Australia Centre Series
volume 5

Vocational training and lifelong learning in Australia and Germany

Gerald Burke and Jochen Reuling
editors

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edited by
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- Australia Centre Series Volume 2, "Higher Education Reform in Germany and Australia", Ditta Bartels & Hans-Georg Petersen (editors), 1999.
- Australia Centre Series Volume 3, Tax and Transfer Reform in Australia and Germany, Hans-Georg Petersen & Patrick Gallagher (editors), 2000.
- Australia Centre Series Volume 4, Australian Studies: A Topic for Tertiary Education? Gerhard Leitner & Bruce Bennett (editors), 2000.

The Australia Centre Berlin is an Australian company established by six Australian universities. It promotes Australian-German relations and showcases Australian capabilities in education, R&D and culture.

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Part I
Introduction

1

Vocational training and lifelong learning in Australia and Germany: Background

Gerald Burke

Monash University—ACER Centre for the Economics of Education and Training

Germany has long been the model for apprenticeships for young people. Germany's high rate of entry of young people to training and the relatively low rate of youth unemployment has attracted attention in Australia, where from the early 1970s the issue of youth unemployment has been a major concern.

Less well known has been Australia's achievement of high rates of participation in education and training among adults. The vocational education and training and further education systems, working alongside the university system, have made access to continuing study or remedial education very widely accessible even to persons who have not completed secondary schooling. The importance of this is enhanced in an era when the concept of lifelong learning is receiving considerable attention in policy documents.

Some understanding of the broad shape of two countries' education and training systems and economies can be gained from statistics compiled, for example, by the Organisation for Economic Co-operation and Development (OECD). A selection from these is given in the appendix to this chapter. What the statistics do not provide is an analysis of the different purposes and outcomes. Nor do the statistics provide an understanding of the extent to which the policies of one country could be adapted to another.

The proposal by Dr Ditta Bartels and the committee of the Australia Centre to hold a conference on vocational education and training provided the opportunity to explore a number of issues relating to the two countries, to examine similarities and differences, the emerging major issues, and ideas for addressing them.

The theme chosen for the conference was 'Vocational training and lifelong learning in Australia and Germany'. Inclusion of the term 'lifelong learning' in the title reflects its importance in the work of the OECD and of the body with responsibility for national policy on vocational education and training in Australia, the Australian National Training Authority (ANTA). The Centre for the Economics of Education and Training (CEET) which was

invited to organise the conference program has 'Rapid economic change and lifelong learning' as its operating theme.

Following the successful style of previous Australia Centre conferences, German and Australian presentations were arranged on selected topics. Representatives of public education and training authorities, providers of education and training and researchers were invited. Mr John Richardson from the Australian Embassy in Berlin gave the address at the dinner. The full list of speakers is shown in the program in the appendix to this chapter.

The papers do not comprehensively cover all the major issues but they do provide both data and analysis that highlight that many of the problems are similar but policies adopted somewhat different. To provide a lead in to these similarities and differences an introductory chapter by Jochen Reuling draws out a range of observations on Australia from a German perspective.

The opening conference papers presented succinct overviews of the major policies and issues in relation to vocational education and the needs of lifelong learning facing the federal governments in each country. The papers are by Paul Cowan, Counsellor for Employment, Education and Training, Australian Delegation to the OECD, and by Veronika Pahl, Director General of the German Federal Ministry of Education and Research.

Teasing out the needs and issues of the VET sector in each country are the papers by Dr Helmut Pütz, President of the German Federal Institute for Vocational Education and Training (BIBB) and Virginia Simmons, then director in Australia of a major institute for vocational training within a university and now of Chisholm Institute.

Higher education along with vocational education and training provides most of the post-school opportunities for formal education and training. Two papers from Australia are presented, one concerned with universities as a whole by Ken Eltis, Deputy Vice-Chancellor of the University of Sydney and one by Robert King, Rector of the Australian Defence Force Academy focussing on that college.

Changes in the economy and the commitment to lifelong learning are both changing and increasing the need for resources for vocational training. On the other hand governments are reluctant to increase their funding. Gerald Burke explores the broad issues of needs and sources of funding for Australia. Klaus Berger and Günter Walden in a paper specially prepared for this volume focus on the problems in Germany of providing training particularly in-company training within the dual system.

The purposes and effectiveness of industry training are examined by Andy Smith of the National Centre for Vocational Education Research in Australia. The role of industry in training in Germany is examined from the perspective of a major corporation Deutsche Bahn AG by Ulrich Wiegand.

The institutional factors that exist to support particular policy approaches in Germany but do not exist in Anglo-Saxon countries like Britain, the US and Australia are examined by David Soskice of the National Science Centre in Berlin. Thorsten Stromback of Curtin University provides very insightful additions to the arguments.

The final group of papers focus on the provisions for youth. Jochen Reuling considers the provision and problems in Germany and options for policy. Phillip McKenzie of CEET takes on the issues for Australia. Richard Sweet of the OECD examines OECD data on employment, education and training for young people in Australia and Germany which suggests that while Germany is more successful in engaging its 15 to 19 year olds the patterns for 20 to 24 year olds are more similar than expected.

The contribution to the conference is acknowledged of presentations by Professor Bob Gregory of the Australian National University who spoke on the changing distribution of work and income in Australia and Professor Dieter Timmermann of the University of Bielefeld who examined the financing of training in Germany.

It is hoped that the conference will lead to continuing collaboration and research projects. Dr Reuling of the German Federal Institute for Vocational Training (BIBB) and co-editor of this publication visited Australia in 2001 and undertook extensive discussions with research and training authorities. Professor David Soskice is now an Adjunct Professor of Economics at the Australian National University.

The organisers were delighted with the quality of the contributions to the conference. The participants, who in addition to the speakers included a small number of noted Australian and European researchers, also expressed very positive views on the papers and the formal and informal interactions that the small conference made possible. The dynamic organisation of Dr Ditta Bartels, Rico Janke and staff of the Australia Centre, the hospitality of the German Director Professor Hans-Georg Petersen and the excellent setting at the Hotel Voltaire all contributed to this outcome. It is hoped that the Australia Centre, after its move into Berlin, will continue to provide the setting for such valuable interactions.

Australia Centre Potsdam, Conference 29–31 May 2000
Vocational training and lifelong learning final program

	MONDAY 29 MAY 2000	
19:00	**Conference dinner**	
	Speaker	Mr John Richardson, Australian Embassy Berlin
	TUESDAY 30 MAY 2000	
09:30	**Welcome address**	Prof Dieter Wagner, Vice-President, University of Potsdam
	Overview of conference goals	Prof Gerald Burke, CEET
	The position of the federal governments in Australia and Germany on vocational training and lifelong learning	
	Chair	Prof Hans-Georg Petersen
	Australian Federal Government	Mr Paul Cowan, Counsellor, Australian Delegation to the OECD for Employment, Education and Training
	German Federal Government	Ms Veronika Pahl, Director General, Federal Ministry of Education and Research
11:15	**Practitioner's perspective on current vocational training issues in Australia**	
	Chair	Professor Dieter Timmermann, Pro-Rector University of Bielefeld
	Speaker	Ms Virginia Simmons, Deputy Vice-Chancellor, TAFE, Swinburne University of Technology
14:00	**The international economy, changing employment and lifelong learning**	
	Chair	Prof Leo Maglen, University of Melbourne and CEET
	Speaker	Prof Bob Gregory, Research School of Social Sciences, Australian National University
14:30	**The response of the vocational training sector**	
	Speaker	Prof Dr Helmut Pütz, President, Bundesinstitut fuer Berufsbildung (Federal Institute for Vocational Education and Training)
16:00	**The response of the university sector**	
	Chair	Dr Ditta Bartels
	Speakers	Prof Ken Eltis, Deputy Vice-Chancellor, University of Sydney Prof Robert King, Rector, Australian Defence Force Academy
1800	**Tour of Park Sanssouci**	Prof Hans-Georg Petersen
	TUESDAY 30 MAY 2000	
09:00	**Financing of vocational training and lifelong learning**	
	Chair	Prof Dr Helmut Pütz
	Speakers	Prof Dr Dieter Timmermann Prof Gerald Burke
10:30	**The role of industry and the economy in shaping vocational training**	
	Chair	Mr Jeff Malley, Australian Council for Educational Research (ACER) and CEET
	Speakers	Mr Ulrich Wiegand, Deutsche Bahn AG Prof David Soskice, Wissenschaftszentrum Berlin fuer Sozialforschung Dr Andrew Smith, National Centre for Vocational Education Research
	Discussant	Prof Thorsten Stromback, Curtin University
13:30	**Pathways for youth**	
	Chair	Dr Andy Smith, NCVER
	Speakers	Dr Jochen Reuling, Bundesinstitut fuer Berufsbildung Dr Phillip McKenzie, CEET and ACER
	Discussant	Mr Richard Sweet, OECD
15:30	**Concluding round-table discussion**	
17:30	**Concluding conference reception**	

Germany and Australia: indicators of population, the economy, education and training

		Germany	Australia
Population	Population (2000) million	82.9	19.2
	Age structure (1997)		
	0–14 %	16	21
	15–64 %	68	67
	65 and over %	16	12
	Projected annual population growth rate 1999 to 2015 %		
	Under 15	–1.6	–0.2
	15 to 64	–0.4	0.9
	65 and over	1.3	1.8
Employment	Annual employment growth (1995 to 2000) %	0.6	1.8
	% distribution of working age population (1998)		
	Agriculture	2	3
	Industry	22	15
	Services	40	49
	Non-employed	36	33
Unemployment	Average standardised unemployment rate (1996 to 2000) %	9	8
	15 to 24 year age group (1999)		
	Unemployment rate % of labour force	9	14
	Labour force participation rate (% of population)	51	71
	Employment to population ratio %	47	61
GDP	GDP per head US dollars purchasing power parities (1997)	22049	22581
	Annual real GDP growth rate % (1995 to 1999)	1.5	4.3
Expenditure	General government total outlays all purposes (2000) (% of GDP)	43	33
	Outlays on education (1998) % of GDP		
	Direct government expenditure and subsides for institutions	4.4	4.3
	Private expenditure on institutions less public subsidies	1.2	1.1
	Financial aid to students (not for payment to institutions)	0.3	0.5
	Expenditure on active labour market programs (1998–99 Germany 1997–98 Australia) % of GDP	1.3	0.5
Educational participation and attainment	Participation in education by age (1999) % of population		
	15–19	88	80
	20–29	23	27
	30–39	3	14
	40 and over	0	6
	School leavers entering 3 year or longer apprenticeship programs (1999) %	65	15
	Mean hours per adult per annum of continuing education and training (1994–95)		
	All continuing education and training	60	102
	Job related education and training	52	68
	Educational attainment of persons 25 to 64 (1999):		
	At least upper secondary education %	81	57
	At least non-university tertiary %	23	27
	Document literacy level 1 (lowest level) (1994–95)		
	% of population aged 16 to 65 at this level	9	17

Sources: Australian Bureau of Statistics, OECD, Statistics Canada, World Bank

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Vocational training and lifelong learning in Australia: Observations and conclusions from a German perspective

Jochen Reuling

Federal Institute for Vocational Education and Training (BIBB) Bonn

The Australian vocational training policy of the last decade is marked by permanent and radical changes. The aim was and still is the development of structures which stimulate individuals to learn continuously over their whole working life. Lifelong learning is regarded as a prerequisite for individual employability and for a lasting increase of the formal qualifications level in Australia, in the hope of safeguarding the competitiveness of the Australian economy with that of its neighbouring countries.

In recent years, concepts of lifelong learning have received more attention in the Federal Republic of Germany as well (BMBF 2001). However, while vocational training policy reforms proceed rather cautiously and incrementally in Germany, vocational training policy in Australia has favoured extensive structural changes in the system of vocational training. The key elements of this policy are the reform of the professional qualification system, the support for training markets and the increased autonomy of the (public) training providers. From a German point of view, such approaches are extremely interesting because they contain concepts and elements which, though being discussed in Germany as well, are difficult to try out due to their system-changing nature. The Australian concepts and experiences serve as pilot projects for Germany in this respect. One can study the concepts, try to recognise the advantages and disadvantages, discuss their applicability under German conditions and try to adopt them if this appears desirable.

Reform of the qualification system: outcome-based vs. process-based approach

The guiding approach to reforming vocational education and training in Australia is the so-called outcome-based approach. Programs are conceived as learning outcomes based on competence and developed according to industry plans (employer-led). This means that qualifications are focussed on the requirements of work processes. The individual learner can acquire a full or partial completion of a program in very different ways, for example through

formal face-to face teaching programs, through non-formal or informal on-the-job, in-the-community or even on-line learning. The system allows a range of forms of access to the certification of his or her skills. Qualifications are distinguished by content and level of difficulty and related to each other and to the general educational certificates from the school and higher education system using a nationwide framework. This in principle opens up extensive progression routes to the individual learner which he or she can use depending on demand and situation.

The outcome-based approach views qualifications as "major driver, incentive and motivator of learning and the role of individuals is stressed rather than that of teachers, government or other stakeholders" (OECD 2001). This approach is in total contrast to the (learning) process-based approach as it is widely applied in Germany. Here, qualifications are tied to learning programmes and places of learning. The design follows defined procedures; all relevant stakeholders (in particular management and labour) participate in the development process. "Qualifications are treated as only one element of the qualifying process and the approach relies on trust that is deeply rooted in traditions of practice" (ibid.). The general and vocational pathways are relatively isolated from each other, which can restrict progression.

The outcome-based approach indeed allows very different forms of delivery and acquisition of professional qualifications. However, the question remains whether there are indeed clear and practicable criteria for evaluating professional competence, especially for medium and higher level jobs, which allow quite different types of learning to be registered and certified. If this is possible then it is indeed unnecessary for the state education policy to deal with the contexts in which qualifications are acquired. However, if this is not the case because competence can be defined and assessed in many different ways, then the question arises whether certificates have the same value and the same recognition on the labour market as within the educational system. In other words, these are questions regarding the coherence of an educational system. At least from the German point of view, further empirical research would be necessary to assess the suitability of this approach for promoting lifelong learning. Answers to this question are also of importance because qualifications are not only regarded as important incentives to lifelong learning but also as an essential instrument for the state control of resource allocation and the effective use of public spending on education.

Extending education/training markets and user choice

Another central element of the Australian vocational training policy for promoting lifelong learning is the extension of education and training markets and the introduction of new mechanisms for controlling these markets. The vocational training offered in Germany, leading to formal qualifications, is segmented with regard to different functions (vocational preparation, initial vocational training, formal and non-formal further training) and separated into training provided by public and private providers. In Australia, on the other hand, there has been a growth in the extent to which public and private providers of

vocational training compete for public and private funding in a common training market. A large proportion of the public funding for apprenticeship and traineeship provision and a small proportion of other public vocational training has been contested between public and private providers. For apprenticeship and traineeship the employer, and to a minor extent the apprentice or trainee, can choose an accredited public or private training provider and negotiate the details of training within the framework of the binding standards. Public funds at a specified rate are paid to the provider. In Victoria however, for example, the state government has moved to place limits on the amount of funds flowing to private providers.

This raises the question of whether the extension of training markets and of user choice has really increased the chances of individuals and businesses to receive training offers that are cost-effective and adapted to the individual situation. Or, to view this from the opposite perspective, does user choice increase competition between the training providers, and what are the consequences for the market? Perhaps intensified competition leads rather to quality-conscious training providers becoming no longer viable, to an oversupply of providers in lucrative areas of training, to established providers joining together and new providers having difficulties entering the market. Which measures of quality management and quality control are adopted, and how successful are they? The answers to these questions determine whether (and if so, how) the government or the individual states have to intervene in these markets to counter the possibility of 'market failure'.

It would also be of interest to know more about to what extent individuals/businesses actually make use of the various possibilities of acquiring qualifications provided by outcome-based qualification systems and user choice. Are the users sufficiently prepared for the possibilities of flexible delivery of training, or would they prefer a clearly structured training programme where it is clear what is expected of them and where they are in a social context with other learners and a teacher or trainer? If the latter were the case, it would not necessarily be an argument against flexible delivery of training, but rather indicate that neither training providers nor recipients are sufficiently prepared for using these possibilities (Smith 2000). The questions raised here can be answered only empirically. The German side should pay attention to relevant research results, since there is a tendency towards more autonomy for state vocational schools in Germany as well.

Change in the universities and public training providers in the context of lifelong learning

How do the Australian universities in their role as providers of education and training deal with these structures, and do they attempt to promote lifelong learning? First of all it is surprising from a German viewpoint that the Australian universities are far more involved in post-secondary training than German universities or post-secondary technical colleges. Also of interest is the fact that courses of study are organised according to a dual system at some universities—a strategy that is currently being tested in pilot projects at some German post-

secondary technical colleges. A few Australian universities in Victoria and one in the Northern Territory allow the acquisition of the full range of professionally relevant certificates, ranging from the vocational certificates and diplomas, advanced diplomas, bachelor degrees and postgraduate degrees. In addition all Australian universities provide research degrees and undertake extensive research.

Due to restriction in government budgets, universities increasingly have to raise their own funds. Among other things this has led to more co-operation between providers of education and training. This development could have several advantages for promoting lifelong learning: Universities, like other providers of education and training, have to create extensive learning opportunities to draw students in. They will also strive for close co-operation with businesses to ensure a practically oriented education. Furthermore they have to seek strategic alliances with other providers and businesses to share knowledge with them, a necessary prerequisite for survival in the education markets of the knowledge society. And all this takes place not only on a local level but also nationally and (in the case of the most important providers) internationally as well. Finally they also have to co-operate closely to make cost-efficient use of the new technologies.

Clearly, great efforts have to be made by the universities and the other training providers to create a system of education and training that is truly seamless for the individual, that provides for the best possible use of state funding in training and that promotes business investment in education and training. A number of specific national mechanisms and peculiarities play a role in solving these problems, especially the distribution of competencies and resources between the Australian federal government and the individual states. This problem is also familiar in German education and vocational training policy. The primary goal remains, on the other hand, to make sure that public and private training providers find a true balance between competition and co-operation. A number of dangers which can appear in an unregulated market become clear, for example that due to cost pressure training providers might direct central resources into areas where the highest profits can be made, neglecting other areas.

As mentioned above, similar training markets exist so far in the Federal Republic of Germany only in a few segments, and there specifically in further training not regulated by the state (non-formal learning). However, state vocational schools are gradually acquiring more autonomy and playing a stronger and more active role in vocational training and further training in regional training markets. A further central strategy for promoting lifelong learning in Germany is support for networking among training providers who jointly carry out innovative long-term measures to create 'learning regions' in co-operation with the relevant regional protagonists. In the future the universities will be more and more involved in this development. The experience in Australia seems to indicate that segment-transcending networks and co-operation between training providers, though initially bound to be complicated, create a clear added value in the long term.

Financing lifelong learning

In view of the dynamics of economic change on the one hand and the shrinking of the age group cohorts on the other, a society can no longer rely on the annual influx of trained youth to meet the demand for qualified employees. Rather, additional funding, depending on the economic and political situation and priorities, is required to finance lifelong learning. These funds cannot be provided by the state alone, neither in Australia nor in Germany. On the contrary, it is more likely that public funding will be increasingly restricted in the future. For both countries the question arises how lifelong learning (in the sense of structured education and training offers) can be privately financed to a higher degree, and how the incentives for employers and individuals to commit themselves more strongly to this area can be improved.

Which forms of funding lead to provision of more education and training, more efficient and effective delivery of high-quality education and training and increased equity in the provision? With regard to individuals, grants, loans and tax deductions are the principal means. Several countries also favour forms of funding (like lump-sum grants, individual learning accounts etc.) that allow individuals to spread education quotas over a long-term period according to their own learning requirements (entitlements). Particular emphasis is also put on measures that enable the individual to better assess the advantages of investing in education and training. There are also a number of potential measures for increasing the willingness of businesses to invest in education and training. For businesses as well as for individuals it is important to understand lifelong learning as a worthwhile investment.

One apparent problem is the lack of empirical data to assess the positive or negative results of the various models and measures and therefore to determine whether they have led to more efficiency, benefits and profits of lifelong learning. In part this is because such measures have been introduced only for a restricted period of time in many countries. But an even more important reason may be that there are often no uniform and nationwide funding systems but rather an extremely diverse number of such systems, leading to a lack of transparency and concerted planning which restricts their overall efficiency. Australia and Germany are no exceptions in this regard. More co-operation between the involved government agencies, labour market authorities, management and labour and social initiatives across functional areas of existing education and training systems is required to ensure that financing mechanisms reinforce long-term effectiveness and efficiency (OECD 2000a).

Collection of empirical data on different forms of lifelong learning

Lifelong learning can take place in the framework of formal training arrangements, it can be offered in structured form by educational institutions, businesses or on-line without leading to recognised certificates (non-formal training) or, in what is probably the most frequent case in real life, informally within the context of the work process or in the social surroundings. In this connection it is interesting to know whether there are displacements between these three forms of learning. Depending on the size of the enterprise and the industrial sector to

which it belongs there are almost identical tendencies towards increased in-house further training and a move towards on-the-job training in Australia as well as in Germany and other countries in the European Union. However, what was mentioned with regard to the question of funding lifelong learning applies to this area as well, namely that the quality of the data has to be improved. In particular there is a great need for more individual data. Furthermore, greater attention must be given to the collection of data on informal learning. It remains to be seen how successful the European Union's efforts in this field will be (EUROSTAT 2001).

Individualised or institutionalised transition to working life?

Apart from school and vocational training, the most important factors for lifelong learning are the transition of young people to working life and the first years on the job, because this is the period when the foundations for improving and purposefully developing knowledge, skills and competencies are laid. There are striking differences between Australia and Germany in the way young people make the transition from school to working life after completing secondary level education. From a German viewpoint it is noteworthy that the differentiation into different pathways does not start until age 17 or 18 in the Australian education system. A comparatively large number of Australian youths enter the higher education sector (and acquire a degree there) and that the post-school education and training sector in Australia is very diversified. Accordingly the pathways of Australian youths after completing secondary level education are more individualised, while the pathways of their German age group peers are far more institutionalised. The reason for this is that the education/training system and the labour market are 'loosely coupled' in Australia. In Germany they are 'tightly connected' by tradition.

These comparisons naturally give rise to the question of which system is more efficient for enabling youths to make the transition from school to working life (OECD 2000b). The results turn out to be to some extent sobering from the German viewpoint. Despite very different institutional arrangements for the transition from education to work of young adults between 20 and 24 (i.e. at the end of the transition period) in 1996 the proportion of non-students who were employed was identical in the two countries. Both countries lie clearly above the average of all OECD member states in this respect. In the case of Australia, high responsiveness of the tertiary sector and the flexible labour market are likely reasons.

Can the high institutional expenditure by Germany to regulate the transition of youths from school to working life be justified? At least it emerges that teenagers aged 16 to 20 are more frequently in education or work than their Australian age group peers. Youths in Germany can also compete with adults on the labour market much more easily than youths in Australia or other OECD countries. The predominant vocation-specific and enterprise-related forms of training surely also play a role here.

The central question in the long run, however, appears to be whether highly institutionalised systems of qualification are better suited to promoting lifelong learning than systems with a

comparatively low degree of institutionalisation. Qualified vocational training, a successful transition to employment and the first years on the job are certainly of high importance for lifelong learning. In the future, however, there will be a need for greater individual responsibility for education and employment. For Germany this means further development of the institutional basic conditions with the goal of more vertical and horizontal permeability, thus opening up more possibilities for the differentiation and individualisation of pathways and patterns for developing competencies. The Australian concepts and experiences, in particular those from the tertiary sector, will continue to be of great interest for German vocational training research and policy.

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Part II
The position of the federal governments

3

The Australian federal government and vocational training and lifelong learning

Paul Cowan

Australian Delegation to the OECD for Employment, Education and Training

Introduction

Thank you for inviting me to address your conference. I welcome this opportunity to talk about the position of the Australian federal government on vocational training and lifelong learning.

I would like to provide an overview of Australia's vocational education and training system. And touch on aspects of recent reforms in the sector, including the direction which Australia will need to take with these reforms in the future.

But first let me convey the apologies of the Australian Minister for Education, Training and Youth Affairs, the Honourable Dr David Kemp. Dr Kemp is unable to attend the conference and sends his warm regards.

Roles and responsibilities

Like Germany, Australia is a federation consisting of a national government, referred to as 'the Commonwealth', and eight States and Territories. In Australia, vocational education and training, otherwise known as VET, is an area of shared responsibility between the Commonwealth and State and Territory governments.

Primary responsibility for the delivery of VET and the regulation of VET sector rests with the States and Territories. States and Territories provide two-thirds of the funding provided by government and administer their own training systems through respective government departments and agencies. States and Territories are also responsible for the allocation of funds to individual VET providers such as the State-owned institutes of Technical and Further Education (commonly referred to as TAFE colleges), private providers, and some adult and community organisations.

