis for most accredited training in the country. The implementation of Training Packages hasmade it easier for accreidted training to be delivered in the workplace by industry, sometimes by eneterprises' own Registered Training Organisations, and sometimes through partnerships between enteprrises and Vet providers in a way that was not previously feasible (Callan, 2003). They have also been successful in introducing accredited training and formal qualifications into industry and occupational areas that formerly had little commitment to training.

A major development in the VET system since 1995 has been the dramatic growth of the apprenticeship and traineeship system. In 1998, the federal Coalition government combined the former apprenticeship system with the newer traineeship system (Kirby, 1985) under the umbrella of New Apprenticeships. Although the merger has only been partially successful, 4 year apprenticeships are still commonly viewed as a different form of training from the 1-2 year traineeships, the numbers of new apprenticeships has trebled since 1995 with many new occupations brought into the system.

The traditional apprenticeship system was focused on the skilled trades and was designed primarily for young males entering a skilled occupation (Kirby, 1985). In 1985, the Kirby Committee of Inquiry recommended the introduction of a new shorter traineeship focused on preparing youth for occupations other than those covered by the traditional skilled trades. Traineeships, however, languished for a number of years. Private sector employers in particular were unwilling to employ trainees. Since 1995, however, encouraged by government campaigns and by wage subsidies, employers have employed record numbers of both trainees and apprentices. In 2001, there were 330,000 apprentices and trainees in Australia, nearly three times the 1995 figure of 120,000 (NCVER, 2002). Apprentices and trainees are also employed in a much wider range of occupations and industries. The traditional skilled trades that used to account for all apprenticeships now account for only 45 per cent of new apprenticeships as the system has expanded to include occupations in retail, clerical, sales, production and transport. In terms of the proportion of working age Australians employed in an apprenticeship or traineeship, Australia ranks as the fourth largest system in the world behind only the "dual system" countries of Germany, Austria and Switzerland (Robinson, 2001).

This dramatic expansion of the apprenticeship and traineeship system has not been without controversy. Dogged by allegations of misuse of subsidies (Schofield, 2000), poor quality training and high levels of attrition from new apprenticeships, a number of States conducted inquiries into the operation of the new apprenticeship systems in their jurisdictions which led to a Senate Inquiry into the Quality of the VET system in 2000 (Senate Employment, Workplace Relations, Small Business and Education References Committee, 2000). Although instances of rorting and poor quality were relatively rare and confined to certain forms of new apprenticeship training, the Australian National Training Authority acted to restore public faith in the quality of the VET system by instituting the Australian Quality Training Framework (AQTF). Under the AQTF, providers of training whether public or private have to meet certain minimum standards before they are registered to deliver accredited training (Smith &

Brennan, forthcoming). The AQTF imposes strict standards on training providers which are regularly reviewed.

Despite the slowing of the pace of reform from the frenetic years of the early 1990s, the Australian training system continues to grow and adapt. Many of the more recent reforms have been driven by the desire of governments at federal and state level to bring the VET system more closely into line with the expressed needs of employers. Employer bodies such as the Australiuan Chamber of Commerce and Industry play a key role in the development of VET policy in Australia. In recent years the predominance of employers in the VET system has been challenged by those advocating a greater role for educationalists in determining policy. The recent announcement of thew appointment of a prominent educationalist to the ANTA Board reflects some change in this direction.

Conclusion

It has been 15 years since the Australian Arbitration and Conciliation Commission enshrined the place of career paths and better access to training and development for Australian workers in the National Wage Case of 1988 (Australian Conciliation and Arbitration Commission, 1988). Since that time there has been a long process of reform in the national training system aimed at making it more relevant to the needs of employers and encouraging employers to provide better training and development for their workers. But do Australian employers provide more and better training for their workers now than they did on the late 1908s? As this article has shown, the evidence on employer training activity is often difficult to interpret. However, it is clear that there is more employer training carried out in Australian enterprises than is usually supposed. Most Australian workers are receiving training from their employers, and many are receiving structured, formal training. Most Australian enterprises provide training for their workers, apart from the micro-business sector where the form and meaning of training may be interpreted quite differently (Billett, 2000). It appears that training is triggered by a variety of factors in enterprises but that the critical factor is the link to the strategy of the business. This shows a healthy realisation amongst employers that training is a strategic issue and needs to be addressed in top level decision making forums.

Changes to the nature of training suggest that employers are looking to get greater value from their investments in training by decentralising its operation and carrying out training nearer to the point of production. At the same time the introduction of training packages has encouraged many employers to institute more formal training for their workers that leads to nationally recognised qualifications. Many more enterprises are employing apprentices and trainees than was the case only 6 years ago. More can be done, especially in the small business sector where the bulk of Australian are employed but the evidence of the last few years is that training and development has become a critical competitive strategy for Australian employers and will continue to be so in the future.

References

Australian Conciliation and Arbitration Commission. 1988. *National wage decision*, Print H400. Australian Conciliation and Arbitration Commission, Melbourne

Allen Consulting Group. 1994. *Successful reform: competitive skills for Australians and Australian enterprises*. Report to the Australian National Training Authority. Melbourne, Allen Consulting Group.

Allen Consulting Group. 1999. *Training to compete: the training needs of industry.* Report to the Australian Industry Group. Sydney, Australian Industry Group.

Australian Bureau of Statistics. 1990. *Employer Training Expenditure Australia, July to September 1989.* Canberra, AGPS.