The Commonwealth's role is exercised primarily through provision of funding to the States and Territories, involvement in national policy making, and administration of programmes through the Commonwealth Department of Education, Training and Youth Affairs. Through provision of funding to the States and Territories, the Commonwealth is able to influence the VET sector, with particular regard to the Commonwealth's broader responsibilities to the national economy.

Apart from the financial role, the Commonwealth plays an important role in education and training policy and programmes. In recent years that role has focussed increasingly on promoting national consistency and coherence in provision of education and training and developing a more demand-driven VET system.

These roles and responsibilities are defined by the Australian National Training Authority (ANTA) Agreement between the Commonwealth and the States and Territories. The current ANTA Agreement covers the period from 1998 to 2000. Under the ANTA Agreement, industry is involved closely in VET sector policy and planning at all levels.

A ministerial council comprised of Commonwealth and State and Territory ministers responsible for VET, chaired by the Commonwealth, is responsible for setting national goals, objectives and priorities for the VET system. This includes agreement to a National Strategy for VET (the current strategy, "A bridge to the future", is for the period 1998–2003) and annual national priorities. The ministerial council also decides on national policy issues and oversees ANTA and the associated arrangements for Commonwealth funding to the States and Territories.

The Australian National Training Authority was established in 1992 to provide a focus for a national effort to reform the VET system. ANTA is a Commonwealth statutory body with an industry-led board that is accountable to the ministerial council. ANTA administers Commonwealth funding to the States and Territories for VET and is advised by a network of national industry training advisory bodies. ANTA also liaises closely with governments, private and public training providers, and other stakeholders to ensure that the national VET system is responsive to industry and clients' needs.

Overview of the VET sector

VET in Australia is a wide-ranging sector operating through a variety of providers including publicly funded TAFE colleges, adult and community education organisations, private sector training organisations and increasingly, enterprises and schools.

Government-funded and administered colleges provide the bulk of formal, accredited VET programmes, including those for apprentices and trainees. There are about 90 TAFE and other government institutes operating in over 1000 locations across Australia.

Adult and community education organisations provide a significant and growing amount of accredited VET. However, for many the focus remains on provision of general adult education in the areas of basic education (e.g. literacy and numeracy), general and liberal courses (e.g. recreational, personal enrichment and general interest courses), and public education programmes.

A wider range of private sector providers is becoming involved in the formal VET market. Apart from the more traditional private sector training organisations such as business colleges, which offer accredited and non-accredited courses on a fully commercial basis, there are now around 4000 registered training organisations offering a wide range of accredited VET.

Employers, many of whom are now becoming registered training providers in their own right, are providing an increasing amount of both formal and informal, accredited and non-accredited workplace based training to their employees.

The VET sector also provides training for a diverse and dispersed range of clients, including school leavers and other new entrants to the workforce seeking initial entry level training, the existing workforce or persons re-entering the workforce who require retraining or skills upgrading, and those requiring preparatory education and training before proceeding onto specific vocational training.

Participation in formal VET has been increasing in recent years with 10.7% of the adult working age population (15–64) enrolled in 1998.

The types of qualifications offered in the VET sector range from non-award courses that do not lead to formally recognised qualifications to courses that provide diploma and, in a few cases, degree level qualifications. In 1998, the largest group of clients enrolled in Certificate II and III courses.

The federal government's vision for VET

With responsibility for such a large and diverse sector, the ANTA Ministerial Council endorsed in 1997 a national strategy for VET for the period 1998–2003. Based on an analysis of the economic, industrial and social forces for change and their implications for VET, the strategy expresses the commitment of Australian governments, in partnership with Australian industry. The strategy sets out a vision for VET, aligned with five key objectives and strategies to ensure that these objectives are achieved.

The vision for VET in Australia is one where:

- Australian citizens place a high value on VET because of the vital role it pays in the social and economic progress of the nation.
- Australian industry plays a leadership role in the sector.

- Australian employers of all sizes and across all industry sectors make substantial investments in a skilled workforce by providing both formal and informal training opportunities for their existing employees and to young people entering the workforce.
- Australian workers want, throughout their life, to update their vocational skills and to acquire new ones.
- Australian governments are committed to a goal whereby all young Australians are able to access post-secondary education and there are expanded opportunities for adults to pursue further education and training.
- Australian VET providers are responsive to the changing needs of all clients, industry and individuals alike.
- Australian schools offer a comprehensive and relevant programme of vocational education to all their students and to do this establish partnerships with parents, industry and VET institutions.
- Australian school students freely choose their secondary and post-secondary education and training options based on accurate and balanced career and course information.
- Australian communities are well informed about the nature and benefits of VET

This vision is driven by a broad mission statement to:

> *ensure that the skills of the Australian labour force are sufficient to support internationally competitive commerce and industry and to provide individuals with opportunities to optimise their potential.*

Reforms in the VET sector

Reform of Australia's VET system has been a continuous process since the 1980s which has been driven by the need to:

- respond to changes in industry and employment markets as a result of technological and structural change
- maintain and improve the competitiveness of Australian business and industry in the global economy.

During the 1980s and 1990s, the Commonwealth introduced a range of reforms aimed at making the VET system more responsive to the needs of industry and more nationally consistent. These reforms included the following:

- introduction of a competency-based approach to training with increased industry involvement in the development of standards and an expansion of structured training from traditional trades into other industries and occupations
- articulation of career pathways between levels of education and training
- a national framework for quality assurance and the recognition of training providers across State and Territory borders

- development of a more unified entry level training system
- development of the training market

The most recent reforms, such as New Apprenticeships and the National Training Framework, introduce further improvements to the VET system to provide more flexibility and responsiveness. These flexibilities include: greater scope for customisation of training within the National Training Framework (which I will describe later), greater competition through user choice arrangements, full-time and part-time options, and school-based new apprenticeships.

New apprenticeships

New apprenticeships are a key reform of the VET sector, building on previous apprenticeship and traineeship arrangements. They aim to improve employment opportunities for young people, increase the availability of training in the workplace, and expand apprenticeships and traineeships into the industries of the future, such as technology-based occupations and growth industries.

In essence, new apprenticeships involve a formal agreement between an employer and an apprentice or trainee that the employer will provide, and the apprentice or trainee will undertake, training. This training usually involves a combination of on-the-job training provided by the employer and off-the-job training provided by a training provider. Under new apprenticeships, on- and off-the-job training are integrated with a registered training organisation being responsible for assessment of all aspects of competency and for issuing a qualification at the end of the training.

New apprenticeships provide greater flexibility for both clients and training providers, with programmes lasting from between one year to four years on a part-time or full-time basis.

User choice

User choice was introduced in January 1998 to create market-conditions in provision of off-the-job training for new apprentices. It allows employers and new apprentices to select their registered training organisation, whether public or private, and negotiate key aspects of their training (including content, timing, location and mode of delivery) within the framework of endorsed competency standards and costs established by government. Public funds are then allocated to the training provider after the client has selected the provider and negotiated a programme that will best meet their needs. This means that employers, in concert with their new apprentices, are able to exercise direct influence over key aspects of their training.

User choice also provides new opportunities for both public and private training providers. It stimulates increased competition among public and private providers, including across State and Territory borders. This not only provides scope for more private training providers to

enter the market, but also enables public training providers to extend their operations into new areas of training and onto national markets.

The Commonwealth has worked with States and Territories on introducing user choice, which is a major step forward in the development of the training market. These new arrangements under user choice, and other contestable funding arrangements, have opened up the training system to greater flexibility and a focus on meeting the training needs of clients.

A national evaluation of user choice was completed in September 1999. The evaluation focussed on the changes taking place at the interface between training providers and their clients, on benefits being derived by clients and on any wider policy impact from user choice. It also examined progress against the objectives of user choice policy. The evaluation found that the user choice policy framework is progressing well at the current time and the policy should stand as is.

New apprenticeships have been highly successful overall. The capacity of the system has almost doubled in the last five years with over a quarter of a million new apprentices in training at any one time across Australia. Since 1995, we have seen the number of new apprentices rise from 144 990 to an estimated 268 880 in 1999. New apprenticeships account for approximately 14.3% of all clients enrolled in publicly funded VET and are available in a wider range of industries such as information technology, which previously had no structured entry-level training.

Another 'new' feature of the system is that new apprenticeships can be started by students while they are still at secondary school. This is an important component of the government's agenda to ensure that Australia's youth are provided with every support to help them make a successful transition from school to adult life. New apprenticeships offer young people the opportunity to undertake VET programmes concurrently with secondary school activities and obtain nationally recognised VET qualifications as well as school qualifications. I will talk more about VET-in-schools arrangements later.

Incentives

The government also recognises that implementing new apprenticeships could pose a challenge for employers, particularly smaller businesses. Consequently, the Commonwealth provides incentives to encourage employers in the private, public and community sectors to offer training and employment opportunities under New Apprenticeships.

These incentive payments are made in recognition of the costs to the employer of taking on and training agreement on the basis of the new apprentice's commencement, progression and completion. Up to $4000 is available for employers to take on a new apprentice and keep them on until their new apprenticeship is completed, depending on the length and level of the training programme.

Other incentives are also available for special initiatives, such as the Rural and Regional New Apprenticeship initiative which offers an extra $1000 to employers when their new apprentices move into the higher levels of their qualification. This incentive applies to employers of new apprentices in occupations with identified skill shortage in non-metropolitan areas, for example, in the skilled agriculture and horticulture, construction, automotive and metal trades.

National training framework

Another key element of reform in the VET sector is the national training framework, including the development of training packages. The national training framework is a national agreement between the Commonwealth, State and Territory governments to assure quality in the VET system, and ensure that training meets the expressed needs of industry and results in portable skills and nationally recognised qualifications.

For training providers, the national training framework provides new opportunities to operate more easily across State borders and the flexibility to customise their own programmes through training packages to better meet the needs of clients.

Training packages

Developed by industry and endorsed nationally by the industry-led National Training Framework Committee, training packages bring together for each industry sector the previously disparate approaches to standards, programmes, qualifications and learning resources. This means that for the first time, there are clearly articulated pathways for learners across whole industry sectors and an across-the-board attempt to really integrate on- and off-the-job training.

Each training package contains three essential components. These are: national competency standards, assessment guidelines and national qualifications. These may be supported by other support materials such as learning strategies, assessment materials and professional development materials. The support materials are not mandatory, but they provide valuable tools for registered training organisations, which are free to develop their own programmes without having to follow centrally determined curriculum.

At present, there are 51 endorsed training packages with coverage of an estimated 58% of the workforce. These training packages include several new industries, as well as those with a large concentration of female workers. By 2001, we expect this to rise to around 60 training packages for a total expected workforce coverage of 82%, representing all of the VET-relevant workforce.

VET in schools

An important area of VET activity is the provision of VET in schools. VET programmes have been available for senior secondary students for some time in recognition of their importance in improving employment outcomes for school leavers. The VET-in-schools initiative is aimed at increasing the combination of general and vocational education in senior secondary school curriculum to provide school leavers with a greater number of pathways from school to work and further learning and to encourage all young people to complete a full general education.

As part of this initiative, Commonwealth, State and Territory education and training departments and agencies, and non-government sectors, have been working in partnership with industry to provide programmes for a growing number of secondary students undertaking a new apprenticeship while continuing to study at school.

VET-in-schools programmes are increasingly based on national industry training packages. Programmes include hands-on experience and involve substantial amounts of time learning in the workplace. Work or vocational placements can range anywhere from 20 hours to several weeks in a wide range of courses, with some differences between States and Territories. These often involve real work, particularly where students undertake part-time new apprenticeships in conjunction with their senior secondary studies. In the majority of programmes, students get the opportunity to do an unpaid vocational placement and in some cases, programmes may also involve paid work. Successful completion of a VET-in-schools programme is increasingly resulting in a nationally recognised VET qualification or statement of attainment.

VET-in-schools programmes may be delivered in a range of different ways:

- entirely by school teachers, with many secondary schools becoming registered training organisations in their own right
- by the school in conjunction with employers in a workplace
- by a school in conjunction with a registered training organisation
- by a school in conjunction with a registered training organisation; together with an element of learning that takes place in the workplace

In recent years, significant changes to the VET-in-schools initiative have been developed through stakeholder partnerships. They include:

- formation of a nationally agreed set of principles to guide the development of VET-in-schools programmes and part-time new apprenticeships
- introduction of arrangements to recognise VET qualifications within the senior secondary certificate by all school certification agencies
- development of policies and procedures to improve the quality of VET-in-schools programmes, strengthen links with the national training framework, and implement the framework within the secondary school sector by State and Territory authorities

There has been a significant increase in the number of school students undertaking VET as part of their senior secondary studies, from approximately 60 000 in 1996 to a projected 129 000 in 1999. With approximately 87% of secondary schools across Australia involved in providing VET-in-schools programmes for students, this represents a dramatic change since the early 1990s when only a few thousand students were involved in a handful of schools.

Equity in VET

Central to the reforms and initiatives in the VET system is the impetus to ensure access and equality for all Australians.

One of the key objectives in the national strategy for VET is 'achieving equitable outcomes in VET', and in particular to:

- identify and remove structural barriers to access and equity in vocational education and training
- encourage registered training organisations to better deliver training programmes to disadvantaged clients
- encourage programmes (based on training packages) that can be customised to suit the need of all clients
- equip vocational education and training staff to address equity issues
- create incentives for registered training organisations to address equity issues
- make available accurate data for monitoring equity performance
- use new technology to broaden opportunities for people living in rural and remote communities, or unable to do training at work or in institutions
- monitor performance improvement annually

Initiatives are being developed to address the equity needs of such groups as Aboriginal and Torres Strait Islander peoples, people with a disability, women, people in remote and rural communities, and people from non-English-speaking backgrounds.

Under the auspices from the ANTA Disability Forum advisory committee to the ANTA Board, a draft national plan of action for increasing opportunities for people with a disability in VET has been developed. *Bridging pathways* will cover the period to 2003 and aims to create a VET system that leads to world's best practice in achieving equitable outcomes for people with disabilities. The strategy seeks to built partnership involving people with disabilities, training providers, industry, policy makers, and planners. It was developed after extensive consultation with stakeholders. The goals involved are to:

- open the door to VET by improving pathways and providing accessible information
- improve the learning experience by providing client focussed training and equipping the sector with skills in disabilities
- achieve employment and lifelong learning outcomes by developing links with employers

and employment agencies and supporting effort to undertake further education and lifelong learning
- create an accountable system by ensuring compliance with legislation, implementing inclusive resource allocation practices and promoting collaboration through partnership

Similarly, the national VET indigenous strategy, 'Partners in a learning culture', was developed by the Aboriginal and Torres Strait Islander Peoples Training Advisory Council for the same period. The aims of this strategy are to:
- identify the key VET issues and activities that are most important for indigenous community development
- include the perspectives of indigenous people in current and future VET policy and programmes at all levels
- ensure that VET decisions—especially decisions about resources—result in better outcomes for indigenous individuals and communities
- show how VET programmes can be better managed for indigenous communities
- lay down quality and continuous improvement measures which build upon positive gains already made within the VET sector
- set out measurable objectives to improve outcomes for indigenous Australians in VET and employment

Implementation plans for the two strategies have been developed with specific, achievable and costed actions and initiatives to give support and effect to the strategies.

Youth pathways action plan

In addition to an equity focus, the emphasis in post-compulsory education and training over the past few years in Australia has also been on young people. We have all heard the adage that 'young people are the future of our nation'. In particular, policy has been focussed on:
- measures aimed at raising the level of participation and retention in all forms of formal education and training beyond the compulsory years of schooling
- better preparation of young people for entry into labour market
- developing new pathways and improving the processes of transiting from school and other forms of education and training to the workforce

In Australia, assistance and development has been targeted at the 70% of our school leavers who do *not* go straight from school to university.

The Commonwealth has been working to improve the support provided to young people during their transition to independence, and strengthen pathways for young people. Emphasis has been placed on targeting young people who do not, or are not likely to, go

straight from school to further education and training or full-time employment, including those at risk of not completing their secondary education.

In 1999, a taskforce was appointed by the Prime Minister to develop recommendations on the scope and direction of a Youth Pathways Action Plan to improve outcomes for young people. The action plan aims to:

- strengthen existing pathways for young people, especially those at risk
- improve early assistance for young people before they reach crisis point
- help young people in crisis situations to quickly move out of them
- strengthen the capacity of families and communities to help young people
- expand opportunities for young people to participate in the economic and social life of their communities

The taskforce included representatives from the community, business and academic sectors, and Commonwealth and State and Territory governments, reflecting the need for broad community partnership to strengthen pathways for young people. The taskforce report is due late 2000 and it is expected that its findings will inform future development of VET policy, as well as policy in other areas of education and community service. [The report is now available online at http://www.youthpathways.gov.au/ (eds).]

Lifelong learning

So, that is a quick overview of Australia's VET sector and recent developments. But we all know that there is little doubt that the nations that will succeed in the 21st century will be the 'knowledge societies'—societies rich in human capital, effective in their capacity to utilise and deploy their human resources productively and successful in the creation and communication of new knowledge. In such a world there will need to be greater opportunities than ever before for lifelong learning—for preparation not only for the first job but also for succeeding jobs.

The onset of the information age and the knowledge-based economy in the later part of the 20th century has required countries to become learning societies. The education of the population and the skilling of the workforce are the factors that will determine a nation's fortunes in the 21st century much more than they have in the 20th century. The skills-base of the nation, and the speed with which skilling can adjust to meet new requirements will be important, if not more important, in determining economic success than a nation's natural resources and financial capital base.

On the *demand side* of things, technological change and other changes stemming from globalisation of economies around the world are now having a profound impact on the nature of work, the way it is organised and skills it requires. The changes are now so rapid

that people cannot expect to be working in the same areas even for a part of their working lifetime. Many specific skills now have a very short 'half-life'.

On the *supply side*, the workforce of most countries, including Australia, is ageing. Australia, like most OECD countries, has experienced an ageing of its population, albeit at a slower rate than in Europe. This means that as we progress through the 21st century, relatively fewer young people will enter the workforce than in the past. Education and training policies will therefore need to be more heavily focussed on learning and skills amongst the whole population, with an emphasis on continuous learning.

Lifelong learning is no longer an abstract concept or an 'optional extra' for any nation wishing to position itself to take full advantage of emerging opportunities. In the past, lifelong learning was generally associated with personal development or recreational pursuits undertaken by individuals once their mandatory or formal years of training were over. Where in the past lifelong learning generally alluded to learning for its own sake, today it has become synonymous with skills acquisition and upgrading for employability and competitiveness.

In Australia, there has been much greater focus in recent years on the concept of lifelong learning as a key driver of skills formation policies. The national strategy for the sector endorsed by the ANTA Ministerial Council states that:

> *Changes in the markets for Australian products and services, industry reconstructing and technological change have contributed to a growing acknowledgment that people need to upgrade and update their skills throughout their working lives.* (ANTA 1998)

Under the strategy, supporting lifelong learning is one of the central themes for the sector. To date, the reforms in the sector have been geared towards putting in place a flexible training system which provides opportunities for re-skilling. Flexibility in VET has been identified as the key to ensuring that Australians have access to lifelong learning and re-skilling for a changing economy.

Another key element of lifelong learning is the promotion of a learning culture. In developing a culture of lifelong learning in Australia, it has been important to ensure that workers are provided with ongoing skills training and opportunities on- and off-the-job so that their skills and abilities to compete in the labour market are kept up-to-date.

National market strategy

Towards this end, ANTA, in consultation with Commonwealth, State and Territory governments, training providers and industry, has developed a national marketing strategy to change industry and general community attitudes towards training. The aim of the strategy is

to instil a desire in Australians to acquire skills that are valued, and to create a framework for the promotion of skill acquisition products, including the products and services provided by registered training organisations.

Flexible delivery

In addition to the national marketing strategy, the development and expansion of flexible delivery options, including on-line delivery, also provides training providers with exciting opportunities to reach clients beyond traditional geographic boundaries and time constraints.

Initiatives already under way include a toolbox development project being undertaken by the Commonwealth and the States and Territories through ANTA. The project aims to assist registered training organisations to develop multimedia training resources to better meet the needs of client groups or particular enterprises.

Moreover, a framework for national collaboration in VET for 2000 to 2004 on *Flexible learning for the information economy* has also recently been developed to support accelerated take-up of flexible learning modes and apply new technologies to VET products and services. Developed through extensive collaboration with the Commonwealth, States and Territories and ANTA, the framework is guided by seven principles to achieve five goals. The principles of shared benefit, strategic use of new learning technologies, accelerated take-up, strategic partnerships, leveraged investment, employee involvement, and demand-driven collaborative projects will seek to achieve:

- creative, capable VET staff
- supportive technological infrastructure
- world-class online content development, applications and services
- enabling policies
- problem-solving regulation

The strategy will be supported by an annual implementation plan which identifies specific initiatives and allocation of resources for each of the five goals.

In our higher education sector, a review was commissioned on the literature on lifelong learning by the Lifelong Learning Network and the University of Canberra. The review is designed to assist in the identification of options for a policy framework to move the current debate on lifelong learning in Australia from a relatively piecemeal, 'portfolio-focussed' approach to a 'whole of government, whole of life' context. Other research projects related to lifelong learning—but more specifically focussed on post-initial university participation—are also in the process of being commissioned.

Future direction of VET provision in Australia

So, in summary, VET in Australia has a crucial role to play in national future economic and social development, and is vital to Australia's capacity to adapt flexibly and dynamically to the challenges ahead. The aims and direction of Australia's VET system for the beginning of the 21st century have been encapsulated in a medium-term national strategy for the sector, focussed on ensuring that Australia has the skills it needs to be internationally competitive.

However, in a global climate characterised by changes in demography, increasing advances in technology, changes in the nature of work, and ever stronger international competition, the message we need to grasp and convey is the increasing need for knowledge and skills rather than simply labour. It is evident that the path of the future lies in a strong foundation of knowledge and skills for all people and continuous or lifelong learning. The requirement for continuous new learning and skilling makes it very clear that there are major implications for the way we need to think about the provision of post-compulsory education and training over the coming decades.

In Australia, we have taken some strides towards this goal. But we are not there yet. The future of VET for Australia lies in its capacity to be flexible and adaptable. Changing structures of society and attitudes towards education and training will require monitoring and evaluation to ensure that the VET sector meets the needs of individuals, business, industry and training providers.

We have much to learn and exchange with the VET system of other nations, and we look forward to the collaboration and the discussion and exchange of ideas afforded in forums such as this one.

4

The German federal government and vocational training and lifelong learning

Veronika Pahl

Director General, Federal Ministry of Education and Research

I would like to welcome you all very cordially to Germany. I am delighted that this conference is focussing on vocational training and lifelong learning, because these topics are of great importance for us here in Germany as we shape our society in the 21st century.

Lifelong learning for all, and development of the content and structure of vocational training —and of its two components, initial and continuing vocational training—are central elements of current reform efforts in Germany. We want to uphold the principle of lifelong learning in all **areas of education**. This requires a common orientation in training, the workplace and continuing training, and it requires changes in, and stronger links between, all learning sites. It also includes informal learning outside traditional educational institutions.

Germany and Australia face similar challenges: economic globalisation, new forms of global division of labor, intensified international competition and the overall development toward the knowledge society. Both also require new educational policy strategies and, especially, progress in initial and continuing vocational training.

In a society flooded with information, and with so many possibilities and dangers, the central focus must continue to be on people rather than technology. The primary goals for us in Germany include individual acquisition of knowledge, development of skills and social competence and, thus, overall personality development. These goals require special educational efforts.

Every country has its own specific circumstances, its own special environment within which it must seek to meet these challenges. Therefore, there are no patent answers and no automatic way to solve the problems. On the other hand, the examples of other countries can provide interesting ideas for our own actions. Exchanges of experience during this conference will surely provide many good ideas for innovative approaches in the educational sector. Such exchanges have proven very worthwhile for us in the European Community.

The educational system's different levels all contribute toward promoting lifelong learning. In so doing, they build on the fact that nearly all young people acquire a first general educational qualification or a vocational qualification. Traditional educational programmes provide these bases for lifelong learning and seek to qualify **all** young people, if possible, and enable them to participate actively in society.

Good qualification, along with training that is oriented to the workplace, makes people employable and reduces their risk of becoming or remaining unemployed. To these ends, people need broad initial education, must learn continuously in the workplace and must undergo phases of continuing training throughout their working life. Overall, continuing training must have a practical orientation in which people refresh, broaden and improve their skills and are enabled to return to the workplace.

In Germany, initial vocational training takes place primarily within the dual system. This system imparts specialised vocational knowledge, and key interdisciplinary competencies, in companies, administrations or offices. Such company-based vocational training is supplemented by vocationally oriented, general instruction in part-time vocational schools. Pupils of general schools can enter vocational training immediately after they complete their schooling—there are no entrance restrictions. Some two-thirds of all young people of every age group continue to choose such vocational training.

After completing their training, which normally lasts about three years, young people and young adults are able to begin qualified employment. Through its combination of learning and work, vocational training provides good opportunities for direct, or nearly direct, transition from training to employment. This has a direct impact on youth unemployment, which currently is about 9% and thus lower than the general unemployment level in Germany.

Because of the dual system's positive impact—positive in comparison with experiences of other countries—we want to retain this system. Vocational training prepares people for continuous learning throughout their entire working lives. The social partners, namely the employers' associations and unions, have joint responsibility for the basic elements of this training, which is organised by occupations and is nationally transparent. Thanks to this joint responsibility, the dual system's long-term acceptance within the employment system is assured.

Nevertheless, there are a number of problems and developments to which we must respond. The vocational training system's close ties to the economy make vocational training dependent on the economy's health. In recent years, unemployment has risen in Germany, too, thereby also increasing the number of unemployed young people aged 25 or younger. Economic and company restructuring have eliminated numerous jobs and company training places. Numerous efforts on the part of the federal government, the *Länder*, local authorities and the social partners have now succeeded in stopping and reversing this trend of the past few years, however.

In 1999, an alliance for jobs, training and competitiveness was established in which all participants agreed on joint measures that will profoundly influence further development of vocational training. I would like to mention just a few important aspects of these efforts that highlight the major foci of Germany's current vocational training policy:

1. The **great speed** with which new digital technology, communications media and innovative procedures are being introduced require us to acquaint our children and young people as quickly as possible with these **new technologies** and to keep working adults up-to-date on the newest developments. We in Germany have discovered that we now have a shortage of IT specialists. This example illustrates the importance of far-sighted educational and qualification strategies in the political and economic sectors.

   Industry, the unions and the political sector now plan to co-operate in meeting the extra requirements for highly qualified people as quickly as possible. That is why we have launched an **employment and qualification initiative for the IT industry** that is expected to have a near-term impact. In 2000—rather than in 2002 (as originally planned)—we expect to achieve 40 000 vocational training places in new IT and media occupations, a number agreed on by industry and the political sector. Industry plans to provide an additional 20 000 training places in these occupations by the year 2003. Industry has also promised to considerably enhance its own in-company continuing training with respect to Internet-relevant technologies.

   The Federal Institute of Labour plans to increase the number of participants in its further training programmes in the IT sector from 36 000 to 40 000, within the near term. We plan to consult with all relevant parties in the political, economic, scientific and other relevant sectors regarding necessary developments within the educational system, in terms of a long-term and strategically oriented perspective.

2. Requirements for qualified, specialised people will continue to grow in the coming years. Therefore, the social partners are currently preparing proposals for **creation of new training occupations** in focus areas in which increased employment opportunities are expected, such as transport/traffic/logistics, health care and the environment. In the services sector, new training opportunities are being studied in the areas 'exhibitions, trade fairs, congresses and conferences', 'associations', 'health care' and 'business consulting'. Current, reliable information about new or changing requirements provides an important basis for decisions in vocational training policy and practice. Therefore, we want to concentrate carefully on early recognition of qualification requirements.

   In Germany, as in other industrialised countries, services are playing a more and more important role in traditional production sectors. We understand that some 70% of all employed people are now involved in services. This imposes consequences for future design of vocational training. The new media play a very important role in this context. That is why we are working hard to improve the basis for modern media training in our

educational institutions. On a national average, over 60% of all vocational schools now have an Internet access. We want to provide Internet connectivity to all schools by 2001. PC-based training is already integrated in many important training programmes.

Now that we have made such progress in providing the necessary hardware, the federal government plans to invest 400 million DM over the next five years in development of educational software. We want to give PC-based training opportunities not only to apprentices in large companies but also to those in small- and medium-sized companies. SMEs in particular need good software that supports state-of-the-art training.

3. It has long been obvious that during schooling and initial vocational training, people cannot acquire all the knowledge they need for their entire lives—and people are living longer and longer. What is more, our knowledge is being updated in ever-shorter cycles.

   Therefore, **effective learning procedures**, and the skills for rapidly and efficiently acquiring needed knowledge, are growing in importance. While solid specialised knowledge remains the decisive basis of every vocational qualification, personal and social skills are becoming more and more important. Increasingly, education must become a lifelong process for all members of society. Where this is not the case, some people will be left behind by the general development.

4. We also consider it very important for education to give young people a basis for equal-opportunity participation in social and working life. This approach can help reduce unemployment, especially youth and long-term unemployment. Now, more than ever, education defines each person's opportunities in work, social participation and life.

   'Training for all' is thus the guiding principle of our vocational training policy. We have created the basis for this with an immediate action programme for reducing youth unemployment and with decisions in the aforementioned 'Alliance for jobs'. We plan to intensify support for disadvantaged young people and to enhance vocational preparation with new, training-oriented qualification components. We also plan to improve links between vocational preparation and vocational training.

   Another important aspect is that educational opportunities must be provided for young adults without any vocational qualification. Conventional continuing-training programmes in Germany rely very strongly on initial qualification. The problem for disadvantaged people is that they lack such initial qualification. So we plan to establish a qualification system for young adults without vocational qualifications, a programme oriented to the usual life circumstances of adults beyond the normal age for training. We consider qualification components, provided in a combination of learning and work, to be useful for this group. Our initial experience with this approach has been good.

5. A balanced, equal-opportunity vocational training system must also **provide support for particularly gifted young people**. We want to offer such young people more additional

qualifications, either during or immediately after vocational training, that will provide additional specialised knowledge and interdisciplinary, relevant qualifications.

Such qualifications are to enhance employment versatility immediately after completion of training. At the same time, they are to provide a bridge to continuing vocational training and incorporate elements of continuing training. They are to be supported by a regionally differentiated database on training opportunities with additional qualifications—for both companies and young people and oriented to practical requirements.

In addition, we want to ensure that interested, committed young people are properly challenged; we want to do this by intensifying use of existing legal opportunities to shorten training as the specific situation of young people permits.

6. In addition to these issues, we in Germany are working on **long-term structural improvement of training and continuing training**. This is a discussion process involving the social partners and the *Länder* as well as representatives of the science and training sectors.

   All those involved in this process agree that dual vocational training requires the occupational principle and that employability will continue to be the decisive criterion for training occupations. This must be the basic measure for all considerations regarding further flexibility, use of electives and certification of acquired qualifications.

   The quality of vocational training is to be reliably protected by means of nationally defined occupational standards. This focus, which will also enhance job-market transparency, is growing in significance with respect to the future European job market.

   At the same time, training must reflect new developments in industry and administrations more dynamically and must be able to acquire more specific forms as necessary. Future vocational training should feature greater differentiation and flexibility while strengthening the connection between specialised learning and support for key qualifications. Training regulations must be limited to the basics, and learning objectives must be formulated in a way that is open with regard to methods, that is oriented to action and that is aimed at the final desired qualification. This will provide the necessary latitude for specific structuring as necessary.

7. **Effective co-operation between companies and vocational schools** considerably enhances training quality. Vocational schools must have modern equipment and qualified teachers—qualified also with respect to use of new media. Recently, industry has helped out with comprehensive initiatives for providing Internet access and developing educational software. We see this as a sign that we are providing the necessary social support for improvement of our country's educational system.

In addition, the social partners have signalled a willingness to provide greater support for continuing education for teachers and instructors. This willingness on the part of companies must now be quickly exploited by vocational schools and school administrations. Furthermore, the *Länder* are now called on to intensify support for training of sufficient numbers of young vocational school teachers. All technical progress notwithstanding, teachers remain the heart and soul of vocational schools.

8. As observers of the German educational system, you may be surprised that although our vocational training system has such a strong tradition, we still feel we have not solved the problem of **equivalency between general and vocational training**. For years, the federal government has worked on behalf of the principle that the same educational objectives can be achieved via different types of curricula.

   Equivalency of vocational and general education ultimately means that a qualification in a recognised training occupation provides the same access to advanced education as secondary school qualifications. In our view, vocational training should be seen as an equivalent path for personal, social and cognitive development of young people. We are not yet satisfied with our progress in this area.

9. Innovation and competitiveness cannot be protected without **continual improvement of vocational qualifications and skills**. Qualifications acquired in initial vocational training must permit entry into a first occupational phase. However, if we want to assure every person's employability, while ensuring that companies' current qualification requirements are met, both sides—employees and companies—must see continual adaptation and improvement of qualification as a shared responsibility.

   Our concept for continuing vocational training calls for all major forms of learning to be supported. This includes close interrelationships between on-the-job learning, learning in social environments, learning in continuing training institutions and also informal learning. Increasingly, learning is taking place with modern IT-based methods. The aim is to greatly increase the numbers of people who participate in continuing vocational training.

   Those people who have not yet begun, or not yet completed, vocational training, must be encouraged to participate in learning again. And learning opportunities must be provided to the long-term and temporarily unemployed, opportunities that enhance employability. Such efforts can include unconventional models such as 'job rotation'. Under the job-rotation model, unemployed people temporarily substitute for employed people who are participating in continuing education. Such temporary employment is to help unemployed persons to return to the first labour market.

   Research shows that most additional skills are acquired informally, on the job. Therefore, companies and employees must make more systematic and intensive use of opportunities to learn in the workplace. Companies must consider opportunities for on-the-job

learning, on all qualification levels, as necessary personnel-development measures and valuable investments in their own competitiveness.

10. All of these vocational training measures are integral parts of our **concept for support of lifelong learning**. The federal government maintains that the educational system, and especially the pluralistically structured continuing training sector, can be improved by creating incentives through state support, but not exclusively through legal regulation. In keeping with relevant decisions of the EU, UNESCO, the OECD and the G-8 meeting in Cologne, it is thus preparing an action programme that will combine federal research, development and testing measures, in various educational areas, within a single strategy. This programme is oriented to integrated, sustainable support of lifelong learning and to the broadest possible implementation of innovative concepts.

    The reforms planned within this action programme, known as 'Lifelong learning for all', are aimed at bringing about a learning society in which all people can use a wide range of educational opportunities—including informal, self-directed learning—throughout their entire lives.

    The action programme's essential goals include:
    - enhancing learners' own responsibility and independence and eliminating inequalities of opportunity
    - promoting co-operation for linking training programmes with training demand and for integrating educational and training areas

    The action programme's support for equal opportunity of men and women is designed as a central, interdisciplinary task (gender mainstreaming).

    Innovation in the following areas is to receive support priority:
    - linking training sectors and training providers on the regional and supraregional levels, while making use of existing co-operation
    - enhancing transparency of available opportunities, and improving information and advising
    - assuring quality, through transparent, comparable procedures
    - certifying and recognising occupationally useful qualifications and skills, including those acquired through informal learning processes
    - supporting motivation and interest of groups that have tended not to participate in training or that are disadvantaged, and doing so also in the workplace
    - developing concepts for integration of the unemployed
    - using opportunities provided by new media to develop new programmes and courses, and supporting media skills and self-directed learning

    This action programme has been set up to cover a broad range of educational areas, and it conforms to Germany's division of competencies between the federal government and

the *Länder*. Innovations will be implemented by sub-programmes and projects that are independently controlled.

11. The action programme's real innovative approach is to support networks, on both the regional and supraregional levels, of training sectors and training providers. The primary aim is to bring together training providers with those seeking training (persons, companies, etc.) and other interested persons, **to form 'learning regions'**. This will
    - enhance interest in and skills for independent learning
    - enhance the quality and quantity of training opportunities, also in terms of greater orientation to users

    These networks will build on the experience and co-operation structures available in the *Länder*, regions, cities and communities, and on existing approaches for establishing citizens' learning centres. We can build a 'learning society' only if we respect the various regions' specific characteristics. Regional networks make it possible to orient education and training to specific regional requirements and to specific needs of individual persons, groups and companies. The networks' basic tasks will include:
    - supporting mobility between educational and training sectors
    - enhancing links between general, political, cultural and vocational training
    - strengthening co-operation between educational, employment and labour-market policy, in order to enhance individual employability
    - enhancing transparency of educational and training opportunities, within the meaning of greater orientation to customers—for example, by concentrating information, advising and teaching programmes and providing new types of services, including services for self-directed learning
    - improving the quality and usefulness of training opportunities—for example, by agreeing on quality criteria and discussing procedures for quality development
    - developing and testing further training modules for personnel, in areas such as learning techniques, methods/didactics, learning advising and support, and network management
    - supporting individual creativity and responsibility in both formal and informal learning—for example, by means of new learning arrangements
    - jointly certifying learning success in formal and informal learning
    - improving access to new information and communications technologies, and enhancing media skills

    This network programme is to begin in summer 2000 and is to run for five years initially

Ladies and gentleman, I hope that in spite of the many details involved, I have given you a clear picture of the current vocational training discussion in Germany.

Part III
Perspectives from the vocational education and training sectors

5

A practitioner's perspective on current vocational training issues in Australia

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1. Introduction

The superordinate themes explored in this paper, through a brief overview of the current national and state VET scene and of the major issues facing public sector vocational education and training (VET) providers, can be summarised as:

- seamless education and training: articulation pathways
- globalisation
- implications of an ageing population
- the role of industry
- funding: who pays?
- technology and on-line learning

This paper responds to a request to:

- comment on some of the national and state issues relating to vocational training
- take the perspective of a practitioner on current training issues in VET
- proffer suggestions about some areas of gaps in policy

It is understood that the intention underlying the conference organisers inviting this commentary was to make a link between practitioners' perceptions and research. It is therefore stated at the outset that the paper does just that: provide perceptions. Research findings and perception can often be at variance, but perceptions carry their own weight, sometimes equal to or greater than research findings. In any event, they can retard or accelerate the implementation of change recommendations arising out of research. Those presented here are included in good faith.

The observations made in this paper should also be regarded as indicative of a snapshot in time. A recent change of government in Victoria has significantly changed the policy setting, but it is not yet completely clear how this will manifest itself over time.

2. Overview of Swinburne University of Technology

By way of setting the scene, some comments are made on the background to, and present characteristics of, Swinburne University of Technology as a means to explain the context for the perspective offered.

The Technical and Further Education (TAFE) system in the state of Victoria has its origins in the 1870s in Ballarat, following the heady days of the goldrushes that brought many prospectors and fortune seekers to the state. As surface gold resources were depleted, there emerged a need to train those who had settled in the burgeoning new communities in alternative skills or in advanced skills to support the larger mining industry. This led to the establishment of the 'Schools of Mines and Industries'. The counterparts in the cities were Working Men's Colleges.

In that same tradition, today's Swinburne University of Technology commenced as the Eastern Suburbs Technical College in 1908. Its founder George Swinburne was a local industrialist, later politician and philanthropist who was aware of skills shortages for local manufacturing companies and established what was to become known as Swinburne Technical College. The institution became public, underwent rapid change and development but always retained its vocational training roots.

When Technical and Further Education became a separate educational sector nationally in the 1970s, a part of Swinburne was still identified as the TAFE college. Swinburne officially became a university of technology in 1992, but this has not prevented the TAFE component from developing separately and in its own right. The TAFE division of the university, as it is known today, has undergone two mergers and is now as large as the university component itself.

Swinburne University of Technology is one of five dual sector universities in the state and Victoria is the only state that has fostered a dual sector approach to this extent. Following a round of mergers in 1998, over 35% of the state's TAFE provision and 41% of the metropolitan area's provision occurs within a university environment. Since in the metropolitan area, the dual sector universities are also three of the four largest TAFE providers, this proportion is likely to increase in future.

This history has given Swinburne some unique characteristics and advantages:

- a university sector which has a long-standing tradition of working with industry and therefore a strong applied orientation in both its teaching and research functions

- a TAFE sector with the capacity to respond to its own market within a conglomerate organisational structure
- a vibrant intersectoral strategic framework, which is focussed on providing innovative pathways for students from TAFE to university
- the capacity across the institution to respond to the training needs of industry from the shop floor to the boardroom in a 'seamless' fashion

Dual sector institutions such as Swinburne University of Technology face challenges in providing an integrated approach to education and training:

- Universities' recurrent funding is federal while TAFE recurrent funding comes from the state. The dual sector institutions are therefore frequently in the position of juggling between the policy and funding priorities of the two government levels.
- For example, the TAFE/VET sector has often been seen as an instrument for implementing government policy, particularly with respect to education and training strategies for the alleviation of unemployment. Where federal and state education policies are aligned, this presents no problem. But where there are different emphases, there may be issues in maximising synergy for students and staff.
- State differences in TAFE policy ultimately have an effect on the cohesiveness of TAFE across the nation and the way the sector is perceived by industry.
- Within an overall policy context of promoting lifelong learning, there is considerable emphasis at national level on the importance of 'seamlessness' and 'pathways between sectors'. However, since Victoria is the only state with a significant proportion of dual sector activity, there has been no impetus to develop a national policy position on the dual sector approach. Indeed policies are often developed without reference to the reality of the dual sector context and may lead to their having quite different implications for the university sector from the TAFE sector.
- Even within Victoria, where so much TAFE is offered within a university environment, there is no clear state position on dual sector provision.

At local level, Swinburne University of Technology has developed over-arching strategic directions which provide a framework for TAFE and university sector strategic plans and provision. In abbreviated form, these state that the university will be characterised by:

- global operations, with partnerships
- focussed programs for defined markets
- entrepreneurial culture and approach
- flexible learning and lifelong learning
- being research intensive

The council of the university also auspiced a committee—the Intersectoral Advisory Committee—with the charter of fostering intersectoral activity and the capacity to fund

intersectoral projects. The committee is actively working to promote intersectoral pathways through:

- credit transfer
- dual awards
- common first year programs for TAFE and higher education
- nested programs
- advanced standing
- guaranteed entry
- recognition of prior learning

From the above, it can be seen that Swinburne can be regarded as a microcosm of issues of integration of national and state policy.

3. Brief commentary on the national scene

Germany has a centuries' old tradition of vocational training which has remained relatively stable and adjusted to changing needs through incremental change. Its reputation is international and the envy of many developing countries.

Australia's education system as a whole undergoes constant and radical structural change. The TAFE system is no exception, as part of what appears to be an elusive search for a perfect system. A further characteristic of these ongoing changes—more recently referred to as 'reforms'—is that they often borrow from the experience of other countries, perhaps even before they have been fully tested in the originating country. The UK, USA in particular but also Germany have all been sources of ideas to emulate.

The creation of the Australian National Training Authority (ANTA) is one of the more fundamental recent reforms and is less than a decade old. It represents a compromise. Originally intended as the national authority for vocational training policy, its intended role was watered down to include the combined authority of the federal, six state and two territory governments. The Commonwealth, state and territory ministers meet as the ANTA Ministerial Council. Hence ANTA's role and status can be challenged or supported according to the ever-changing political power balance between federal, state and territory governments. To some extent, therefore, it is buffeted between often competing training authorities, with ANTA bureaucrats left with the task of finding a rationale for a 'moving feast'.

For example, the state of New South Wales delivers 40% of the nation's VET and is likely to vary between resistance to and support for ANTA policy, depending on the configuration of the distribution of political power among the Commonwealth, states and territories.

For these reasons there is always an extent to which ANTA will be perceived as remote from, and even irrelevant to, 'the action' at provider level.

Nonetheless, ANTA has achieved much in its first ten years. The implementation of national policy, national curriculum, the national qualifications framework, the national data collection, promotion of VET research and the registration of providers, to name a few, have all assisted the advancement of VET.

But there is some cynicism among providers about ANTA's apparent claim to have been responsible for achieving industry involvement in vocational training. In their best manifestations, providers have worked closely with industry for decades. ANTA's initiative of the National Training Framework, consisting of training packages and the Australian Recognition Framework claims ownership of the concept of an 'industry-led' or 'industry-driven' system in a way that is bound to create tensions and even alienation with providers.

While it is acknowledged that ANTA's approach was genuinely meant to have had a coalescing effect on providers and industry, in practice it appears to have had an almost equally polarising effect instead at that policy level. Meanwhile, there continues to be, as there always have been, numerous practical examples of industry and providers working closely together at the practice level.

A specific area where there is a lack of alignment between ANTA and at least the Victorian TAFE providers is in the area of internationalisation/ globalisation. The key achievements of ANTA's first ten years listed earlier—with training packages still in question—have positioned Australia well in the international market, as is explored further later in this paper. However, ANTA has not actively engaged in policy or strategies to promote internationalisation, whereas most providers would have an explicit and aggressive internationalisation strategy. If Swinburne is anything like a typical example, such a strategy would include policy on and/or targets for areas such as:

- international student recruitment
- international projects—aid-funded and private-sector funded
- internationalisation of the curriculum
- staff exchange and other off-shore experiences
- student exchange and other off-shore experiences
- flexible delivery, on-line education, open learning
- off-shore alliances and campuses

This situation, where the providers are potentially scoping their activities more broadly and more futuristically than the national training authority, places ANTA in danger of being perceived by the providers as distant, out of touch or parochial.

4. The state environment

The state TAFE system in 2000 bears the hallmarks of seven years of conservative government which was characterised by emphasis on:

- government's role changing from being a provider to a purchaser of training
- creation of a training market by shifting 20% of the public training dollars to a contestable basis open to both public and private training providers, whereby the greater proportion went to the private sector
- competition between the public and private training providers
- competition between public providers
- successive years of cuts in spending on training to the point where government referred to itself as 'subsidising' public sector training
- pressure on public providers to generate income as a means to survive
- merging of smaller institutes with the stated intention of achieving economies of scale

There were several positive aspects about this approach. To a significant extent, Victorian providers relished the competitive environment and managed it consciously as a means to become more responsive to industry; open up their spheres of influence beyond the immediate local catchment area to interstate and overseas markets; generate income; and achieve savings in delivery. Quite early in the government's term of office, Victoria achieved the status of being the most efficient, as in the cheapest, provider of vocational training, while still managing to fare well on national benchmarks for quality.

Further, in emphasising the economic aspects of the TAFE system, considerable attention was given to the issue of globalisation of the sector in terms of international student recruitment, securing of international private sector and aid projects and development of on-line delivery capability.

This was underpinned by a series of initiatives, some of which were regarded as quite bold by other states, and which included:

- four ministerial missions overseas to market Victoria
- the freeing up of individual institutes to travel and market overseas to a level equivalent to the autonomy enjoyed by universities in this regard
- the creation of a private company to bid for international projects
- a Travelling Scholarship Program (international and domestic) for staff
- the commissioning of a Victorian TAFE Virtual campus

As a result, Victoria became arguably the most successful state in international activity, outcomes and income generation. However, by the end of the seven-year period a number of previously high performing providers were on the brink of insolvency.

It is also important to note that in this environment, where competition, privatisation and efficiency were the catch-cries, the training market was created at the expense of any real clarity about government's expectations of the extent to which industry should fund its own training and which, if any, industries the government saw as priorities for the State's future.

A change of government in Victoria at the end of 1999 took most observers by surprise, including the new government itself. However, despite having been developed in an environment of what was widely seen as a remote likelihood of winning government, policies for vocational training were reasonably comprehensive and well articulated. The new Minister for Post Compulsory Education, Training and Employment is widely regarded as being abreast of the portfolio and poised to have a considerable impact on the sector and on government generally.

Changes of government often serve as a watershed for educational policy, because they flush out which of the previous policies will and which will not survive. Consistent with earlier comments about ongoing change, this new government, while making it clear that it was not in the business of undoing the past, lost little time in announcing three major reviews relating to vocational training. Here it is not implied that the reviews were not warranted. On the contrary, they have the potential to significantly reshape future directions.

The first of these is the 'Review of Post Compulsory Education and Training Pathways'. This review was designed to focus more widely on the seamless education continuum to that mentioned previously: pathways between secondary school and TAFE, universities or work. Of the three reviews, this is the one most central to the conference theme of lifelong learning, as it addresses movement across secondary, TAFE and university education and the importance of ensuring the best opportunities for all students from an early age. [This report (Kirby report) is now available online at www.deet.vic.gov.au/deet/postcomp/articles (eds).]

The second is the 'Review of the Quality of Training in Victoria's Apprenticeship and Traineeship System', which is examining whether the current system ensures the quality of training and whether it is equipped to meet the challenges of the next five years. [This report is available at www.pete.vic.gov.au/new/Schofield/index (eds).]

And finally, the 'Financial Audit of TAFE Institutes' was designed to identify for the new government those TAFE institutes at financial risk and the extent to which this was the case.

More recently, too, the new Minister has commissioned an internal report seeking recommendations on the future arrangements and structure for international activities of the government and the TAFE providers. This report has received relatively low profile but is significant in the context of this paper.

In addition, in March 2000—early in its term—the new government instigated a major summit 'Growing Victoria Together' of 100 business, community and union leaders with the

implicit aims of both allowing broad input into policy directions and consolidating the government's position. Skills training and development was high on the agenda with a noticeable shift in emphasis back to public sector provision—a reversal of the trend of the previous seven years. This has implications for the funding of vocational training, since Victoria's TAFE funding had fallen well below the national average. In fact, the Summit identified that if Victoria were to be funded at the national average, an additional A$115m would need to be allocated.