Australian Bureau of Statistics. 1991. *Employer Training Expenditure Australia, July to September 1990.* Canberra, AGPS.

Australian Bureau of Statistics.1994. *Employer Training Expenditure Australia, July to September 1993.* Canberra, AGPS.

Australian Bureau of Statistics. 1994b. *Employer Training Practices, Australia 1993.* Canberra, AGPS.

Australian Bureau of Statistics. 1997. *Employer Training Expenditure Australia, July to September 1996.* Canberra, AGPS.

Australian Bureau of Statistics.1997b. *Employer Training Practices, Australia 1996.* Canberra, AGPS.

Australian Bureau of Statistics. 1998. *Training and Education Experience Australia, 1997.* Canberra, AGPS.

Australian Bureau of Statistics. 2002. *Training and Education Experience Australia, 2001.* Canberra, AGPS.

Baker, M and Wooden, M. 1992. Training in the Australian labour market: Evidence from the How Workers Get their Training Survey. *Australian Bulletin of Labour,* 18, 25-45.

Ball, K.1999. Training and labour market issues in *Creating a future: training, learning and the older person,* ed A. Smith, 49-72. Adelaide, NCVER.

Billett, S. 2001. *Learning in the workplace: Strategies for effective practice.* Sydney, Allen and Unwin.

Brown, P., Green, A and Lauder, H. 2001. *High skills: Globalization, competitiveness and skill formation.* Oxford, OUP.

Cully, M.1999. A more or less skilled workforce? Changes in the occupational composition of employment, 1993 to 1999. *Australian Bulletin of Labour.* 25(2):98–104.

Cully, M. 2002. *Employers' contribution to training: How does Australia compare with overseas?* Discussion paper for NCVER. Adelaide, National Institute of labour Studies.

Curtain, R.2000 The workplace of the future: implications for vocational training. *European Journal of Vocational Training* 19: 29–37.

Dawkins, J. 1988. *Industry training in Australia.* Canberra, AGPS.

Dawkins, J. 1989. *Improving Australia's training system.* Canberra, AGPS.

Dawkins, P., Littler, C., Valenzuela, B., & Jensen, B. 1999 *The countours of downsizing and restructuring in Australia.* Melbourne Institute of Applied Economic and Social Research, University of Melbourne.

Down. C. 2002. *Qualitative imnpact of training packages on vocational education and training.* Brisbane, Australian National Training Authroity.

Freeland, B. 2000. *International comparisons of vocational education and training*. Adelaide, NCVER

Gasskov, V. 2001. *Government interventions in private financing of training.* International Labour Organization, Geneva.

Hall, R., Buchanan, J and Considine, G. 2002. *'You value what you pay for': enhancing employers' contributions to skill formation and use: a discussion paper for the Dusseldorp Skills Forum* Sydney: Dusseldorp Skills Forum.

Keating, J., Medrich, E., Volkoff, V. and Perry, J. 2002. *Comparartive study of vocastional education and training systems: National vocational education and training systems across three regions under pressure of change.* Adelaide, NCVER.

Kirby, P. (Chair) 1985. *Review of labour market programs.* AGPS, Canberra.

KPMG. 1998. *Impact of the growth of labour hire companies on the apprenticeship system.* ANTA, Brisbane.

Maglen, L. & Shah, C. 1999 *Emergence occupational patterns in Australia in the era of globalisation and rapid technologies and rapid technological change: Implications for education and training*. Monash University - ACER Centre for Economics of Education and Training, Melbourne.

NCVER. 2002. *Australian apprenticeship and traineeship statistics: at a glance. Annual 2001.* Adelaide, NCVER.

Osterman, P. 1995. Skill, training and work organisation in American establishments. *Industrial Relations* 34(2):125–146.

Robinson, C. 2001. *Australian apprenticeship: facts, fiction and future.* Adelaide, NCVER.

Schofield, K. 2000. *The good, the bad and the ugly: perspectives fromn three states on the qualuty of the Australia apprebticeship and traiuneeship system.* Paper give to the 9th Annual Vocational Education and Training Research Conference, North Coast Institute of TAFE, Coffs Harbor, NSW, 4-7 July.

Senate Employment, Workplace Relations, Small Business and Education References Committee 2000, *Aspiring to excellence: report into the quality of vocational education and training in Australia*, Senate Printing Unit, Canberra.

Smith, A (ed). 1999. *Creating a future: training, learning and the older person*. NCVER, Adelaide.

Smith, A. and Hayton, G. 1999. What drives enterprise training? Evidence from Australia. *International Journal of Human Resource Management*, 10(2): 251-272.

Smith, A., Noble, C., Oczkowski, E. and Macklin, R. forthcoming. New management practices and enterprise training in Australia. *International Journal of Manpower.*

Smith, E. & Brennan, R. forthcoming. Australian Quality Training Framework : Impact of provisions relating to teaching and teacher qualifications. *Australian Vocational Education Review.*

Smith, E and Keating, J. 1997. *Making sense of training reform and competency-based training*. Wentworth Falls, Social Science Press.

van Buren, M. 2002. *Worldwide trends in human resource development*. Paper presented to the 10th Australian Human Resources Institute Convention, Convention Centre, Brisbane, May.

VandenHeuvel, A & Wooden, M. 1999. *Casualisation and outsourcing: trends and implications for work-related training.* NCVER, Adelaide.