The final communiqué of the summit contained the following recommendations:

- The government should establish a consultative body of all stakeholders to advance the objective of seamless education and training systems.
- The government should set training priorities for and direct further effort to those industries and skill areas where it will have the greatest economic and social impact. Particular attention should be given to the information technology industry and small business.
- The government should audit the adequacy of training provision across different industry sectors and examine the possibility of rewarding business investment in training through tax concessions.

The following statements made by the new Minister in an address to the Summit further illustrate the changed indirection:

> *… we will be considering greater targeting of expenditure. We should not be afraid to set priorities. The reality is that our training commitment will impact more positively on some sectors of industry and business than others.*

These statements encapsulate some of the recurring themes of this paper, namely:

- how to achieve a seamless education and training system
- how to best direct the government's investment in training
- how to promote industry investment

With the election of the new government in Victoria the three states of the eastern seaboard—the most densely populated part of the country—are all Labor states, while the federal government is Liberal (conservative). The new Victorian government will undoubtedly seek to carve out a different profile from its predecessors at national level and will be assisted by this new distribution of power. This will again change the dynamics within the ANTA Ministerial Council.

5. Curriculum and delivery issues for practitioners

The scene at state and national level described above throws some light on the debates that are current in the educational media about vocational training issues. All of them are relevant

to the theme of lifelong learning. Some of the most common current themes explored below are:

training packages	&	traditional curriculum
the role of industry	&	the role of training providers and teachers
industry-funded training	&	government-funded training
competent/not yet competent assessment	&	graded assessment
operator/entry level training	&	the training needs of older workers
traditional programs, delivery methodologies	&	technology and on-line learning
the merits of competition	&	the merits of collaboration
a state/national focus	&	an international focus

5.1. Training packages and traditional curriculum

One of the most contentious changes in recent years has been the implementation by ANTA of what have been somewhat inappropriately titled 'training packages'. This initiative was in part an effort to avoid the mistakes of the British, who had ended up with the NVQ approved by industry and the GNVQ approved by the education sector. ANTA wanted to have one, and only one, system and that one system would represent industry's view.

The solution was to put industry in charge of determining the competencies to be acquired, how the competencies translated into qualification levels and the assessment guidelines. Training providers were not involved, and were even excluded from this process as a means to ensure industry was perceived as 'driving' the training agenda. In this new arrangement, training providers became responsible for developing the resource materials to support learning, assessment and professional development. Strictly speaking, 'curriculum' in its traditional sense had had its day.

This development has led to raging debate across the nation which is occurring on a number of levels. Like so many similar changes, the best examples of training packages have received thunderous endorsement from industry and providers alike, while the poorer examples are grist to the mill for those wanting to 'knock' the system. There is a huge divergence in the quality and acceptance of the training packages based on issues such as:

- the cohesiveness of the industry 'voice'
- the strength of the training tradition in the industry
- how the industry parties who determined the competencies were selected
- what interests they represented
- the ease of alignment between existing curriculum and the packages
- the extent to which new competencies were identified
- the extent to which providers/teachers have embraced and prepared themselves for the change

- any political positions of teachers or industrial relations implications

As stated above, where these issues have worked well the results have been excellent, but this has not always been the case.

There are probably two areas where training packages have presented real issues for providers, particularly those such as Swinburne. The movement away from curriculum content to sets of competencies under a training package has added a significant dimension of difficulty in articulation:

- There was a need to familiarise the university sector on what training packages were and how they related to the previous system.
- Large parts of the university sector have always challenged competency-based training, so making this into the centrepiece of VET delivery served to revive that debate.
- There was often no straightforward match between the training packages and the degree programs.

The concern about this situation is that students might be disadvantaged. To ANTA's credit, this was recognised. In conjunction with the Australian Vice-Chancellors' Committee, a national project was funded to map training packages to degrees in attempt to resolve some of the articulation issues.

For Swinburne, as a dual sector institution, the issue was more immediate and therefore needed more speedy attention. The University's Intersectoral Advisory Committee therefore funded three major internal mapping projects in the areas of Information Technology, Business Administration and Community Services and Health. From these projects, three generic templates were developed which have facilitated ongoing mapping work in other disciplines.

Related to the issue of articulation between the sectors, is how training packages work in an environment of internationalisation:

- How are such programs marketed?
- How are they made comprehensible in a student or staff exchange environment?
- Where the competencies were identified by Australian industry personnel for Australian circumstances, to what extent can it be assumed that they will be globally relevant in the context of internationalised curriculum?

These questions have had to be addressed after the event. They are highly relevant for providers, but may have been underestimated in importance by ANTA.

As mentioned previously, ANTA has not identified internationalisation/globalisation as a priority. This example points to the question of whether ANTA can afford to continue with this view.

5.2. The role of industry and the role of training providers and teachers

The previous point illustrates one of the major areas where there have been tensions between industry and providers, namely who determines the content of training. There would be many who would hold the view that while agreeing that it was important to move away from a system where the providers effectively controlled the content of training, the trend has gone too far in the opposite direction. Indeed it appears that this has been acknowledged to some extent by ANTA. Had providers been more involved in the process of identifying competencies, for example, it is almost certain that articulation and globalisation issues would have been addressed earlier. The challenge still exists to develop a workable collaborative partnership between industry and providers at both the policy and practice levels.

A second area relates to the delivery of training. A number of companies have become registered training organisations (RTOs). This means that they can apply in their own right for funds for training. At the same time, public providers are encouraged to deliver in the workplace. Thus the situation has arisen where companies may obtain their own funds as well as accept training hours from one or more public providers. Companies who know how to work the system can soon reach the conclusion that the government is willing to pay for all their training.

Public providers, on the other hand, often seek to use their work-based training hours as leverage to obtain further fee-paying work with industry. With some companies this works, but with others it causes tensions because of the expectations described above.

Add to this issue the fact that the previous government did not specify the industries to which it was giving priority for training, and it becomes clear that there is a policy gap which should be addressed. It is safe to assume in the current climate that the new government is not prepared to fund all industry-based training in an open-ended fashion. Therefore, as indicated in the outcomes of the Growing Victoria Together Summit, it can be anticipated that priority industries will soon be identified as will the relationship between training funds directed to industry and funds directed to public providers but available for use in industry.

The third area relates to assessment and here the partnership appears to work. Within the training package arrangements, providers are assigned the role of assessment. Providers have tackled this in two major ways, by conducting assessments on behalf of industry and by providing training for assessors in the workplace.

5.3. Industry-funded training and government-funded training

As already pointed out there are tensions at all levels about the questions of who pays for training:

- How much should industry contribute?

- How does government know that the companies accessing government funding for training are those which will yield the most value to the State's economy?
- How should government identify its priorities funding industry training?
- What should the distribution of government-funded training be between private and public sector?
- Should industry be able to access training funds and then supplement them through public sector training? If so, are there any conditions to this?
- How does the government ensure it gets good value from its investment in public sector providers?

National data show that just over half of the expenditure on VET in Australia per annum is privately funded. However, this is not all attributable to companies investing in training. Included in the figure are commercial training business, commercial colleges and non-profit training organisations.

The shift currently occurring in Victoria from opening up access by the private sector to government funding simply as a means to create competition and without increasing the overall resources available, to identifying industries which the government wishes to support and increasing funding to the public sector is acknowledgement that:

- government cannot afford to pay for all training
- opening up the training market principally to create competition has not necessarily been a strategic approach from the point of view of advancing the state's economy
- providing access to government funding by the private sector is not necessarily conducive to encouraging industry to invest more in training
- opening up access to government funding by the private sector has ultimately been at the expense of the viability and perhaps quality of public sector training

Victoria and probably Australia generally are still debating these issues. The fundamental question of the balance between public and private sector training is still to be resolved.

5.4. Competent/not yet competent and graded assessment

Assessment arrangements for competencies have always been in the form of 'competent' or 'not yet competent' and this has become part of the orthodoxy of VET.

Alongside this, however, there have also been debates about whether this approach works for students, industry and other educational sectors and whether it is understood clearly by the community at large. This, again, is of particular importance to a dual sector university like Swinburne where several important trends have been observed:

- There has been ongoing feedback from industry, students and tertiary institutions about the apparent limitations of a competent/not yet competent approach to assessment.

Where, for example, a company employs a number of apprentices all of whom have been assessed as 'competent', and is looking to select the best of these for further development in the company, it is often the case that they will approach the providers for a ranking of these apprentices.

- The issue has also arisen with respect to VET programs conducted within the final year of secondary school, leading to moves to grade these programs consistent with the academic final year assessments.
- There is some anecdotal evidence that reliance on a competent/not yet competent approach may restrict career progression for employed students undertaking training. This has been identified as a key issue for student access to articulation through the projects commissioned to map training packages with degrees.
- Where entry scores for university are pushing up the entry levels, access for high-achieving TAFE students may be restricted unless their relative ability can be readily and reliably identified.

As a result of this, in principle, agreement has been reached within Swinburne on the introduction of graded assessment in the TAFE division. A major seminar has been conducted on the issue drawing on models that have been developed for VET programs in the secondary school curriculum and for VET in other states. A project team consisting of TAFE and university staff has been established to ensure the process adopts the necessary rigor to maintain credibility within the university, while at the same time retaining the integrity of TAFE assessment.

5.5. Operator/entry level training and the training needs of older workers

In recent years there has been much emphasis on the need for operator and entry level training, especially through apprenticeships and traineeships. One of the reasons for this has been the need to address the issue of unemployed and disaffected youth. Studies have shown particular problems with rural males and unacceptable levels of youth suicide. Many of the funding priorities have therefore rightly supported action in this area. There is no doubt that entry level training is important and that the future of the nation relies heavily on the skill base of its youth.

However, it is also the case that, like many other Western countries, Australia has an ageing population and that the emphasis on lifelong learning has to some extent been heightened because of this. Further, radical changes in industry due to restructuring, mergers, downsizing and the like have caused numbers of older workers to be displaced. There are many training implications of this situation:

- There is a need to provide skills upgrading for older workers seeking a career change or self-employment.
- Myths about the capability of older workers which need to be dispelled.

- New industries are emerging to meet the needs of an ageing population, which will require new skills to be developed.

This is another area where policy shifts may be required since at present there is little in the way of a consistent approach to addressing the training needs of older workers.

5.6. Technology and on-line learning

Australians are reputed, or at least imagine themselves to be, a nation of people with a high take-up of technology. However, as a young nation with a small population base, it is a challenge to be at the leading edge of developments in technology and of on-line product.

There is no doubt that the rise of the knowledge/digital economy presents huge challenges for Australian VET providers in:

- obtaining and maintaining adequate and relevant equipment and expertise
- responding to curriculum change to remain relevant
- obtaining the most cost-effective financial and human resources through the creation of strategic alliances

At the most practical level, providers are struggling to get funds to obtain and maintain appropriate levels of equipment. For example, across the six campuses of the TAFE Division of Swinburne University of Technology, there are currently around 1200 computers. Based on a three-year staggered replacement cycle, replacement costs would amount to about A$1.3m per annum.

This is double this year's (more than usually generous) government equipment grant and does not take into account all the other equipment improvements that are needed across the division, for example in automotive, horticulture, viticulture, performing arts, nursing, recreation and so on.

There is also the issue of the capacity of VET teachers to adapt to the convergence of technology and create new programs which will equip people for the knowledge economy.

Firstly, strategic human resource planning with associated professional development programs are crucial to maintaining the skills of VET teachers bearing in mind that the teaching workforce is ageing. The new government in Victoria recognised this as one of its first priorities by immediately including additional, targeted funding for professional development.

The TAFE providers are also engaged in a process of enterprise bargaining with staff. This follows a long period of no salary movement for TAFE teachers and a reduction of their salaries relative to other parts of education and to other states. This should be an opportunity

to revisit awards to align them better to future needs. However, the new government, seeing this as part of the process of redressing the cost-cutting emphasis of its predecessors, has released an enterprise bargaining framework which has only given limited opportunity for award changes to occur, with the salary catch-up as the higher priority.

Secondly, new interdisciplinary approaches to program design are required. A frequently cited example of this is the rapidly growing occupation of web-master, which combines skills in at least design, multimedia, information technology, software development and communication. These skills were previously taught as more or less separate occupational entities and the question remains whether providers will be able to adapt sufficiently quickly to these complex requirements of the workforce on a much larger scale. There are some examples of this occurring across disciplines and across sectors at Swinburne, but probably not fast enough.

With respect to the development of on-line product and in an age where major coalitions are forming to compete in this area, the best that is currently offering in Australian VET is various forms of collaborative, local alliances.

There are many examples of excellent practice in both the development and delivery of on-line training, but there is also a sense that it will be increasingly difficult to compete in this market. Many Australian states have adopted some form of statewide approach to the development and distribution of on-line product, through a centralised unit in government or a provider-based consortium.

However, this is insignificant when compared to, for example, the proposed global strategic alliance of Universitas 21 (a consortium of 18 universities across the world) with the Murdoch media corporation, especially when the next goal of U21 is to include Microsoft in the alliance. VET providers would find it practically impossible to operate on an individual basis in this scenario.

One way for this to be addressed is for government to take a leadership role in promoting the new knowledge economy. The previous Victorian government claimed to have appointed the first Minister for Multimedia and this appointment resulted in a hastening of the incorporation of on-line capability into the operations of government. The new government's approach has been espoused in its policy Connecting Victoria, but the practical implications of this are not entirely clear at this stage.

5.7. The merits of competition and the merits of co-operation

The previous point highlights that in the not too distant future, co-operation through strategic alliances is likely to become not a matter of choice, but a matter of survival. Previous specific reference has also been made to this being part of Swinburne University of Technology's strategic directions, but it is probably not an isolated example in this respect.

However, co-operation of this kind occurs in order to be able to compete, in order to differentiate the organisation in the market place and in order to protect the organisation against competitors making inroads into one's market share. Competition and co-operation are therefore not mutually exclusive.

TAFE providers in Victoria have experienced a period where forms of co-operation between providers were encouraged, but where ultimately competition was promoted as an ideology because of the way funding was structured. The impact of this has already been noted.

The government has made its position very clear on this issue. Co-operation between providers is seen as important for the overall advancement of the system and funding decisions will be influenced accordingly.

Again, this is a matter of balance. In the worst case scenario, co-operation can lead to complacency and an 'all care and no responsibility' mindset. Victoria has benefited from a period of competition. These benefits should not be lost.

5.8. A state/national focus or an international focus

The importance providers are placing on an international focus, despite a lack of emphasis on it by ANTA, has been alluded to earlier. Seven areas were cited in section 3 where this applies. For countries such as Australia to succeed in a global economy, the VET system must adopt a global view in its internal operations and in its face to the world.

Australia and Victoria have had some success in this respect. The study Australian VET Qualifications and their Standing in the International Market completed by Paul Morgan of KPMG in March this year and focussing on the major target markets of Malaysia and Thailand, concluded that the relative standing of Australian VET qualifications was perceived by the key stakeholders to be comparable to that of VET qualifications from competitor nations. This is not insignificant given the long history of countries such as the UK in this field. Major contributing factors to the findings of this study were:

- cost
- quality of teaching
- competency certification
- the capacity to articulate to further studies

Despite the narrowness of the study with respect to countries included, these advantages demonstrate that Australia has achieved sufficient success in internationalisation for it to be worth building on.

Moreover, the VET system, and for that matter the university system, have become reliant on international activity as a source of income. This particularly applies to international student

recruitment and international project work from the Asian countries. The same KPMG study identified reasons why international students choose Australia as a study destination:

- low living costs/favorable exchange rate
- absence of racial tension
- a stable society
- the possibility of international students undertaking part-time work while studying

6. Issues for providers

The issues explored so far in this paper—some of them polarised and political—can be translated into the following summary of currently most pressing concerns for providers:

- How to ensure students are not disadvantaged in the implementation of training packages of widely varying quality as they are 'bedded down'.
- How to maintain pathways arrangements where competencies do not align to higher education courses.
- How to promote seamlessness of education and training pathways to realise the potential for lifelong learning in ways that are meaningful and accessible for the community at large.
- How to respond to and remain relevant in the face of new and converging technologies with respect to curriculum content, teaching delivery methodologies and currency of staff expertise.
- How to manage a mutually beneficial relationship with industry.
- How to utilise and build Australia's recognised strengths in vocational training in the international VET scene and global economy.
- How to plan for the implementation of a dynamic future for the vocational training system in Australia in the face of the demographic reality of an ageing workforce, including in VET.
- How to plan financially for a viable and prosperous future at the provider level.

7. Potential areas for policy intervention

Arising from all of the above, some perspectives on areas for possible policy intervention are explored below. They are included regardless of whether they might be politically feasible at this time

7.1. A National authority

There remains a case for ANTA to be a national rather than a federal authority. This would bring greater cohesion and continuity to VET policy in a small nation which struggles to maintain its place in the world. It would assist the further improvement of the VET system's

standing with industry. And it would allow better integration between policy and funding for VET and higher education.

7.2. Internationalisation

Following on from the above, a national strategy for internationalisation of VET is required, covering all components of internationalisation. Such a strategy should explore, albeit after the event, how training packages are appropriately revised and marketed.

7.3. Dual sector institutions

With Victoria the only state that has seriously moved in the direction of dual sector (VET/university) institutions, there is scope to explore the relative benefits of this approach for other states and, if not to develop a clear position on this arrangement nationally, at least to do so in Victoria.

7.4. Access for youth

More work needs to be undertaken to improve the access of young people to education and training, both in the metropolitan and regional areas. In Victoria, there are expectations that the outcomes of the Review of Post-Compulsory Education and Training Pathways will assist in this process.

7.5. The ageing workforce

Without underestimating the importance of entry level training, there is a need for clearer policy to address the implications of an ageing workforce and ageing population. This would cover more positive strategies to ensure older workers are not excluded from making a useful contribution to society through opening alternative career options and strategies to develop the new occupations arising out of planning and caring for an older population.

7.6. Impact of contestability

Within Victoria and possibly nationally, the impact of a contestable funding regime on industry's investment in training, on the relationship between industry and public sector providers, on the financial planning capacity of the public providers and on priority areas for economic growth, needs attention. This would include the government identifying areas of economic priority and the overall funding available. The new government in Victoria is already directing its efforts to this.

7.7. Assessment and articulation

To promote a seamless education and training system, and ultimately lifelong learning, a shift in policy to formalise graded assessment in TAFE/VET needs to be considered. This would occur in such a way as to maintain the integrity of a competency approach, but allow students' achievements to be recognised for the purposes of competitive articulation into higher education. It should also involve the higher education sector representatives to ensure their confidence in the academic rigour of the approach.

7.8. Collaboration

Funding arrangements should be introduced that support a policy of promoting a collaborative approach between VET providers and between education sectors as a means to get better value for the education dollar and as a means to compete in the global education market.

7.9. On-line education

Governments at all levels need to adopt a policy of taking a leading role in the development of the on-line economy and to actively supporting the educational providers in underpinning this approach. Again, this appears to be underway in Victoria.

6

The international economy, changing employment and lifelong learning: Response of the vocational training sector in Germany

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Overview

There are two pivotal developments of the past 20 years that have caused most of the changes affecting the workforce and the need for training. They are:

1. micro-processor technology and its impact on information, communication, production, and work organisation
2. teams and groups are the new forms of work organisation and learning

Information and communication technology (ICT) is at the root of a process of transformation in the course of which industrialised societies are changing into knowledge societies and the management of production into the management of knowledge. There will be less and less manual work while computers become the main tool catering for information needs of all professions. As a result, letters and figures, into which all procedures have to be translated, become more and more important for all human activities at work and in private life.

Therefore, it must be one of the most important tasks of education to enable people to cope successfully with permanent change and uncertainty through:

1. information and knowledge about the reasons for the changes, including systems' knowledge (e.g. computer systems, banking systems, free-market systems)
2. skills on how to gather and select information and knowledge, and how to use them in planning and decision-making processes
3. problem-solving and practical skills, social and team skills
4. the personal development of the learner through general, vocational and professional education

The German response of the vocational training sector should be:

- more flexibility of VET
- more interaction between education, training and work

- more focussing on new ICT
- new methods of learning
- more work experience in relation with learning
- more training for self-employment
- more modularising within a complete vocational basic qualification/competence

In our world

- Computers are becoming a common tool not only for managers, but also for front line workers.
- All information is being digitised and transformed into computer-compatible letters and figures.
- The Internet is established as a world-wide information web, using English as the lingua franca of the knowledge age.

1. New methods

In addition to specialised content, action-oriented teaching and learning methods must be developed. During the last 20 years, more than 50 companies in our country have tested in several pilot projects, in conjunction with the German Federal Institute for Vocational Training, diverse approaches for developing training methods. These are mainly projects involving in-company training which aim above all to improve the trainees' ability to learn and not simply to transfer 'retrievable' knowledge or routine skills. Three examples of successful innovations are set out in boxes 1 to 3.

Box 1:
PROJEKTMETHODE (method used in the project)

This task-oriented learning approach aims to provide a useable final product. Mastery of various skills, knowledge and additional abilities along the lines of the qualifications are needed to produce the product. This method has proved most suitable particularly in workshop training for encouraging motivation and the transfer of an attitude for learning, methodological skills, and an ability to co-operate. The experience gained in the method of the project could be utilised in small- and medium-sized enterprises when attending to everyday work tasks.

Box 2:
LEITTEXTMETHODE (handbook method)

The preparation of handbooks obliges both trainers and trainees to analyse the learning goals and contents, and to plan a learning process adapted to the individual skills of the participants. This means that the functionality of the existing training organisation must be critically re-examined with regard to training goals, teaching contents, trainers, trainees and the framework conditions in the enterprise. The handbook method is therefore not merely a special form of instruction; it is also an instrument which can be used to investigate the necessary changes in in-company training.

Box 3:
JUNIORENFIRMA (junior firm)

The junior firm supplements the commercial, in-company vocational training, but goes beyond what a training firm does. It, too, aims to make the trainees in the company as independent as possible during the learning process under real company conditions. The activities of the junior firm differ from those of the training office in that its work processes are not simulated. Its business activities range from the sale of goods and services, e.g. staff purchases to handling in-house orders. Actual tasks in the company are used to familiarise trainees with commercial functions. This method also lends itself well to demonstrating in real terms the changes in the areas of activity of office staff which have been prompted by the appearance of information technologies in the office world.

Teacher and trainer are now expected mainly to support the trainees' own activities, to keep their motivation and their interest in the subject going, and to offer advice in individual instances of difficulties. The trainer becomes the investigator of learning processes and the organiser of learning situations which promote these learning processes.

2. Interaction between education, training and work

Successful transition from training to employment in line with their training for young people completing an apprenticeship is considered to be a central indicator of the efficiency of any training system.

Countries with a dual system of vocational training can justifiably claim to have the lowest youth unemployment rates in Europe. Although a training system cannot create jobs and is also not a substitute for economic or labour market measures, it can help facilitate the transition of young people from training to employment. In Germany, youth unemployment and indeed unemployment as a whole are now issues of major political importance.

In order to prevent the number of unemployed young people from rising or indeed to reduce the youth unemployment figure, Germany is relying first and foremost on the ability of the dual system to integrate even the less able youngsters into the labour market.

Given the problems of crossing the so-called 'second threshold', i.e. of the transition from training to employment, Germany has focussed on developing concepts which provide for a graduated approach to market access. One example here is part-time work associated with possibilities of in-house or external continuing training and increasing working hours to gradually approach full-time employment. There are also numerous collective agreements which facilitate the retention of newly qualified ex-trainees in regular employment—at least on the basis of a fixed-term contract.

It would be of considerable interest to exchange experience on the measures taken to implement the lead principle of European employment policy, namely to give all unemployed young people the chance of a new start before they have been jobless for six months. Denmark is a particularly interesting case in this respect as it has taken a series of measures geared to this objective, including imposing an obligation on young unemployed people to accept an offer to undergo training.

The problems encountered by young people when proceeding from training to employment are by no means only the result of personal shortcomings. Other explanations, alongside the general shortage of jobs, include structural problems which give rise to mismatches between the training system and the employment system. An example here might be if too many youngsters want to undergo training for only a few very popular occupations. There is a need here for consideration of how vocational counselling can be improved and attention be directed to alternative training opportunities. Although experience has shown that predicting changes in the skill requirements of the employment system is only a very inexact science, there is still a need to determine which instruments and procedures can be used to identify future skill requirements at the earliest possible point in time.

3. New information technologies

ICT is at the root of a process of transformation in the course of which industrialised societies are changing into 'knowledge societies' and the management of production into the management of knowledge. There will be less and less manual work while computers become the main tool catering for the information needs of all professions. As a result, letters and

figures, into which all procedures have to be translated, become more and more important for all human activities at work and in private life.

Within work organisation, the hierarchical structure of Taylorised work is disappearing. Teams and groups, the members of which play different roles in pursuing a common aim, product or service, are the new forms of work organisation. They communicate by written, telephoned, faxed, computerised or verbal information. There is little room for unskilled labour. As a result, language, mother tongue and foreign—mainly English—and mathematics become job-important though not job-specific tools for communication in all work processes. This applies to the work of a toolmaker using computer-numerical control (CNC) machines as much as to the horticulturalist's CNC irrigation. Front-line workers join the team that is responsible for overall planning and process-control. They are expected to play their own positive role—they are no longer cogs in a wheel.

All new technologies (information, bio, genetic) emphasise research, learning, teaching and services, rather than the production of goods. Thus, employment in industrial production will be reduced, while demand for skills, knowledge and over-arching capabilities will continue to gain in importance.

Growing ecological consciousness will become a very important economic factor in the foreseeable future. Eco-knowledge is an important part of it, but eco-thinking is even more important. It has to be part of all education, general and professional. Nor can it be confined to selected professions. It must apply to all of them including lawyers, doctors, economists and technicians. Building a totally recyclable car with minimum gasoline consumption poses technical problems that are not necessarily more difficult to solve than those of building the largest or the fastest car.

All these changes cannot be mastered by curriculum revisions, new syllabuses or educational reforms. What we need are new ways of thinking. Of course, this is also an educational task. It concerns first of all continuing education for the workforce; secondly vocational and professional education; and finally general education. However, the task cannot be accomplished solely within the framework of education. It also involves the economy, the labour market, our social system and other features of society. Nevertheless, at its root, it all comes down to education.

In our new world

- Computers are a common tool not only for managers, but also for front line workers.
- All information is digitised and transformed into computer-compatible letters and figures.
- The Internet is established as a world-wide information web, using English as the lingua franca of the knowledge age.

As a consequence, mathematics, mother tongue and English are becoming more important for vocational and professional education than many of the practical skills that have traditionally been related to specialised training and vocational education. Specialised knowledge and skills are being transferred to continuing education and training, while initial vocational and professional education pursue in their turn the kind of educational objectives that have traditionally been the prerogative of general education.

4. Training for self-employment

The term 'employability' has become a catchword in the international discussion in connection with concepts to combat unemployment and the associated fears. However, the term has so far remained wide open to interpretation. Is it just a means of distracting attention from the demand for more and better jobs or does it really represent a concept for bringing about something approaching full employment?

Employability refers as much to the ability to be regionally mobile as to the flexibility to cope with variable worktime. A glance at the Dutch model shows, for example, that employability stands for a whole package of measures to expand employment; these include more part-time jobs and also reducing unemployment by opening up new fields of activity for the unskilled and the semi-skilled. There is no dispute, however, that employability depends decisively on making full use of human resources and continuously developing skills and competences.

Employability refers to the ability of the individual to develop his or her skills and competencies in order to cope successfully with critical periods of transition in working life. Much would suggest that individuals will be increasingly expected to be the developers and designers of their own skills. And it is no longer just a matter of navigating the transitions at the first and second thresholds: also to be managed are times of reintegration into the labour market after a period of unemployment or indeed horizontal and vertical mobility in one's present job. New job contents and skill requirements will mean ever more frequent switches between learning and working throughout working life. Even periods of self-employment, dependent employment and voluntary work are likewise increasingly becoming features of individuals' occupational trajectories.

There are indications that such 'patchwork' occupational biographies will become more common as the service society becomes a full reality. As the service sector takes on ever greater dimensions, there are signs of a fundamental change in working life and dependent employment. Heralded by manpower-shedding lean organisational structures, outsourcing practices, tele-workplaces and a growing number of persons in (voluntary or enforced) self-employment, new relations are emerging between core workforces and fringe workforces. It is probably only a minority of the workforce who will in future hold a traditional, permanent job within a stable organisational arrangement. The characteristic features of the regular job of the future will most likely be a fixed-term duration and a dependency on the existence of a

specific project; in many instances the boundaries between the employee and the employer in the classical sense will become blurred; an indication of this is the expansion of bogus self-employment.

One of the features of classical occupations is that they are based on a relatively easily definable set of requirements which are mirrored by corresponding skills held by the individual qualified for the occupation concerned. In the case of the new occupational fields and employment areas, the relationship between requirements on the one hand and skills on the other is largely open for continuous adaptation; the quest for proper co-ordination between requirements and skills will shape the profile of the occupations of the future. Openness and pressure to change are their characteristics. Holding skills in reserve will become less possible, and lifelong learning will predominate. Employability is therefore an unending challenge for all concerned.

5. Work experience

> *Increasing interest is being shown in the company as a place of learning and in forms of training which are integrated into the work environment. Learning processes which take place exclusively outside the work environment are no longer able to meet today's increasingly demanding skill requirements.*

The players involved in initial and continuing training and in the tertiary sector are showing a shared interest in exploring the merits of the company as a place of learning and of learning in a work environment with an inherent 'learning value'. The debate on possible reforms has already produced corresponding calls for a '*duality of learning*', a dual system of continuing training and dual-venue higher technical education courses analogous to the two-venue structure of the dual system of initial vocational training.

This trend has much to do with the fact that the changes taking place in working life have produced a quantitative and qualitative demand for skills which cannot be acquired exclusively through learning processes which take place in isolation from work, i.e. in courses, seminars, etc. It is particularly the key skills, e.g. the ability to co-operate and communicate, creativity, abstract reasoning, which are no longer requirements for traditional academic jobs only; these skills are the trendsetters in virtually all jobs and although they can be refined through formal learning processes, they are generated and developed by *learning during work.*

In the corporate continuing training sector, various forms of learning during the work process have already become established practice: the classical forms such as courses and seminars are increasingly being displaced by forms which are close to or integrated into the work process; in some cases all forms of pedagogic intervention are dispensed with altogether and the venture relies first and foremost on informal learning, learning by working.

Approximately three-fifths of all companies (with a workforce of over 10) are today drawing on work-related forms of continuing training, these being understood mainly as instruction by a superior, induction training, exchange schemes, job rotation schemes, learning workshops and quality circles. The predominant form is still the classical concept of coaching, but large companies are already using the more modern continuing training concepts, e.g. job rotation and quality circles. Almost three-quarters of all companies ran some form of continuing training in the form of courses, and continuing training at the workplace was offered by two-thirds of European companies. This trend shows that in order to develop and maintain their employability, employees are increasingly needing forms of training which are related to or integrated into the work process and are furthermore backed up by work structures and workplaces which are conducive to learning.

Informal or 'self-directed' learning at work has won an increasing significance in the discussion on vocational education and training. Politicians and researchers, trainers and experts in personnel development stress the importance of individual work experience and learning in the work site beside the well organised and monitored training and education courses in enterprises, vocational schools, and training centres. Both the enterprises as well as the individuals are forced to adapt quickly to new challenges and tasks. Continuous learning is necessary to survive in the global competition and to assure personal employability. That is an international consensus.

Informal learning on the job, self directed learning in different work situations and by using modern multimedia-systems (distance learning supplies) is proposed, sometimes as the best form to acquire the needed skills and knowledge just in time. Under these conditions the new competencies are learned in the concrete work situation; there is no need for transferring; the skills and knowledge can immediately be applied. But on the other side: the competencies are very job specific, often narrow and not transferable. Neither formally organised vocational education and training alone nor informal learning at work alone can assure the development of those competencies which enable companies and individuals to cope with the changeable conditions of work reality and societal life. Innovative and flexible combinations of both learning venues must be designed, tested and established. That is an ambitious new task for researchers and practitioners in VET.

With the increasing relevance of informal learning at work (work experience) as a source for lifelong competence development the question arises, how it can be tested and recognised. Everybody builds up an individual know-how through informal learning which forms his/her individual expertise. Therefore, individuals must be highly interested—for labour market reasons as well as for planning the education career—to get a certificate. And also the enterprises should know better the qualification potential of their workforce for better assignment and personnel development.

Formal education and training is characterised by an elaborated examination procedure and an agreed certification concept. But what happens concerning the results of informal

learning? Here a strong question mark is to be set. In some European countries, e.g. France (bilan de compétence), UK (Accreditation of Prior Learning) or the Netherlands (the Dutch concept is under testing) instruments are developed for assessing and recognising work experience and not only formal learning outcomes. Also in Australia and New Zealand assessment and certification strategies for non-formal learning are established. In Germany we have for a long time discussed a 'vocational education passport' to document informal competence development at work, but it is not yet established.

There are many methodological problems to assess informal competence acquisition in the worksite. In some countries a huge 'testing machinery' is started. This policy is rooted in the conviction that a good methodological quality (operationalised as objectivity, validity and reliability of tests) supports the value of the certificates. But there is some empirical evidence that this approach must be scrutinised. To become a recognised 'currency' the assessment/ certificate must be socially legitimated, must have social credibility

Part IV
Perspectives from the university sector

7

Global trends, implications for vocational training and lifelong learning: Response of the university sector

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Introduction

A combination of factors has created a compelling need to provide members of society with opportunities for lifelong learning. Prominent amongst these are: the need for new and continuous skill development and upgrading; the significance of a knowledge-based economy; changes in the demand and intensity of work; and the need to assist individuals to lead full lives as contributing members of our society.

Universities have had it tough in recent years with changes in funding levels, new management practices, and the need to be more responsive to market-place demands. As they have responded to structural adjustments and to changes in government policies, particularly in regard to funding, they have actively created new learning opportunities for students at both the undergraduate and graduate levels. These opportunities have taken into account the contributions of other (including private) providers in the post-secondary sector and the emergence in the market-place of overseas players.

This paper provides an overview of what has been happening in post-secondary education in Australia in response to the challenges arising from global influences and lifelong learning. The argument is advanced that more needs to be done to facilitate articulation across institutions/sectors and to promote a seamless set of learning opportunities which take full advantage of advanced technology and on-line delivery possibilities. The importance is also acknowledged of forging links between institutions and industry to ensure up-to-date professional training is both relevant and challenging.

To succeed in the new environment universities will need to make dramatic changes to outmoded practices, while at the same time not letting the glitter of technology obscure quality considerations. As universities respond to globalisation and lifelong learning they will create and build new alliances and partnerships at the local, national and international levels. In particular, it will be important for Australia to have some leading universities with a highly developed international profile, with their success being judged in terms of internationally acclaimed benchmarks.

Abandoning 'isolationism' and 'tapping into global networks' will place demands on resources and require universities to think hard about their priorities. As well, turning lifelong learning into a reality for our citizens will place heavy demands not only on providers but on government. Who will pay? If we are serious about having our citizens being able to achieve personal fulfilment and to contribute fully at the highest levels to our society, then detailed consideration must be given to how to fund learning opportunities for 'earner learners', as well as those not in the workforce.

1. Challenges to university traditions

At a conference held here in January 1998, on the theme of *Higher education reform in Germany and Australia: Challenges for the 21st century*, the Vice-Chancellor of the University of New South Wales, having observed that "the last decade has been a period of quite profound change in the Australian university system" (Niland 1999, p.33), concluded his address as follows:

> *The received wisdom is that the changes of the past decade or so in Australian universities have been the most profound ever. Perhaps so, but each generation tends to see its own period as quite special. Certainly we no longer see each year as a replica of what went before. The world of universities, always more international than that of other institutions in our society, is becoming even more global. Every aspect of university life, particularly that of budgets and staffing, will be quite acutely shaped by what happens in the country next door and across the world. International strategic alliances will become critical to a university's general standing and success … The future is not what it used to be!* (Niland 1999, p.41)

The 'profound changes' of the last decade and the observation that 'we no longer see each year as a replica of what went before' have led some in Australia to the conclusion that the future of the university is not necessarily a bright one (see e.g. Coaldrake & Stedman 1998; Maslen & Slattery 1994).

As one writer has described the situation:

> *We have already lived through a generation of writings about the crisis of the university. The sense of* fin de sècle *catharsis is amplified by others who find in the expansion of higher education a collapse of standards, the death of high culture, the onset of a new barbarism, the betrayal of the intellect, the dumbing down of societies. For some, the survival of the university rather than its precise configuration appears to be at stake.* (Duke 1999, p.19)

These introductory comments are made to remind us that, while there may be some among us who would claim to have clear, even visionary ideas of where things are moving as we face the immense challenges before us, our appreciation of the forces impacting on us may not be understood let alone shared by others who work in universities. Like schools, universities are suffering from 'reform fatigue', yet to sit back and assume things will look after themselves is not an acceptable response in a time of such rapid change. Leaders with vision know that.

But they also know they have within their institutions staff—possibly in large numbers—who are confused, bewildered and even disillusioned by what has occurred in the workplace.

A recent publication in Australia (Coady 2000) contains a series of articles which illustrate this point. Leaders need to take their staff with them as they develop an institutional response to the forces demanding change, including globalisation; but harnessing the energies and support of academics (particularly in older, more traditional establishments) to respond to these forces is a formidable task. A significant need for institutions is to recognise the potential of and assist their younger, innovative staff to create new opportunities. As older staff grumble about change, it is possible younger staff will drive a new agenda.

What have been the changes that have occurred in the last decade or so in Australian universities? Macintyre and Marginson (2000) have summarised them as follows:

- The university is now expected to serve national objectives in new ways:

  – as a teaching institution engaged in vocational training of a far more direct and systematic nature

  – as a place of research where the production of knowledge is much more closely linked to practical and commercial uses

  – as a business with the potential to generate foreign income
- Occupational skills and research outcomes are now commodities, their costs of production and monetary returns both carefully calculated.
- These occupational skills and research outcomes have both public and private value, so government funding is supplemented under the principle of 'user-pays' by student fees, joint enterprises and charges for intellectual property and consultancies
- Government assumes that the closer universities move to full cost recovery, the more efficient they will become, the better able to survive and prosper in the global market
- Shifts in policy depend for their realisation in practice on organisations being able to deliver. Universities have had to change their ways of operating and increasingly (and rapidly) have introduced 'new' techniques of management drawn in large part from the corporate sector; the result has been an emphasis on executive leadership and management, program budgeting and quality control related to output measures. This is where things have really struck hard with the traditionalists!

The inevitable clash with traditional attitudes and views will be obvious to you, particularly in a country with a much longer tradition of university education than Australia. Not only is there, for some, a genuine feeling of loss of confidence in the academic mission but the students, too, pose a new challenge. The 'new' students are seen as being not necessarily as devoted to the idea of learning for its own sake, or of going to university for stimulating experiences for their own sake; more and more, they seem to consider higher education as a means to a better income, with school leavers increasingly nominating employment-related reasons for undertaking university study (Gibson & Hatherell 1997, p.125).

In setting about describing the universities response to 'global trends' and 'lifelong learning' I have begun by describing the circumstances in which universities now find themselves operating. The challenges being faced are those that have emanated in the main from shifts in government policy. There are, of course, other issues within the broader context in which universities operate and it is to these issues I now turn.

For years now universities have been aware of the importance to Australian education of the concept of lifelong learning as both an individual and an educational system response to rapidly changing economic, structural and technological changes in our society. These changes have impacted significantly on the organisation, structure and nature of work and challenge individuals to think about how to enhance their knowledge and skill base.

In arriving at his conclusion that 'lifelong learning is an imperative rather than a fad', Gallagher (1999) has identified five major factors driving lifelong learning:

- structural changes in the sectoral composition of national economic growth requiring new and continuous skill development and upgrading
- the centrality of knowledge to social and economic progress
- continuous change in the knowledge intensity of work
- demographic shifts
- the need for functioning social democracy

[In section 4, below, these and other 'drivers' of lifelong learning, along with their implications, are discussed in detail.]

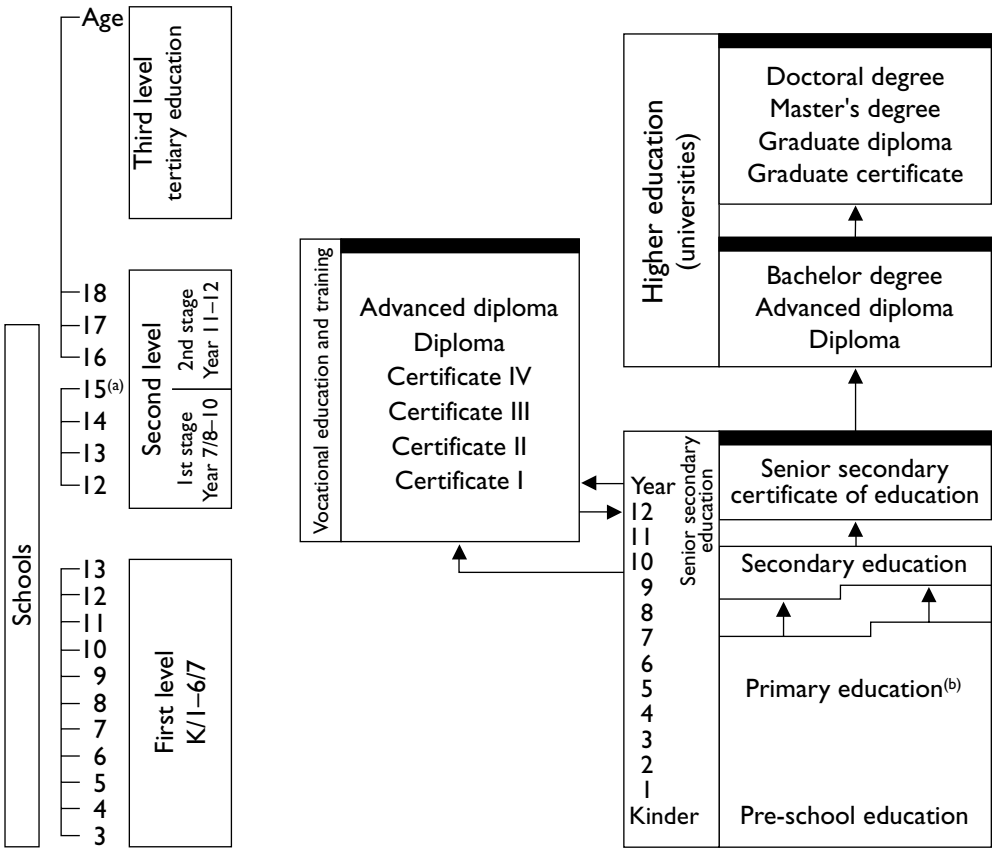
Since the early 1990s much thought has been given to how to develop new, enlightened and well articulated approaches to vocational and professional training, and to how we can establish a critical role for universities in the provision of opportunities for lifelong learning. This has seen universities (along with other providers) operating in highly competitive market places taking initiatives to establish programs and co-operating with a variety of other organisations and enterprises within Australia and overseas.

To appreciate the approaches being adopted in Australia to encourage and support lifelong learning it is important to have an understanding of the structure of the education system and of the opportunities available in the various sectors. These two aspects are taken up in the following section, with a brief commentary on the contribution of technical and further education to vocational training and lifelong learning. A more detailed accountthen follows of what has been occurring in universities.

2. The post-secondary school context in Australia

What does the post-secondary school sector look like in Australia and where do the universities fit in? Figure 1 shows the structure of the Australian Education system, the relationships between component parts and the nature of the qualifications awarded in each sector.

Figure 1. The Australian education system and its qualifications



a. End of compulsory schooling

b. In some States, Year 7 is part of primary, while in others it is part of secondary education.

(Kemp 2000, p.4)

In the structure illustrated above, the Minister for Education, Training and Youth Affairs makes a distinction between higher education (i.e. universities), and Vocational Education and Training (VET), which encompasses the TAFE sector along with VET opportunities for students in their final years (i.e. years 10, 11 and 12) of secondary schooling. While this distinction is a valid one, other writers prefer to define higher education more broadly to encompass both the vocational education and training/TAFE elements *and* the universities, emphasising, as they see it, the potential for greater cross-sectoral linking to the advantage of students. Adopting this approach Duke (1999) makes the following observations:

> *Lifelong learning implies appropriate universal participation in post-school education with recurrency throughout life—not just working-life but for much of the third age cycle which may match the length of many working lives. Higher education will continue to be a growth*

> *industry. There is likely to be plenty of business to go round … higher education will diffuse and diversify increasingly. More and more of it will take place in diverse places and ways throughout more and more of lifelong learning societies. These places will include colleges of varied designation, private and public, employer workplace learning sites, some called universities, community settings and private homes.* (Duke 1999, p.30)

Importantly for our country, Australia is well on the way towards almost universal participation in post-secondary school education and training. In the government review of higher education financing and policy, entitled *Learning for life* (West 1998), the estimate was made that about 45% of current Australian teenagers will enter university at some further point in their lives, while a further 45% are likely to enrol in the VET sector (West 1998, p.71).

TAFE institutions play a major role in Australia in post-secondary provision. While institutes of technical and further education come under the control of State and Territory (i.e. not the federal) governments, in recent years much effort has been made to achieve greater co-ordination across the total sector with greater articulation with other higher education providers, including universities.

A government state agency, the Australian National Training Authority (ANTA), has been playing a key coordination role. ANTA is a commonwealth statutory authority which advises Commonwealth, State and Territory ministers on how to achieve a *national* focus for the vocational education and training system. It was established in 1992, and the ANTA Board advises the ANTA Ministerial Council, which makes decisions on strategic policy and planning, including funding, and national objectives and priorities. The mission of the ANTA Ministerial Council is: 'to ensure that the skills of the Australian labour force are sufficient to support internationally competitive commerce and industry and to provide individuals with opportunities to optimise their potential'. [ANTA is on the Web at http://www.anta.gov.au.]

To give an idea of the scope of ANTA, it has developed policy (set out in *A bridge to the future: Australia's national strategy for vocational education and training 1998–2003*), in regard to:

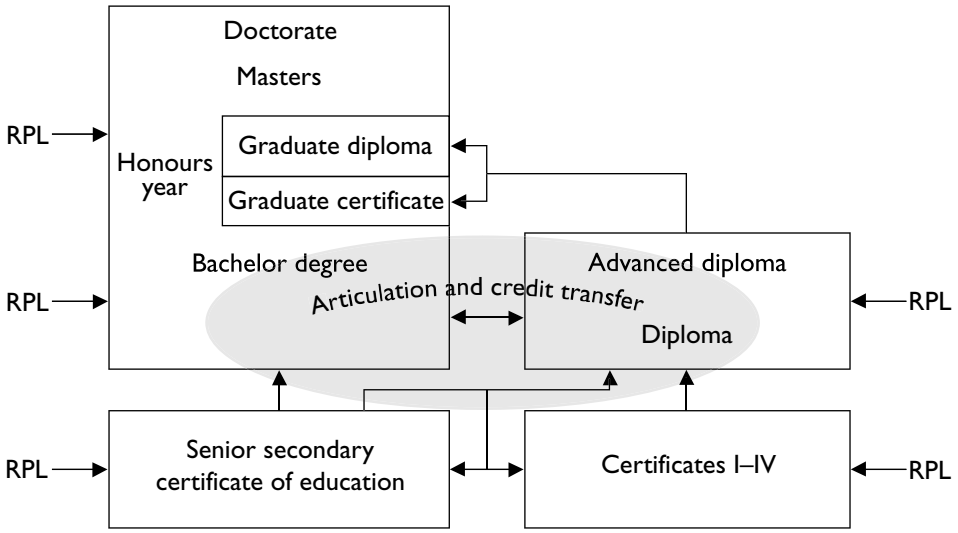
- industry involvement in vocational education and training
- registration of training and assessment organisations
- training market reform
- resourcing of vocational education and training
- access and equity

ANTA, in co-operation with the Commonwealth and States and Territories, is also responsible for the development, management and promotion of the national training framework which is a critical component of policy to enhance the possibilities of lifelong learning by establishing cross-sectoral qualification linkages. The Australian Qualifications

Framework (AQF) was introduced in 1995 and provides a comprehensive qualification structure containing all recognised qualifications from upper secondary school to university doctorates. The AQF seeks to bring the sectors together into a single system of qualifications, in contrast to a dual system of 'academic' qualifications and 'vocational' qualifications.

An overview of the qualifications framework is set out in figure 2, which shows the main areas of articulation and credit transfer activity. Note should be taken of the opportunities for recognition of prior learning (RPL). The figure highlights an increasing level of articulation across the award-granting institutions in the post-secondary sector, indicating an increasing readiness to accept into courses students with a variety of background learning experiences. This has been a very healthy development in Australian education.

Figure 2. AQF pathways diagram



(Carnegie 2000, p.11)

3. Responding to challenges: Universities in transition

In earlier discussion I described the pressures for change emanating from government policies and described how changes in management approaches have impacted on university governance. I noted briefly the realisation by universities of the need to establish programs which will improve opportunities for a greater range of learners at all levels and from diverse backgrounds, some studying for professional reasons, others as a result of a more intrinsic motivation. What has been the university response?

Looking at the courses being offered within universities, it has to be said that, at all levels, there is now developing far greater transparency in curriculum matters. More attention is

being given to demonstrating quality of offerings and quality of graduates (see Kemp 2000, pp.21–22). The government now publishes detailed data about each institution, including results of a course experience questionnaire which reflect the assessments by new graduates of the experiences they had while completing their programs. Plans are presently being developed for new approaches to quality assurance, involving institutional reviews every five years based on self-assessment, in turn reviewed by a new external quality agency. One writer has been moved to comment that 'these days universities are more like glass-houses than ivory towers' (Duke 1999, p.26).

At the undergraduate level in Australian universities, it is reasonable to argue that courses continue to be offered much as they have been in the past though increasingly with a broad-based IT component (discussed below), with a focus on knowledge transmission and knowledge generation. But things are changing. In areas of professional preparation (e.g. medicine, teaching, law) there is a stronger link between what is now offered in the university and the needs of the profession and the demands of the workplace to be confronted by young graduates. The introduction of graduate programs of professional preparation in my own university in the areas of medicine, teaching and dentistry, with a heavy emphasis on problem-based, experiential learning, are good examples.

We have also seen a readiness to modify course content, degree structures and teaching approaches so that greater acknowledgement is given of previous learning experiences of undergraduates and of their capacity to accept more responsibility for their own learning. The fact, too, that they often have clearer expectations of what they want to study has also been taken into account. So, in my own university, specifically designated (named) degrees have been introduced; examples include a:

- BA (Media and Communications), with units of study from arts, law, economics and intended for students who desire specific training in fields of media and communications—it includes an internship
- BA (Informatics), a combination of broad humanities/social sciences subjects plus information technology
- BSc (Bioinformatics), a marrying of two of the fastest growing areas of technology (IT/computer science) and biotechnology (genetics, molecular biology and biochemistry)
- Bachelor of Liberal Studies, a four-year degree with students completing a major in the humanities/social sciences and in a science, plus four semesters of language study;
- Bachelor of Land and Water Science, offered in the Faculty of Agriculture, and designed for students from science, agriculture, geography, interested in the application of knowledge and principles of science to the understanding of management and conservation of our land and water resources

There have been other changes which have proved attractive to very able school leavers. Advanced streams have been provided (as distinct from honours programs) for students who

have done exceptionally well at matriculation. Many students are attracted to double degrees, as such programs allow them to combine broad interests with more specifically focussed professional preparation. Examples include: arts/commerce; arts/social work; science/economics; education/arts; education/science; engineering/commerce; engineering/law; and science/law.

While the examples I have chosen are specific to my own university, they indicate a trend now seen more widely in Australia. We have students emerging from secondary schools with clearer ideas about their future, having undergone curriculum experiences at school which have made them more responsible as learners. They have usually also had extensive exposure to IT in their schooling and are well able to undertake their studies as students in the communication age. While they may be seeking programs which will give them an employment edge, they possess nonetheless the traditional attitude that studying at a university is an opportunity to engage in learning for its own sake and an exciting time to be with others and explore new ideas in the information age. They may be 'customers', demanding ones, but they remain inquisitive, willing to learn, and ready to engage in critical thinking and analysis. They do represent the future of the country and demonstrate clearly why the university has a future and that all has not been lost as a result of the 'massification' of tertiary study.

At the postgraduate level we have seen major changes as our universities continue to provide opportunities for well-qualified students wishing to undertake higher degree research programs. The government has recently released a white paper on research (*Knowledge and innovation* 1999), which will result in changes to funding arrangements, with an increased emphasis on performance-based funding. As well, there are the research programs of special research centres (e.g. at Sydney *Ecological impact of coastal cities*), co-operative research centres and key centres (e.g. at Sydney *Transport management; Polymer colloids*), with an imbedded industry involvement, including provision of postgraduate coursework programs. The research component of our university offerings—now increasingly research and development—has long been a major element of our lifelong learning provision. As the Higher Education Report for the 2000 to 2002 Triennium points out:

> *Universities are demonstrating strategic and innovative approaches to research and research training through establishing a variety of links with industry. For example, Strategic Partnerships with Industry—Research and Training Schemes (SPIRT)-funded applications grew from 745 in 1998 to 982 in 2000. Such collaborative activities provide research students with workplace experience, an opportunity to apply theory to practice, skills development opportunities in areas such as commercialisation, and experience in work teams.*
>
> (Kemp 2000, p.147)

It is in the postgraduate coursework area that we have seen major changes in recent years. Traditionally there have been available articulated diploma and masters level programs completed on a coursework basis (i.e. no major research thesis is required), but often there

have been stringent requirements of relevant study in a related field at the undergraduate level for entry. The rigidities and barriers to entry to postgraduate coursework programs are well and truly breaking down.

In 1997 the Australian Government instituted arrangements whereby postgraduate coursework programs were to be offered on a fee-paying basis (except in some critical areas such as education and nursing where these were initial qualifications) and universities were encouraged to offset reductions in overall operating grants by such fee income. While many may have seen the introduction of fees at the postgraduate level as an unwelcome development, one consequence has been that course providers at universities across the country have sought to cover every angle and niche in the market that they can identify. The following comment from the Directory of Postgraduate Study (AVCC, 1999) sums up the position:

> *There are now few barriers to entry to coursework postgraduate programs at Australian universities. If you have a sense of where you would like to head in your career, the specific qualification that you will need is probably on offer.*
>
> *… you will see the most remarkable array of postgraduate coursework offerings—a Graduate Diploma in Turf Grass Management, a Master of Real Estate, Graduate Diploma in Arts and Entertainment Management, a Graduate Diploma in Professional Accounting, or a Graduate Diploma in Disaster Management—all for graduates of any discipline or at least from a broad range of disciplines. It is an intriguing prospect—and one which gives you the power to shape your own options.* (AVCC Postgraduate Directory 1999, p.5)

Increasingly, programs at this level are jointly taught by university staff and those working in industry and the professions, and students can often complete assignments by relating them to workplace problems. Credit for options and studies undertaken at other institutions is usually liberally given.

It has to be said that introducing such initiatives has had to be handled with care. Academics are not so keen to abandon their traditional practices of having students engage in critical discussion for its own sake, in favour of attempting to forge a closer link between what is offered and the needs of students as they arise from the workplace. Students undertaking coursework diploma and masters programs with a professional orientation do not want the program to be too esoteric or removed from more immediate concerns and issues. Their employers share this view. Finding an appropriate balance is a new challenge for universities. It is pleasing that so many are accepting it.

Strong alliances have also been established with the professions (e.g. pharmacy, veterinary science, medicine) and with professional bodies (e.g. the Royal Australasian College of Surgeons) who have been willing to assist with course development and delivery. On-line packaging of courses is now very evident. Similarly, banks and other commercial organisations have sought to have particular programs developed; they have even supported

the establishment of professorial appointments to work with staff in a variety of programs and in research undertakings. It can be expected that linkages with TAFE, already in existence, will be strengthened over the coming years and provide opportunities for another large group of students who may never have been to a university to undertake such study.

Private providers, now working in the VET sector with accredited courses, will link up with universities in joint offerings. Rather than suggest, as some people have, that 'universities will be seen to be providing only a minor part of all higher education' (Duke 1999, p.30). It is highly probable that integrated offerings will abound, including joint programs internationally, with universities making a very significant contribution through their programs, valued as they are because of their award-bearing status.

4. New directions: Harnessing IT and creating e.education opportunities

From the account just given, it will be obvious that universities are in transition, moving out of 'a steady state' into new directions which allow them to respond to new demands from students and from the professions. But are they moving fast enough? Can they afford to adopt the strategy of 'incremental change' or should more radical approaches be adopted? Reference has already been made to Gallagher's comment that 'lifelong learning is an imperative rather than a fad'. A closer look at some of the principal drivers for lifelong learning suggests we need to be moving much more rapidly than at present, and as we do, we should take advantage of the opportunities now available to us through advanced technology and on-line delivery possibilities.

- The market place has become increasingly competitive and highly skilled knowledge workers are recognised as very high value resources. As the Director of Planning, Royal Dutch/Shell has put it: "the ability to learn faster than your competitors may be the only sustainable competitive advantage" (Arei De Geus).
- There is a very high rate of growth in the knowledge that informs professional decision making in both technical and non-technical areas. For instance, it is claimed chemical research literature grows by more than 1 000 000 articles per year and in the last two decades historians have produced more new contributions than in all of prior recorded time (Clark 2000). The effect of this is to drive more rapid changes in the base or foundation knowledge of professionals, pointing to the need for continual refresher and up-date training. Who will provide this rapid response to assist the professionals and what does it say about the currency and the 'shelf life' of the knowledge graduates possess when they complete their courses? It is also true that professional liability issues are key drivers of continuing professional education. Be up-to-date with recent developments and discoveries or be at risk!
- There is now evident a significant decline in the working population across the Western world: a 15% decline in 25–40-year-olds is predicted by 2015. This decline is beginning to manifest itself as an escalating war for talent. Many organisations are using education and training programs as a 'golden bracelet' to attract, develop and retain the most able in the workforce.

- People no longer enter the workforce with the expectation of lifelong employment with one organisation, but rather are likely to have around five career changes during their working life. Access to continuing education is essential to cater for these continual variations in careers. Average job tenure has fallen from around 22 years in the 1950s to just over three years in the 1990s (US Department of Labor statistics: Employee tenure survey, 1995–96). This results in a very significant increase in the demand for foundation training/retraining and just-in-time training.
- In the US there is a significant growth in the adult learner population (>25 years) which is predicted to rise to 6.6 million by 2007. A significant component of adult learning will be distance learning with the distance learners in the US growing from 750 000 in 1998 to >2 million by 2002 (Katz 1999). Similar demographic trends have been identified in Australia. In the following table it is interesting to note how the proportion of the population in the age groups traditionally supplying new university students (15–24) will drop while the proportion in the post-24-year-old bands will increase.

Table 1. Demographic trends in Australia, 1970–2010

	% of total population					
	1970	1980	1990	2000	2010	2020
0–14	28.8	25.3	21.9	20.6	18.7	17.6
15–19	8.9	8.9	8.2	7.0	6.7	6.1
20–24	8.6	8.6	8.0	7.3	6.8	6.4
25–44	25.3	28.2	31.6	30.8	27.8	26.3
45–64	20.0	19.3	19.1	21.8	26.2	26.1
65+	8.3	9.6	11.2	12.2	13.7	17.5
Population (M)	12.6	14.7	17.1	18.8	20.8	22.3

Source: ABS statistics, quoted by C Robinson in *New skills, new pathways* (August 1999)

In addition to the above, there is a general increase in the expectation for education beyond the professional areas that is driving adult education from provision for an elite, to mass, to universal provision. Because of the different requirements and circumstances of what we might term adult 'earner-learners' (including significantly increasing numbers of women) it can be confidently expected that much of this new market will be served at a distance, on-line, and with only a minor component of face-to-face teaching. For universities (as for other providers) this has significant consequences for course restructuring and for the way we ask academics to manage their time.

In 1998 around 62% of higher education US institutions were offering some form of distance learning and it is predicted that this will grow to 85% by 2002 (International Data Corporation 1998). In addition, by 2002, technology-based training will have a market share of 54.9% compared to 42.4% of instructor led training (Banc of America Securities, Education Industry Overview, September 1999). One of the most successful new adult

learning enterprises to date is the University of Phoenix currently enrolling more than 80 000 adult students at more than 130 locations, a compound annual growth rate of 22.4%. Courses are characterised by convenient access to classes (in terms of location and timing), heavy use of professionals as session teachers, centralised curriculum design targeted to particular student needs and a very strong quality assurance program. At this stage they have concentrated their programs in the areas of business and IT. The University of Phoenix has also begun purely on-line delivery of some programs which are now also enjoying the same growth rate as face-to-face offerings (Katz 1999).

The University of Phoenix suggests how we can see future developments. A Banc of America Securities Equity Research Paper (September 1999) highlighted the huge opportunities for corporate investment in the education sector. Where the e.commerce market will grow from $43 billion in 1998 to $1.3 trillion by 2003, investment in on-line learning and training is now accelerating. The study argues that the current lack of significant movement to date in the sector by the giants such as Microsoft, Oracle, Sun, etc. does not indicate lack of interest but market timing. When the new models have begun to emerge, when the dust begins to settle, then we can be sure the giants will move. And with whom will they form their alliances?

One possible way forward will be to seek more effective collaboration across the total sector (national and international) with the involvement of joint commercial partnerships to fund the massive investments needed. Of course, this requires that institutions that have traditionally been significant competitors for students and resources find the means for effective collaboration and do so very quickly. It also requires universities to accept the view that they no longer have a right to claim a monopoly over knowledge. Let me repeat a comment I made here in 1998, acknowledging that, since the time the comment was made a little over two years ago, competition in the market place has become even more fierce.

> *Perhaps it is time [academics] emerged from their offices, books and monitors to participate more fully in public debate and help suggest ways in which universities should interact with other parts of the post-secondary sector to provide worthwhile opportunities for those wanting to continue their learning at the highest level. Without something worthwhile to market, universities will have a bleak future!* (Eltis 1999, p.152)

What the changes just described indicate is the need for a reconceptualisation of the relationship between students and higher education institutions, including universities. The learning contract clearly needs to extend well past the time from when the student graduates with a first degree. Indeed, there is an even more radical thought: the pressures to enter the work forcesuggest that it may be appropriate to decrease the time for foundation training (from say a four- to a two-year 'degree' in some professional areas) but to continue teaching these students using professionally-based, on-line continuing education that blends seamlessly into a continuing professional educational program that lasts for life. Now there's a challenge, but it is one which makes obvious sense in terms of establishing stronger connections

between professional education and workplace success. Should this be a new emphasis for universities? Could we see closer monitoring of graduates' needs by institutions, tracing their career paths and suggesting what programs they might take next?

The way ahead in this new era is not an easy one. There are very significant costs associated with developing teaching and learning resources and in driving the cultural changes within higher educational institutions so that they are able to meet these rapidly emerging social and commercial needs. There are acute problems associated with resourcing initiatives, particularly where the current State-based funding models are static and have been unable to respond to the needs for large investments in the IT area (both for administrative and teaching/research purposes). By contrast, there are clearly very significant investments in a limited range of high value educational areas in the private sector. More and more private consortia can be expected to emerge very quickly. This presents a real danger for those traditional higher educational institutions where there is increasing State pressure to diversify their funding base through entrepreneurial activities. If the high margin educational areas are captured by other commercial interests (mainly private with large IT backing to support education), this will severely limit the capability of traditional educational institutions to leverage off their current status and profile and unlock resource streams for rapid and what will inevitably be costly new initiatives.

5. Conclusion

Academics thrive on the newly-available opportunities they have for rapid communication with colleagues, all over the world, and welcome the almost unlimited chances they now have to seek and create new knowledge using latest communications technology. They can keep up-to-date, enliven courses by building in new knowledge and discoveries; they can pass on instantly and easily their own academic insights to eminent and emerging scholars working in the same or related fields, and not just in universities.

But will academics be able to cope with working in a university which responds to the need to address global presures by entering new markets, forming new alliances and, increasingly, seeking ways of blending more traditional university values and offerings with new, exciting courses delivered with the aid of what the latest communications technology will be able to provide? For that will be the way of the future. To succeed in this new environment will require dramatic changes to outmoded work practices. That is the challenge for academics. In making the transition it will be important not to let the glitter of technology obscure quality considerations.

What about institutions themselves? Slaughter and Leslie are correct when they argue that 'the globalisation of the political economy at the end of the 20th century is destabilising patterns of university professional work developed over the past hundred years' (1997, p.208). The task now for institutions, including universities, is to create stability by defining the strengths and the concentrations they wish to pursue and move ahead. While it has been

suggested that universities may still be finding the changes of the last decade somewhat difficult to accommodate, they have been moving—whether fast enough is another question.

As individual universities set about defining their areas of concentration and hence directions for future growth hard decisions will be faced. As an example, consider what might occur in the more research intensive universities. Is it possible that the leading research intensive universities world-wide will draw back from involvement in what they might see as routine training activities and perhaps unwittingly open up opportunities for the new entrepreneurs to exploit the intellectual property of their poorly paid staff, willing to participate for significant personal returns? Can these elite institutions ignore the potential for significant new income streams or should they be manoeuvring to leverage the best possible return from their staff's leading edge activities without slowing the pace of the research endeavour. A few may be able to afford to do so.

It is now apparent that the key to institutional success in the next decade will lie in the creation of strategic alliances. In the Australian context, as universities have been responding to globalisation and lifelong learning, the long-established universities have been actively building creative alliances and partnerships at the local, national and international levels. Most importantly, those wishing to compete on the international stage have established relationships designed to open up opportunities for staff and students and promote an international profile with success being judged through internationally acclaimed benchmarks. This international focus is well illustrated by the initiatives of the *Group of 8 Universities* (Adelaide, Australian National University, New South Wales, Sydney, Melbourne, Monash, Queensland and Western Australia) by *Universitas 21* and *APRU* (Association of Pacific Rim Universities), the last two being international consortia with individual Australian universities as members. The reasons for moving quickly to establish such alliances are well illustrated in the following comment made in the 1998/1999 Report of the University of Glasgow, *Gain through change*:

> *There was a time when a university could consider itself an entirely self-sufficient community. Other institutions were of little concern, unless as a focus for rivalry. Operating today in a global community served by digital communications, universities occupy a very different world. They face the imperative of interdisciplinary collaboration in research while operating to tight budgets, and find themselves recruiting from a student market with international perspectives and higher expectations of teaching and career prospects. Isolationism today would be as dangerous as it would be foolhardy.* (p.12)

A major issue arises for government in these circumstances. If it is the case that we wish to have more universities internationally competitive, then a revised approach to funding and deregulation will be needed. It is undoubtedly in the country's best interests to offer support to certain lead institutions. The following observation by Kanter applies equally well to the prospects of universities as it does to businesses/companies:

> *In the future, success will come to those companies, large and small, that can meet global standards and tap into global networks. And it will come to those cities, states and regions that do the best job of linking the businesses that operate within them to the global economy.* (Kanter 1995)

Abandoning 'isolationism' and 'tapping into global networks' will give rise to other complicated questions universities will have to face. Some have begun to impact, though answers are as yet not readily at hand. For example, in a global context will issues of recognition of qualifications across transnational boundaries become increasingly important, or will the multinational corporations force commonality? In Australia there is continuing concern about perceived intransigence by professional bodies with respect to out-of-country registrable qualifications. How can universities promote their qualifications in ways which will allow international recognition? This is obviously an issue in Europe. It may become one in the context of an Asian Economic Zone. There is also an issue with respect to universities' development activities. Should, for example, Vietnam follow an Australian, French or US model in its lifelong learning and associated structures? What best enables a developing country to interact most effectively with the global economy?

There are strategic decisions to be made within countries. For example, new opportunities are provided for citizens to engage in lifelong learning, there remains the critical question of how learners can take full advantage of such opportunities, regardless of whether they intend to study through TAFE, at a university or with a private provider. At the present time there are usually only two possibilities: in some cases the employer, conscious of the benefits to be gained both for the firm and for the individual, is prepared to offer a subsidy to enable an employee to undertake further study and training. In agreeing to do so, the employer is also contributing to the country's future as, often, after gaining further qualifications, an employee is able to move into a position with more wide-ranging responsibilities. The other possibility—the most frequent—sees the individual paying up-front for the course with a reimbursement through the taxation system where such courses are directly work-related. This represents a further subsidy from government.

In Australia, the *Review of Higher Education Financing and Policy* (West 1998, p.43) proclaimed in its final report that

> *… higher education should, whatever the form it takes, whether it be professional, technical or liberal, open, nurture and refine minds, and create independent learners. It should enable individuals to grow intellectually, to achieve personal fulfilment and to contribute fully and at the highest levels to society, the workplace and the nation.*

What was significant in this report was the view on access to post-secondary school education:

> *All Australians must have access to post-secondary education and training opportunities if they are to participate fully in the life of the nation. Participation in lifelong education … even to the most advanced levels, is accepted as part of the social and economic fabric.*
> (West 1998, p.43)

How such access might be assisted financially was not addressed in the final report of the review. As Harman has pointed out, "curiously, while the report addressed the issue of a universal entitlement to government assistance to achieve a *first* qualification, there was no discussion of what role government funding should have for recurrent education and upgrading of skills throughout life, both of which could well be regarded as essential elements of lifelong learning. Neither was there any attempt to review the total sum of resources already provided by commonwealth and state governments to post-school education and lifelong education" (1999, p.16). It is interesting to note that the Committee did propose new student-centred funding arrangements for school leavers and adults accessing post-secondary education *for the first time* providing them with a 'lifelong learning entitlement' that could be used at an existing university, a TAFE college, a private university or with a VET provider.

The recommendations from the West Review have not been implemented and we are still left with a critical dilemma: in a time of diminishing university resources available to higher education institutions what sort of equitable arrangements can be put in place to ensure adequate public funding, with a due mix from private sources, is available to enable all wishing to participate in lifelong learning to do so. If we are serious about making such a provision we need to revisit funding issues and, in doing so, not take a narrow view by focusing on only some of the potential providers. Finding an answer to this question will not be easy but to avoid the question is not an acceptable option if we are serious about wanting our citizens to be able "to achieve personal fulfilment and to contribute fully and at the highest levels to society, the workplace and the nation".

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8

A balanced and liberal education in a military environment: Australian Defence Force Academy

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Context

A number of factors has stimulated the current debate in Australian universities over the relationship between vocational training and liberal education. In this paper I wish to address the way in which the skills and professional training required of vocational education can be accommodated within a university education and then to illustrate a particular case within the Australian Defence Force Academy.

The general issues raised are by no means specific to Australia, but reflect the changing nature of universities world-wide. Changes in tertiary education resulting from social change and the increasing perception of education as a marketable commodity, with the concomitant empowering of the 'client', whether student or interest group, have been discussed widely. In my view there is however one major factor which clearly separates the Australian situation from that pertaining in Germany: that is the all-encompassing nature of Australian universities.

In Australia in the late 1960s and 1970s many small specialist colleges, but largely teacher education colleges, amalgamated with other institutions to become larger units, either colleges of advanced education (CAE) or universities. Subsequent mergers in the period 1987–91 produced large comprehensive institutions, average size 19 000 students. These mergers in the latter period brought to an end the so-called binary system under which universities had been separated, and perhaps preferentially treated, from other institutions. At that time some 74 universities and CAEs were replaced with 35 institutions in the new university system. In Victoria, and to a lesser extent in other states, these included associations with the TAFE (technical and further education) systems[1]. Hence, almost by definition, the Australian university sector became involved in post secondary training and education well beyond its traditional role as a provider of liberal education, and its otherwise

1 : Harman, G. 2000, 'The urge to merge in retrospect' *Campus Review* 10(16): 9]

quite restricted role in the provision of education/training for the 'higher' professions such as medicine and law. In the case of the so-called higher professions vocational aspects had, in any case, usually been considered additional to the primary degree.

The changed role of universities, along with other factors[2], but particularly the marked reductions in government funding, has led to a situation where there is a demonstrable need for (or at least an inevitability of) increasing interactions with other education and training providers, industry and the wider professional community, in the provision of higher education. For many academics this trend is deeply disturbing, challenging, as it does, certain deeply held beliefs about the nature of universities: that they exist primarily for scholarship, academic traditions and intellectual assumptions. There is, however, little prospect of comfort for alienated colleagues, for as John Niland has noted at an earlier conference at this centre—the future is not what it used to be (Niland 1999).

The alternative to viewing such developments with grave concern is to accept the changing role of universities as a challenge. Alan Gilbert (Vice-Chancellor of the University of Melbourne and currently much involved with Universitas21, a global consortium of major universities) considers that there has never been a more creative time to be involved in higher education.[3] Exciting as the challenges they present may be, alliances with external funding bodies, whether business or government, require universities to be unswerving in their commitment to core values. Concerns will arise if alliances start to threaten the traditional values of scholarly excellence and academic independence. Universities would then run the risk of becoming a subset of industry, academic staff could become little more than product quality controllers, and research might even come to be regarded merely as a revenue generating activity.[4]

If it is accepted that universities are changing and become more market driven, how can they respond properly? In Australia responses have been various and Prof Eltis has indicated a number of these in his paper[5]. Some of these responses have been desirable, especially those involving curriculum reform, but not all of the changes have been driven by educational philosophy or been altruistic. In the Australian tertiary education market, where there has been little genuine attempt to segment the market, individual universities[6] are competing in an environment where one easy way to gain a market advantage is simply to undercut

2 : In relation to budget and staffing alone, Niland has listed international student enrolments, fee paying courses, reduced public sector funding and the consequences of industrial relations as critical. Niland, J 1999, 'Budget and staffing issues facing Australian universities in the 21st century', in: Bartels D & Petersen, HG (eds), *Higher education reform in Germany and Australia—Challenges for the 21st century,* Berliner Debatte Wissenschaftsverlag, Berlin.

3 : Gilbert, A 2000, 'The idea of a university beyond 2000' (http://www.cis.org.au/ bertkelly/bk300.htm).

4 : Singh, G 2000, 'When two worlds collide', *Campus Review* 10(16): 8.

5 : Eltis, K 2000, *Global trends: Implications for vocational training and lifelong learning—The response of the university sector*, Australia Centre, 29–31 May 2000.

6 : I acknowledge that some universities are addressing this issue seriously: see for example the address by the Vice-Chancellor of the University of Canberra, Prof D Aitken, in his First Boilerhouse Address for 2000 'What sort of UC will we have in 2005?' (http://wasp.canberra.edu.au: 80/secretariat/speeches/ vcaddr1-3-00.htm)

competitors. What then are the obligations to 'truth in advertising' and who ultimately benefits? How many of our specially badged degrees will prove useful in the long term? Can such degrees provide the high level of specificity implied in their titles (how can they with tightened education budgets?) and will they educate for narrowly defined positions which may not exist in the future?

In recognising the need to accommodate skills and professional training within a university education Australian universities have developed two basic approaches to the design of entry-level degrees in professional fields :

- An integrated approach in which the basic core skills and competencies, along with the generalist education needed to produce a well-rounded professional, are covered in an undergraduate program. Examples are provided by undergraduate degrees leading to professional degrees in engineering, dentistry, veterinary science, and undergraduate medicine. In an era when attention is increasingly focussed on flexibility in the mode of delivery there is no need for both components to be offered by the same institution, and ventures between the university and TAFE sectors are possible. In Australia, such an approach has been developed at Southern Cross University, Coffs Harbour campus, which incorporates a TAFE institution and a senior secondary school.
- End-on approaches where a generalist undergraduate degree precedes a specialist intensive graduate course (whether a degree as in graduate medicine or a diploma as in some education programs) or an end-on professional training course (as in law). In the latter case the component is increasingly being provided by the private sector and not in institutions.

To these should be added partnerships in which two different education/training providers make complementary contributions. Such partnerships are not yet common but are developing. An example of a partnership between TAFE and the University of Canberra is a course currently being developed for technology educators. The four-year program will lead to two qualifications: a Bachelor degree in Education from the university and a TAFE qualification from the Canberra Institute of Technology, which also fits in with the Australian qualifications framework and gives recognition for industry training. There is no necessity for all providers in a partnership to be from the recognised public education sector, though in Australia it is almost invariably the case.

The Australian Defence Force Academy

In the remainder of this paper I want to describe what I believe is a highly successful partnership, the Australian Defence Force Academy (ADFA), a partnership between the University of New South Wales (UNSW) and the Australian Department of Defence. I will then discuss some of the factors that have contributed to its success.

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7 : 'Professional education and credentialism' a report to the National Board of Employment, Education and Training. Australian Government Publishing Service, Canberra, 1996.

I take it as a premise that for a happy and fruitful relationship to exist between a major provider of education and a purchaser (whether an aggressive, demanding and focussed student client paying in time and money for a degree, or in the case of ADFA the Department of Defence seeking value from its educational partner) there needs to be a clear understanding of what the education can offer.

In an increasingly insecure employment market Australian student preferences after completing secondary school show that applicants for university admission are prepared to sacrifice breadth and generality for what they, or their parents, perceive to be more immediate vocational outcomes. In the case of ADFA the vocational outcome is assured and it is also accepted that it is not in the long-term interests of students to undertake narrow vocational degrees. I will assert that in any case the perception that generalist degrees are vocationally irrelevant is fundamentally misguided.

The Australian Defence Force Academy: A brief overview

In 1965 the three Australian armed services (army, navy, air force) agreed with the need for one tri-Service Academy to provide more tertiary qualified officers. The project gained government approval in 1974 and construction of the Australian Defence Force Academy began in February 1981 on a 52-hectare site in Canberra, the national capital. The original concept was for an autonomous university but the option ultimately favoured was one which linked the academic activity of the Academy with a major civilian university. Subsequently an agreement between the Commonwealth and the University of New South Wales was reached in May 1981, under which the university agreed to establish a university college within the Defence Academy. The academy commenced operations in January 1986.

The role of the academy is to provide a balanced and liberal university education in a military environment to officer cadets of the three services, in conjunction with military training of both a single Service and joint Service nature. The officer cadets are members of the respective Service and wear the uniforms of their parent Service whilst at the academy. They live and train with officer cadets of the other services which contributes to a greater awareness of the customs of those services and thus enhances tri-Service co-operation and understanding.

The Defence Academy is jointly managed by the Commandant (a Service officer), who exercises control of the military staff and support staff, and the Rector, appointed by UNSW, who is the head of the university component. An Academy Council established under the agreement between the Commonwealth and UNSW advises the Minister for Defence and the university on the operations and development of the academy.

The Rector is responsible for all university operations and support services as well as for the effective interaction between the college and Defence.

The agreement between the Commonwealth and the University acknowledges and accepts that the essential aims of the Academy are:

- to provide military education and training of officer cadets for the purpose of developing their professional abilities and the qualities of character and leadership that are appropriate to officers of the Defence Force
- to provide for officer undergraduates and, by way of foundation for their careers as officers of the Defence Force, officer cadets, a balanced and liberal university education in a military environment

The functions of the college are:

- to provide a university undergraduate education (for officer cadets, but also for other members of the Defence Force, for members of the armed forces of other countries as approved by the Minister, and others whom the Minister for Defence and the university determine should be admitted as students of the college)
- to foster and make provision for the undertaking of higher studies and the carrying out of research, including work which may lead to the award of a higher degree, by any person considered appropriate to the university

On the academic side, admission of students to the college requires that they satisfy the academic criteria of the university. The majority of students undertaking higher studies, and especially those in coursework postgraduate degrees, are military or civilian defence personnel.

The full program at the academy requires officer cadets to meet both the training requirements of the military and the degree requirements of the university.

Military training at the academy includes: character development; defence studies; drill and ceremonial; field training; first aid and health; interpersonal relations; leadership; military communication skills; military law; military orientation; physical and recreational training; weapon training.

The university education is provided through degrees of: Bachelor of Arts (3 years); Bachelor of Science (3 years); Bachelor of Technology (3 years); Bachelor of Engineering (4 years). Both the BA and BSc degrees require an additional fourth year for honours level studies. Bachelor of Engineering programs are taught in: civil engineering; electrical engineering; mechanical engineering; and aeronautical engineering.

Majors available in the Bachelor of Arts and Bachelor of Science degrees are respectively:

- economics, English, history, Indonesian, information systems, management, politics
- chemistry, computer science, mathematics, oceanography, physics
- geography can be taken with an arts or science perspective

There are also combinations of subjects which students may take if they wish to specialise in Asia–Pacific studies, or in operations research and statistics. All students are required to include general education subjects in their degree. For arts students these include subjects concerned with science or technology, and for engineering, technology, and science students, they include humanities-based subjects.

Postgraduate study by coursework is available in the field of defence studies, management studies, information technology, engineering, science, operations research and statistics, and English, and at levels ranging from Graduate Certificate to Masters degree. Research degrees include Doctor of Philosophy, Master of Arts (Honours), Master of Engineering, Master of Science and the Doctorate of Information Technology.

A balanced and liberal education in a military environment

In the agreement to establish the Australian Defence Force Academy the expression 'a balanced and liberal education in a military environment' figures prominently. What does it mean and why is it so important?[8]

Students at ADFA need to be adequately equipped to deal with the ever-changing challenges of the military profession. In a technologically and culturally evolving society, graduate officers are required to demonstrate intellectual strength, knowledge and flexibility in order to offer service of the highest quality to Australia and the international community. The university prepares students for these challenges by providing the rigor and intellectual freedom of a university education within the disciplined military environment of the Australian Defence Force Academy. Students learn in an intellectually diverse environment where they are encouraged to explore new ideas, as well as differing world views and ways of thinking. The degree structure ensures that students are exposed to several academic disciplines, while allowing specialisation in a chosen field. Within this structure, students are able to develop a critical and open-minded approach. A balanced and liberal education offers the benefits of an active, problem solving and initiative-taking approach to learning. It requires students to take an active role in learning, not merely to be passive recipients of instruction.

A military environment

The most obvious features of the tri-Service military environment at the Academy are the outward signs: the parade ground, the Service messes, flags, uniforms, and the high standards of dress and bearing of Service personnel. Cadets are subject to Australian Defence Force law and discipline. As already noted, the academic curriculum is complemented by a military training program designed to impart basic military skills and knowledge, together with the attitudes necessary for membership of the profession of arms.

8 : In my discussion here I have drawn from and quoted extensively from an undated document 'A balanced and liberal education in a military environment' produced by the University College Teaching and Learning Committee in the late 1990s.

The profession of arms has an ethos and a code of ethics, which demand the highest standards from individuals, and emphasise teamwork, integrity, courage, loyalty, and leadership. The Defence Academy provides the environment where these qualities are valued, as embodied in the motto 'To lead—to excel'. The officer cadets operate within a structured military organisation and routine, which provides each cadet with a challenging environment for the development of character, self-discipline and leadership skills. Cadets become familiar with the values, terminology, ceremony, customs, etiquette and traditions of the three services, and experience the many benefits to be derived from a corporate spirit and identity.

A balanced and liberal education

The realisation of a properly balanced education at the university is intrinsically linked with the liberal nature of the education. The culture of intellectual diversity nurtures a balanced world view.

Education within a specific discipline such as engineering or English requires a certain balance between depth and breadth of coverage in that body of knowledge. So, for example, an engineering graduate may have knowledge in depth in an area such as electrical engineering as well as knowledge in breadth across the general field of engineering; and an English graduate may have knowledge in depth in Australian literature as well as knowledge in breadth across a range of literary types, literary eras, and literary cultures.

As well as balance within disciplines, degree studies at the Defence Academy achieve a balance across disciplines. Taking a UNSW degree in engineering, science or arts requires demonstrated competence across several disciplines. The balance is further reinforced by UNSW university-wide general education requirements. BE, BSc and BA degrees include at least four courses, taken from fields of study outside the designated degree area. Familiarity with a variety of ways to approach and solve problems enhances the balance that is achieved by graduates. This culture of intellectual diversity prepares students to operate effectively in a complex and changing world, by preparing them to apply their skills in cross disciplinary environments that are subject to continuing and complex development.

Where appropriate external professional bodies, such as the Australian Institute of Physics, the Institution of Engineers, Australia, and the Royal Australian Chemical Institute, have reviewed and accredited programs. Increasingly such bodies, especially the Institution of Engineers, Australia, are emphasising generic skills.

A liberal education aims to achieve intellectual diversity. It ensures that even a technical or professional education is not unduly narrow. A liberal education engages with questions of value and encourages students to be receptive to new ideas and reforms. Students are left as unrestricted as possible in opportunities for self-expression. Individuals are encouraged to question and explore personal and institutional 'norms', enabling them to meet the challenges of an evolving culture and society.

The intellectual environment provided by a university can and should equip graduates with a willingness to consider and evaluate new ideas effectively. The product of such an education is a graduate who is able to engage in critical thinking, who is intellectually agile, who is confident and able and willing to continue a lifelong self-education. The Defence Academy, from its inception, recognised that the way to achieve these qualities is through a program which is open-minded and diverse in its intellectual culture: in short a liberal education.

The constructive use of intellectual freedom requires students to exercise intellectual discipline in their quest for understanding. This is achieved by exposing them to a variety of the many methods of rigorous intellectual inquiry in a university environment. A liberal education in this sense can be realised due to the quality and diversity of interests of the academic staff. Different approaches to explaining subject material and methods of teaching and inquiry—often inspired by curiosity driven research and research assignments, or other scholarly activities—make it possible to achieve an intellectual diversity, which can be described as liberal, even within the framework of a single discipline. Nevertheless students are encouraged to make their own subject choices across disciplines within the confines of degree rules. Providing students with the opportunity to exercise intellectual freedom differentiates the university from a 'training' institution, and allows the accomplishment of the educational ideals of the Defence Academy.

The value of diversity

The body of graduate officers, as a whole, provides a desirable intellectual diversity for not only a functional, but also a healthy Defence Force. The range of competencies developed within the body of officer graduates allows for effective consultation with experts from many specialist areas outside the Defence Force. At the same time, however, Defence Academy graduate officers acquire a common intellectual vocabulary and appropriate intellectual skills. A balanced and liberal education from a common institution thus enhances the cohesiveness of such a body. The attributes developed in such an environment should promote effective communication across specific competence areas as well as across the traditional interfaces between army, navy and air force.

Value of a balanced and liberal education

The benefits of a balanced and liberal education are the development of communication skills, problem solving abilities, interpersonal skills, planning and strategic thinking abilities, critical and evaluation skills, and the ability to continue in self-directed education. Further, graduate officers should have an open-minded awareness of prevailing cultures, be prepared to evaluate new proposals without prejudice and be flexible enough to act as leaders in a rapidly changing world.

At the risk of being repetitive, I want to emphasise that it is fundamental that in seeking to satisfy the purported needs of the professions the universities do not deny the vocational values of their present degrees, which are often entirely consistent with what employers seek from graduates. Universities are well placed to meet the immediate needs of the economy but

they must also remain a source of independent knowledge and provide the basis of an intellectual venture.[9]

In discussing the value of an arts degree, Sussex[10] has identified some nine attributes of studies in the humanities. I believe these are more broadly relevant as the basis of an education on which lifelong learning can be built. These attributes, even if not all characteristic of every program offered at the Academy or developed to the same extent, must not be forgotten:

- Textuality—the nature of texts: how different people can interpret texts in different ways, at different times and in different contexts. Students need to be able to evaluate context and purpose, whether material is informative, political and emotive, or creative and artistic. They must also be able to take into account the medium in which the message is delivered: this is increasingly less likely to be written text.
- Historicity—the way in which we have arrived at where we are. The management of change, even in a narrow disciplinary context, requires such knowledge and this applies equally as well in the sciences and technologies as in the humanities.
- Cultures—an understanding of the seemingly inevitable globalisation of cultures and economies. As Australians generally, and ADFA graduates specifically, deal with our main political and economic partners (or adversaries) an understanding of culture is critically important. At the very least an understanding of the pitfalls of xenophobia and the intellectual limitations of an Anglo-centric world view must be appreciated. Language study, such as Indonesian at ADFA, has both a direct role in communication across cultural divides and an indirect role in raising cultural awareness.
- Social responsibility—the issues involved range from the personal to the global, and much of the concern here is with the rate of technological development which is proceeding more rapidly than the development of complementary value systems. The University of New South Wales' general education requirements mean that all degrees incorporate a structured program designed to foster acceptance of professional and ethical action and social responsibility. This presents an interesting challenge in a military environment.
- Argumentation—a graduate needs to understand what constitutes a good argument and how to construct one; to be able to develop ideas, consider alternatives and implications, evaluate options and finally reach conclusions.
- Technological literacy—not only to be competent with technology, important as that may be, but also to consider the active, principled and informed use of such technologies.
- Interdisciplinary—the provision of an environment in which students are able to experience the benefits of moving beyond the knowledge barriers of a single discipline, to see multi- and cross-disciplinary perspectives in complex issues.

9 : Allport, C. 2000 'Caught in the corporates' *Advocate* (Journal of the National Tertiary Education) 7(1): 2.

10 : 'Nine wisdoms of the modern world citizen' (R Sussex, Prof of Applied Language Studies, University of Queensland) *Australian higher education* 10 May 2000, pp.48–49

- Critique—to be able to deal with and evaluate conflicting data and beliefs, to analyse facts and arguments and set these arguments in historical and contemporary value systems. While this may be claimed as the hallmark of an arts degree the comparison of ideas, theories and the assessment of evidence should be explicit in all degrees.
- Linguistic abilities—communication and language whether written or spoken and conveyed by whatever medium. Again arts degrees have been seen as the guardians in this area, but increasingly employers now recognise the value of verbal and written communication. One deficiency commonly cited by Australian employers is communication skills, along with a lack of interpersonal skills and a lack of understanding of business practice.[11] In fact the Institution of Engineers, Australia, now has a requirement for communication skills to be built into its degree accreditation process.

Final remarks

The University of New South Wales is presently in the process of reaching a new agreement with Defence over the way in which the partnership can develop and be enhanced. Let me therefore conclude with a few gratuitous observations, none of which are necessarily original, some of which are entirely predictable, but all of which I believe are pertinent to establishing a productive partnership of the type I have described.

- The sum (which in this case is the academy) must be more than the parts (Military+university) and will inevitably reflect commitment by both parties to the ideal of the academy.
- The agreement must be a commitment to work in partnership over a significant period of time. At ADFA many of the academic staff have had the opportunity to develop, within their discipline, international research and scholarly expertise of particular interest to the military, and thus add value in the academy's teaching and learning environment.
- There must be the capacity in the agreement for the relationship to evolve and sufficient flexibility built in to allow for change. At ADFA the university has had the capacity in recent years to adapt to an increasing emphasis on post-graduate studies and distance education, to expand in developing disciplines (e.g. information systems), to develop new academic disciplines (e.g. Indonesian), and to respond to specific requirements of Defence (e.g. the development of a new aviation/flying degree).
- In setting up the curriculum, the acknowledged importance of specialist and technical skills must be balanced against the generic skills that prepare graduates for their future roles. And that increasingly recognises the need for flexibility, mobility, networking, multi-skilling, and career-long, if not lifelong, learning.

Order and cohesion, so valued in military institutions, must be reconciled with the need for an education which develops the capacity to react tounpredictable situations creatively, intelligently and responsibly.

11 : 'Employer satisfaction with graduate skills', EIP Report 99/7 Department of Education and Youth Affairs.

Part V
Financing vocational training and lifelong learning

9

Financing lifelong learning in Australia: Review of needs and options*

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Introduction

Globalisation, technological and demographic changes have been major factors in highlighting the need for increased learning throughout life. This includes learning in the formal education system, structured and informal learning on the job and various forms of individual and community learning. Given the likelihood that governments will be unwilling to provide all the additional resources required, there is a need to examine the most efficient and equitable ways of providing education and training and incentives to encourage the financing of education and training by employers and individuals.

Section 1 considers the problems to be addressed: the need for more education and training due to the changing nature of work and patterns of employment and unemployment, together with the ageing of the population. It also considers the extent to which Australia appears to be addressing the needs taking account of the changes in institutional education and in employer based training in recent years. It looks at issues of participation, intensity, quality and inequality. Section 2 discusses what this might mean for increased funding needs, with the answers depending on changes in participation and economies in provision of education and training. Section 3 considers the restrictions in public expenditure and policy changes accompanying it. Section 4 addresses options that will encourage the provision of additional funds, the direction of funds to the areas of most need, stimulate efficiency, effectiveness and equity in the use of funds.

1. Demographic change, economic change and ongoing unmet needs

Demographic change

Table 1 shows the Australian population by age in 1990, in 2000 and projected to 2010. Overall, the growth rate is about 1% per annum and slowly falling. A small decline is projected in the numbers in the very youngest age groups, small growth among those aged 15 to 44 but substantial growth in persons aged 45 and over. The ageing of the population in not as advanced as in Europe.

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Births in Australia peaked as late as 1971 and the fertility rate though below replacement level is still well above the European average. Immigration is high by OECD standards and helps slow the ageing of the population.

Table 1. Population by age, Australia 1990, 2000 and projected to 2010 (millions)

	0–4	5–9	10–14	15–19	20–24	25–34	35–44	45–64	65+	Total
1990	1.3	1.3	1.2	1.4	1.4	2.8	2.6	3.3	1.9	17.1
2000	1.3	1.3	1.3	1.3	1.4	2.9	2.9	4.3	2.4	19.2
2010	1.2	1.3	1.3	1.4	1.4	2.9	3.1	5.5	2.9	21.1
% change 2000 to 2010	–5	–5	0	5	6	1	4	28	25	10

Source: Australian Bureau of Statistics (ABS), Catalogue no. 3201 and Catalogue no. 3222.0
Note: ABS Projection Series II is used, but there is very little difference among projections for the next decade

Clearly demographic change is not making major demands on provision of places in primary and secondary schooling or even tertiary education. However, as will be discussed, the ageing of the population, the low education levels of many middle-aged or older persons, combined with the changing structure of the economy, give rise to a need for increased education and training provision for older persons.

Changes in work and jobs

The expansion of world trade, new technologies and production organised across nations has led to a changing pattern of employment and remuneration (see Maglen & Hopkins 2000). This has been accompanied by a marked decline in public sector employment. There has been a reduction in routine production jobs in manufacturing in Australia with consequent loss of jobs for blue-collar workers.

There has been strong growth in employment in areas such as property and business services, associated with the outsourcing of both public sector and private sector work and the growing internationalisation of business. These jobs are often in areas of high skill professional employment. There has also been strong growth in retail trade, restaurants and accommodation, often in part-time and casual employment. These are on average relatively low skill jobs. [1] Employment has not grown very much in areas such as communications where production has grown at a remarkable rate but productivity increases are very high.

Overall the changes occurring are increasing the need for education and training and increasing the earnings of highly skilled people relative to unskilled. They are increasing the private benefits of high levels of education and training. There has been a widening in the distribution of earnings in Australia as in many OECD countries. Saunders (2001) reports

1 : Casual employment means not in receipt of holiday and sick leave benefits. Some of this can be attributed to the growth in numbers of the self-employed who are owners of small incorporated businesses but are treated in the labour force statistics as casual employees. There has also been an increase in the hours of work undertaken by those in full-time employment, with an increase in the proportion of men working very long hours.

the continuous increase in inequality in Australia on four different income measures between 1986 and 1997–98.[2]

The pursuit of high economic performance has led to the adoption of a range of new work practices. These involve changes in job design, job rotation, greater complexity, higher job skills and working in teams. Measuring the extent of these changes and their effects is a complex task. There does appear to be an increase in the incidence of flexible practices and workplaces with flexible practices tend to have above average levels of training.

The jobs in the newly expanding areas of employment are not readily accessible to many of the older workers displaced by the decline in employment in manufacturing. The workforce participation rate of adult males had fallen and that of adult females had risen until recently. There has been a sharp rise in Australia in part-time employment, from 21% of employment in 1990 to 27% in 2000, a much higher rate than the OECD average.

An often mentioned aspect of the modern economy is job insecurity and the need for persons to change jobs and even occupation more often than in the past, with implications for retraining. Surprisingly, there is not much evidence of increased job turnover in most OECD countries (OECD 1997, p.143). In Australia job turnover in the late 1990s was lower than in the late 1980s (ABS Catalogue no. 6209.0). The OECD speculates that the perception of increased job insecurity may be because the chances of re-entry to employment may be lower than in the past when unemployment rates were lower.

Employment has not expanded sufficiently to employ all those wanting to work. The unemployment rate in Australia was about 6% in August 2000, despite the very long period of economic growth from the early 1990s. Persons unemployed for a year or more make up over a quarter of total unemployed. Underemployment, indicated by persons working part-time but seeking full-time work, is a further problem. In addition there are a large number, about equal to the official number of unemployed, who would like work but are not actively looking for work. Most of these are older adults whose plight has not attracted the same attention as that of unemployed youth.[3]

The number of jobless households increased over the last decade even as unemployment rates fell. This is partly accounted for by the growth in single adult households but even within households with two or more adults there is the simultaneous increase of both workless households and households with at least two adults in work (OECD 1998b, p.25).

2 : Saunders (2001) concludes that the pattern is 'consistent with the view that the deregulation of the economy and the increasing role of market forces has produced an increase in income inequality that has been moderated but not eliminated by the social security and the income tax system.
3 : The need to look beyond the measured rate of unemployment is also emphasised by the rising rate of incarceration. This is obvious in the US where the numbers in prisons and jails have trebled in the 1980s and 1990s. The apparently low US unemployment rate of 4.5% can be considered against its high prison population and the workforce engaged in building and operating prisons.

Are existing and emerging needs being met?

The Australian education and training system has been undergoing rapid change from the mid-1980s to better meet the emerging needs and cope with ongoing needs. The matters considered here are the changes in participation in education and training, changes in intensity, changes in quality and issues of inequality.

Participation and intensity

Table 2 shows changes in education participation rates in 1990, 1992 and 1997. The participation of those aged 17 to 19 increased from about 62% to 67% and for those aged 20 to 24 from 27% to 33% in the 1990s. Table 2 also indicates that most of the increase occurred in the early 1990s.

Table 2. Education participation rates by age, Australia, 1990, 1992 and 1997 (%)

Age	7–14	15	16	17	18	19	20–24	25–29	30–64
1990	99	100	93	77	60	49	27	15	8
1992	99	99	95	84	66	54	31	16	9
1997	99	98	95	84	65	54	33	17	9

Source: Department of Education Training and Youth Affairs (DETYA) (1999a)

Table 3 shows that the largest increase in participation was among 20 to 24 year olds in universities. It also shows the importance of the Technical and Further Education (TAFE) system for older persons. About 10% of the population aged 25 to 29 and 6% of the population aged 30 to 64 were enrolled in TAFE in 1997. The very rapid growth in the population aged 45 and over shown in table 1 suggests that the role of TAFE may become even more important in the future.

Table 3. Education participation rates by age and sector, Australia, 1990 and 1997 (%)

	15–19		20–24		25–29		30–64	
	1990	1997	1990	1997	1990	1997	1990	1997
Schools	44	50	1	0	0	0	0	0
TAFE	20	18	14	15	9	10	5	6
Higher education	9	11	11	15	4	5	2	2
Other	2	1	2	3	2	2	1	1
Total	75	79	27	33	15	17	8	9

Source: DETYA (1999a)

Nearly all school students are enrolled full-time for the whole year (though part-time enrolments at senior secondary school level are growing). For universities about 60% of students are full-time. For TAFE and other VET students not much over 10% could be

considered full-time. Many TAFE students are taking short courses or even single units which they can commence at varying times in the year. The importance of access to particular short periods of training is a feature that will be considered further below.

Employer provided training

The data in tables 2 and 3 apply only to the formal education system. Surveys undertaken by the Australian Bureau of Statistics (ABS) provide an insight into the extent to which structured training extends beyond the formal education system.

Table 4 shows the percentage of wage and salary earners who either studied or completed training courses in the 12 months prior to the ABS surveys in 1989, 1993 and 1997 respectively. *External training* (training mainly attended by persons not working for the same employer and only partly financed by employers) was markedly higher in the 1997 survey. The percentage of wage and salary earners reporting this form of training rose from 12% in 1993 to 20% in 1997. On the other hand, participation in *in-house* training (training mainly attended by persons working for the same employer) fell in the early 1990s and had not recovered its 1989 level by 1996. Table 5 provides data from surveys of employers which show that there was a decline in the proportion of employers providing training in the mid-1990s and in their expenditure on training. These changes need careful scrutiny and perhaps reflect a shift towards greater employee responsibility for funding training (see Long 2000b).

Table 4. Persons aged 15 to 64 with a wage or salary job in last 12 months: Study of training courses in the last 12 months, Australia, 1989, 1993 and 1997 (%)

	Study or training courses undertaken			Total study or training as % of wage and salary earners
	Studied	In-house	External	
1989	17	35	10	48
1993	19	31	12	47
1997	16	33	20	53

Source: ABS Catalogue no. 6278.0

Table 4 shows only the incidence of training. It does not show the intensity, the number of hours of training. A full-time student in a TAFE or a university can be considered to spend over 700 hours in class or related activity during the year. The length of a training course in the workplace is usually much shorter. The average length of training courses completed is 26 hours. Persons trained undertook on average about two training courses per year or about 55 hours of training in the year.

Other data from the ABS surveys indicate a 30% decline in hours of in-house training per employee trained: from 52 hours in the 1989 survey to 38 in 1993 to 36 in 1997 (ABS Catalogue no. 6378.0). It is possible, though, that new methods of delivery may be shortening the time needed for some forms of training.[4]

4 : Smith (2000) notes that the picture of the changes in employer training varies across different surveys.

Table 5. Employer expenditure on structured training, Australia, 1990, 1993 and 1996

		Employer size (employees)			All employers
		1–19	20–99	100 or more	
% of gross wages and salaries	1990	1.4	1.9	3.0	2.6
	1993	1.6	2.7	3.2	2.9
	1996	1.2	1.9	3.2	2.5
Hours of training per employee	1990	4.0	4.1	7.1	5.9
	1993	4.1	5.3	6.2	5.6
	1996	2.4	3.8	6.5	4.9
% employers providing training	1990	19	64	94	24
	1993	18	80	98	25
	1996	13	51	88	18

Source: ABS Catalogue no.6353.0
Note: Structured training is all training activities which have a predetermined plan and format designed to develop employment-related skills and competencies. Survey applies to the periods July to September.

The explanation of the apparent fall in employer expenditure—despite the apparent need for more training discussed earlier—could lie in some of the following:

- The growth in part-time and casual work which means that an employer (or an individual) has less work or less certainty of employment from which to recoup the investment (ABS 6278.0, ABS 6310.0).
- The continuing relative growth in the private sector which does not provide as much training as the public sector (ABS 6353.0 table 4.1, ABS 6248.0).
- The decline in trade union membership, since unionised workplaces have been associated with greater levels of training (ABS 6278.0 table 1.4, ABS 6310.0).

Quality

Expansion of enrolments has occurred but at every level of education there is concern about quality. This, as ever, is difficult to assess. In vocational education and training a number of issues figure in heated debate.

The first is the implementation over the last ten years of assessment and training based on industry competency standards (ANTA 1998). The most recent innovation is the development of 'training packages' where the main components are 'units of competency', the relation of these units to qualifications, and the principles of assessment of competency.

The main objective of the move to competency based training and assessment is to ensure that training meets the needs of industry rather than being determined by the providers of training. Assessment is to take place much more in the workplace or in simulated workplaces.

The main concerns are whether training based around competencies is too narrow, missing the holistic aspects of training and the more generic skills such as ability to work in teams, communication skills and numerical skills.

The development of competency based training has been accompanied by the stress on achievement of competencies by a range of routes, including training based entirely in the workplace without time release for off-the-job training. Some recent reviews have provided examples where there was government financial subsidy for training in the workplace but where little if any training was seen to occur. The need for increased scrutiny of such training has been advised (e.g. Schofield 1999, 2000).

There has been encouragement to the development of a training market to stimulate efficiency and effectiveness in the provision of training. At the same time there have been restrictions in public expenditure and the increased use of part-time or sessional staff who are cheaper than full-time staff (Malley et al. 2000). There are strong opinions but to date not much evidence of the effects of such changes. Where new technologies have been used there are some obvious advantages to students in access to materials and in some cases to regular contact with teachers and other students. Such changes may offset in part or whole the reductions in normal face-to-face delivery.

Inequalities among young and older persons

The evidence on equity is mixed. Aggregate measures for target groups tend to show some improvement until the early 1990s. The slowing if not cessation in improvement may not be due to failures of the education system but may lie with factors external to education and training such as the changing structure of employment, income and families.

There is little indication, in aggregate, of disadvantage by gender in education and training or of disadvantage for those with a language background other than English. There is strong evidence of disadvantage for some other groups. Indigenous persons appear to be well represented in TAFE, though they take lower level courses and they have lower completion rates. They are clearly under-represented in the other sectors of education and training in enrolment, attendance and completion.

Persons from a rural background have a slightly lower rate of completion of schooling but a noticeably lower rate of participation in higher education. On the other hand, participation in vocational education from persons in these groups is somewhat above their share of the population.

Persons of low socio-economic background have a relatively low rate of school completion and of participation in universities. Males from low socio-economic backgrounds suffered the largest fall in school completion rates when they fell in the years 1993 to 1997. Persons in the lowest quartile by socio-economic status made up 15% of all university students in 1991,

but 14.5% in 1997 (DETYA 1999b, p.57). Similar data for changes in vocational education are not available due to changes in the data collection.

There is a growing concern for the education and training needs of older persons for both economic and equity reasons. Older persons have been severely affected by economic restructuring and they are increasing rapidly in numbers.

Australia has a large number of adults with low levels of literacy and skills, many of whom are very disadvantaged in the labour market. Table 6 shows that Australia compares poorly with Sweden, Germany and the Netherlands, though better than most of the other countries listed, in the proportion of the population at the lowest level of assessed literacy, level 1. Literacy levels are better among younger persons: only about 10% of 15 to 24-year-olds in Australia are at level 1, but over 20% of those aged 45 to 54 and well over 30% those aged 55 and over (ABS Catalogue no. 4228.0).

Table 6. Percentage of the population aged 16 to 65 at IALS document literacy level 1, selected OECD countries (1994–95)

Australia	Canada	Germany	Ireland	Netherlands	New Zealand	Sweden	Switzerland	United Kingdom	United States
17	18	9	25	10	21	6	17	23	24

Source: OECD (1998a, table A3.1)
Note: IALS is the international adult literacy survey. Level 1 is the lowest of four levels.

Persons with low levels of literacy are not likely to receive compensating education and training in the workplace. Those with high levels of literacy are much more likely to receive training. The fact that further education and training is concentrated on the best educated in Australia and in other OECD countries is indicated in table 7.

Table 7. Ratio of participation in career or job related training by workers aged 25 to 54 with a university degree to those who have not finished upper secondary schooling (1994–95)

Australia	Canada	Germany	Netherlands	New Zealand	Sweden	Switzerland (French)	Switzerland (German)	United Kingdom	United States
2.0	2.3	2.0	1.9	1.8	1.6	4.0	12.3	1.7	4.1

Source: OECD (1999, p.151)

Continuing education and training is similarly linked to higher status and full-time employment. Further education and training in Australia as in most OECD countries tends to be provided disproportionately for those:

- with more education
- with higher levels of literacy
- with higher levels of income

- who are younger rather than older
- who are full-time permanent workers rather than part-time and casual workers
- in larger firms
- in unionised workplaces
- in managerial, administrative, professional or semi-professional jobs rather than in operators or labourers jobs
- in finance, insurance and business services; community, social and personal services; mining; utilities (electricity, gas and water); and public administration; rather than in agriculture and construction
- who are employees rather than self-employed persons or unemployed or not in the labour force

Summing up

There has been an expansion of the education system in Australia and substantial changes in its nature that are helping it to meet the existing and emerging needs. Less positive, when last measured in 1996, employer expenditure had been falling. In any case, there are ongoing inequalities and unmet needs, compounded by the rapid changes in the economy and the ageing of the population.

2. Quantifying the need

Funding needs depend on the number of participants and the resources per participant. Resources per participant are determined by the number of hours or years of training and the expense of providing an hour or year. Efficiencies in provision may be a partial means of offsetting the demands for increased funding. This is considered first followed by a discussion of the potential changes in participants.

Efficiency and effectiveness

The principle of growth through efficiencies was 'a cornerstone of the ANTA Agreement 1998–2000' (ANTA 1999, p.3). Recent data for universities and TAFE indicate a reduction in unit costs at least since 1996 (ANTA 2000; Burke 2001). There is debate about the effect of these reductions on the quality of education and training but it is hard to be conclusive.

A classification of a range of potential savings is provided by Burke et al. (2000, pp.38–41). Cost savings involve economies in the use of personnel, capital facilities and other supplies. Merging institutions, reducing class sizes, reducing hours of face-to-face teaching and cutting the length of courses are some of the options already being pursued. Better costing of the use of non-financial assets has the potential for yielding considerable savings and the use of accrual accounting in the public sector may help to promote such efficiencies. At some levels of tertiary education the use of flexible learning methods and the Internet has the potential

to save costs without reducing quality. The introduction of new technologies has initially increased costs and it is not clear yet what the future cost savings could be.

Governments have put part of the delivery of training to tender from both public and private providers. For the year 2000 over 10% of public vocational funds was contestable by public and private providers (ANTA 1999, p.4). Contestable funding is aimed at stimulating competition to encourage maximum provision for a given cost that meets the needs of the users of the system, the students and their employers

These changes have been accompanied by an introduction of more devolved forms of management of public education. The degree of devolution varies across the sectors of education and among the States. This includes management of funds and the right to seek private funds to supplement their publicly funded activities. Universities in particular have a high degree of financial autonomy. Public sector management has been reformed with emphasis on performance rather than specification of detail in the use for resources.[5]

There is potential for realising further economies but how much can be achieved without loss of quality is not easily predicted and is likely to continue to be contested.

Assessing changes in student numbers and 'quantity' of education

The OECD provides estimates of the volume of education that would be needed to bring the number of early school leavers and the number of adults with less than secondary education into line with the levels of 'good practice' countries. For Australia the increase for persons up to age 24 would be reasonably small but for older adults the requirements would be quite large. The adult population to be served is estimated as equal to that of the whole secondary school population (OECD 1999b, pp.18–19). What this would cost to deliver on an annual basis would depend on the speed and intensity with which the extra education was delivered. The costs would have to include incentives for persons to take part in education and training as well as the cost of tuition appropriate to their needs.

Estimates of the possible changes in enrolments and expenditures in the formal education system in Australia have been prepared by Aungles et al. (2000). They show that on current levels of expenditure and policy settings, expenditure on education would fall by one percentage point of GDP in the next two decades (from 6% in the mid-1990s to 5% by 2021). The main reason for this is the declining relative size of the enrolment of school and younger tertiary students. A doubling of the participation rate of mature age persons in tertiary education would absorb an extra 0.7% of GDP. [6]

5 : In some cases this involves a system of funding at least partly related to outcomes. This is most notable to date for research funding in universities..

6 :These estimates seem roughly compatible with draft estimates of individual and employer needs prepared for the ANTA CEOs' Committee in November 2000.

The task therefore does not seem overwhelming—if governments, individuals and enterprises were willing to maintain their levels of effort or even increase them. The next sections address these issues.

3. Public expenditure

The restraint in recent years in Australia in public expenditure on education and the expansion of private expenditure are indicated in table 8. Overall the share of the GDP going to education rose in the early 1990s and then declined a little. For most OECD countries for which data are available expenditure on education rose as a percentage of GDP in the period 1990 to 1997 (OECD 2000a, table B1.1a).

The period from 1992 in Australia was one of rapid economic growth so the small decline in the share of the GDP going to education did not mean a decline in real resources. Overall there was an increase in public and private resources provided per student in the 1990s. However it was concentrated in non-government schools and in the government schools in some States. In the university and TAFE sectors, where student numbers rose substantially, there was a decline in public resources per student or per hour of training, at least in the years from 1996 to 1999 (Burke 2001).[7]

Table 8. Expenditures on education, Australia 1993 to 1999 (current prices, A$b)

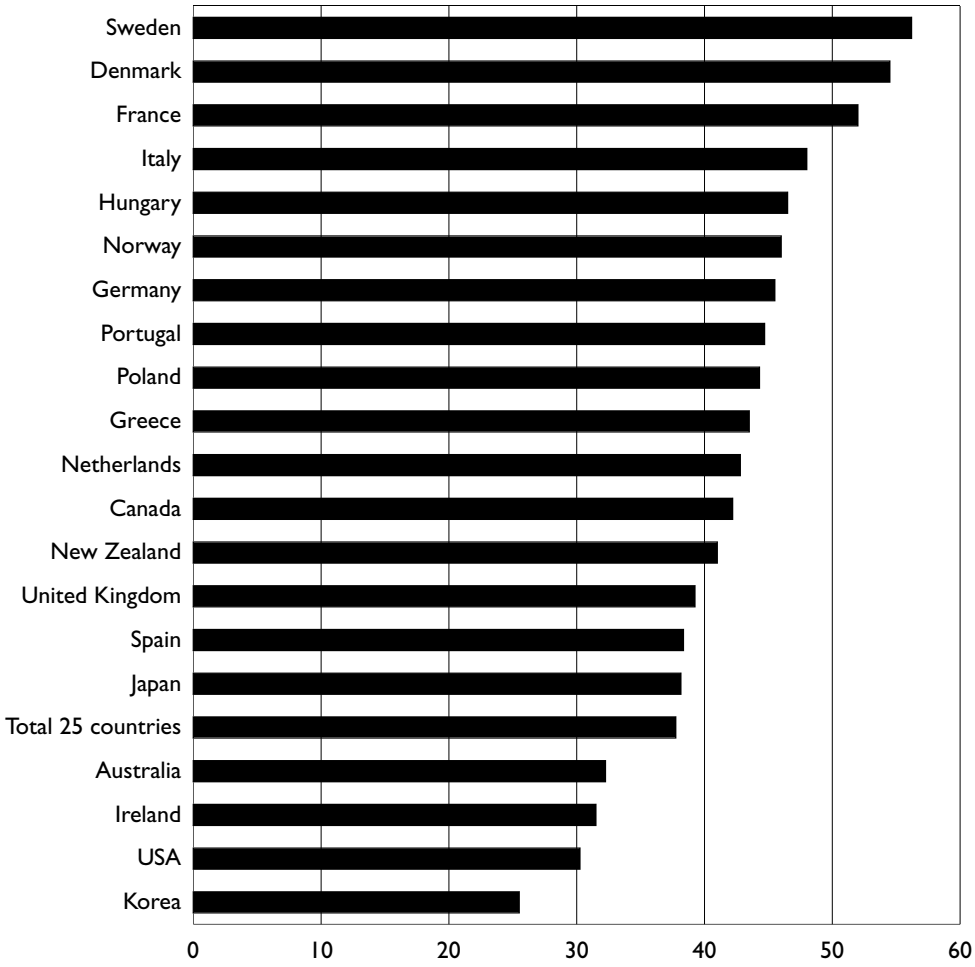
	1993	1994	1995	1996	1997	1998	1999	% increase 1993 to 1999
Total government final expenditure	17.4	17.6	18.1	18.8	19.9	20.6	22.3	28
Government transfers to private sector	2.4	2.6	2.8	3.0	3.3	3.8	4.1	68
Student benefits	1.7	1.8	1.8	1.9	1.9	1.9	2.1	22
Total government education outlays	21.6	22.0	22.7	23.7	25.1	26.3	28.4	32
Total private final expenditure	5.5	5.8	6.2	6.7	7.5	8.4	9.0	65
Private expenditure less government transfers	3.0	3.2	3.3	3.7	4.1	4.6	4.9	63
Total government and private *less* government transfers to private sector	**24.6**	**25.2**	**26.1**	**27.4**	**29.3**	**30.9**	**33.3**	**35**
GDP	427	449	473	507	532	565	595	40
Total as % GDP	5.8	5.6	5.5	5.4	5.5	5.5	5.6	

Source: Burke (2001). Estimates are based on ABS 5204.0, 5510.0 and 5518.0.48.00

7 : The OECD (2000, Table B4.3) shows Australia to have experienced a real increase in spending of 19 per cent for primary and secondary education and 47 per cent in tertiary in constant prices in the period 1990 to 1996. Per student increases of 14 per cent across sectors are shown. However there are some definitional factors affecting the OECD data for Australia for tertiary education. And the OECD uses the consumer price index to adjust expenditures to constant prices. Factor costs within education have risen faster than the consumer price index.

Australia's overall levels of government outlays for all purposes and for education are relatively low by international standards. This is shown in the following figures. Figure 1 illustrates the range of general government outlays, on all functions of government e.g. including health and welfare as well as education, as a percentage of GDP in selected OECD countries. Australia is a very low public-spending nation.

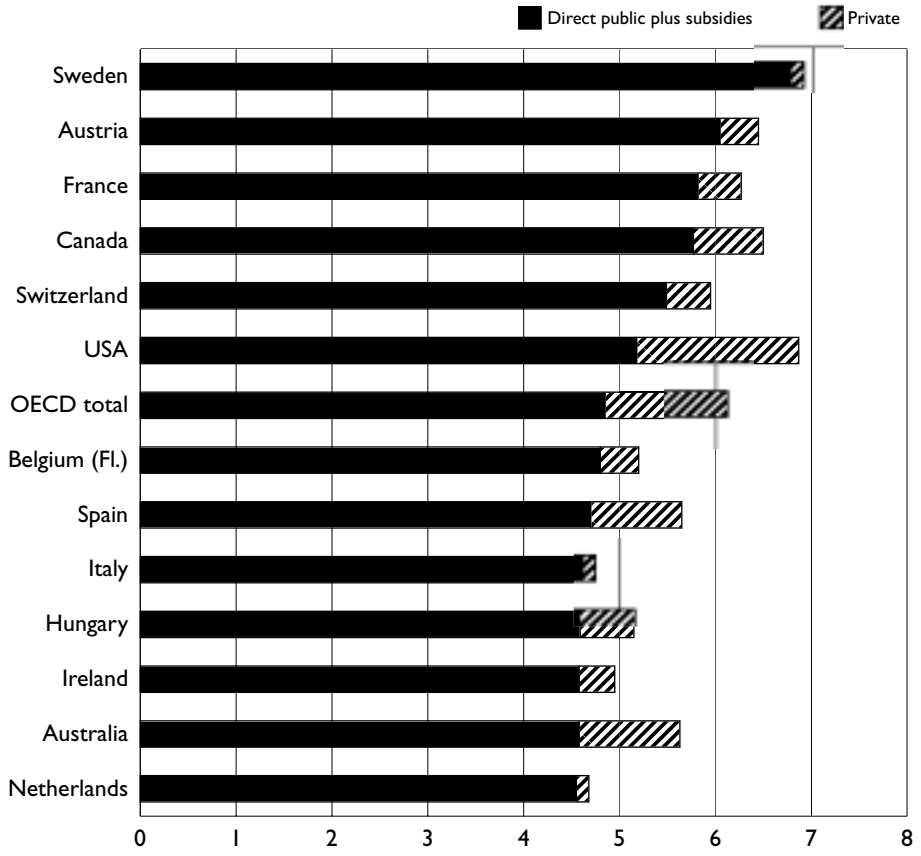
Figure 1. General government outlays as a percentage of GDP (1999)



There is less variability across countries in outlays specifically on education, as shown in figure 2. Other activities of government such as social security expenditure vary more than education expenditure. The countries with lower total government outlays overall tend to be those with lower public expenditure on education, with private expenditures moderating the variation in total education spending. Korea, Japan (not shown in figure 2), the US and Australia are the countries with the highest private expenditures. Usually the private expenditures are concentrated on higher education.

It appears that there is no economically determined level of public expenditures that can be tapped for the finance of lifelong learning. It is a matter of the political and economic circumstances and priorities of each country.

Figure 2. Public and private expenditures as a percentage of GDP (1997)



4. Options in funding

To meet the needs discussed, reforms to the financing education and training need to lead to:

- provision of more education and training
- more efficient and effective delivery of good quality education and training
- increased equity in provision

The main sources of funding for education and training are governments, individuals and employers. Governments are involved in finance or provision of training,

provision of infrastructure, regulation and information for both individuals and firms. The discussion is therefore arranged about individuals and then firms.

Individuals

Individuals will increase their participation in education and training if they or their families perceive improved benefits or lower costs and if they have access to finance. In this section a range of methods for grants and loans that reduce costs or provide finance are discussed. Improving the information base so that students can undertake training of the highest benefit to them is also considered.

Varieties of government funding

A wide variety of funding methods for students are used in education. In most countries primary and secondary schooling is available in public schools without tuition fees. Most countries charge at least some fees for tertiary education. Sweden and Finland in 1997 were the only two OECD countries where no fees were charged for tuition at tertiary level (OECD 2000a, p.63). Korea, Japan and the United States and Greece, are the only OECD countries where the proportion of expenditures that is private is larger than in Australia. In Greece the private expenditures are mainly at sub-tertiary level and in Korea, Japan and the United States mainly at tertiary level.

In many countries assistance is given to households for senior secondary and tertiary students in the form of grants and subsidised loans. Some broad indication of the existence, though not of the importance, of various sorts of assistance at tertiary level is given in table 9.

It is not a simple matter to draw implications from table 9. For example, Sweden does not provide loans or grants for tuition fees—but it does not charge tuition fees. Australia introduced fees for university education and provides loans specifically to cover those fees. Every country listed except the Czech Republic provides some form of grant to tertiary students for general purposes such as living expenses, and the Czech Republic makes family or child allowances contingent on student status.

Given the diversity of possible government funding schemes it is possible here to comment only on some examples.

Entitlements

A number of schemes have been proposed for 'entitlements' to permit the less advantaged to have a proportionate or more than average share of government support for education and training. The concept of lifetime entitlements is much discussed but nowhere adopted as a comprehensive scheme. The more limited idea of entitlements to study leave or a voucher for payment for a limited amount of training are more common. Entitlement proposals usually differ from the original 'voucher' concept (Friedman 1962, p.93). Friedman's voucher

scheme allowed public funding to follow the student to the institution of choice. Most entitlement proposals go further in guaranteeing for each person an amount of money after compulsory schooling for the purpose of education and training. Entitlements may be financed by grants or by loans, with the emphasis on loans in recent proposals (Levin 1998; OECD 1996, p.243)

Timmermann (1995, p.5) suggests a form of entitlements to be used over a working life for a variety of learning opportunities including university courses, vocational courses, apprenticeships, on-the job training, continuing education programs and vocational and non-vocational adult education. The value of the entitlement might be varied according to the social background of the learners. The entitlements might accumulate interest so that their value would be larger when used later in life. Such a scheme ranks high on equity though there may be a problem of financing high cost courses, assuming that market forces alone will not ensure a correct allocation of training to meet the needs of the workforce.

An alternative entitlement scheme is the *Franchise Model* advocated by Van Ravens (1998). This involves two elements:

- a lump sum grant by government to finance post secondary school studies but with a rising proportion of self finance with increasing age
- an open system of learning where competencies will be accredited whether acquired in the education system, the workplace or the community.

Table 9. Types of public subsidies available for tertiary education

	Australia	Canada	Czech Republic	Denmark	Finland	France	Germany	Ireland	Italy	Netherlands	Norway	New Zealand	Poland	Sweden	Switzerland	United Kingdom
Scholarships and grants																
for tuition fees	—					—		—	—				—			—
for general purposes	—	—			—	—	—	—	—	—	—	—	—	—	—	—
Specific subsidies																
Housing		—			—		—		—		—	—				—
Medical			—				—				—	—			—	—
Transport					—		—			—	—	—				—
Other					—		—		—		—	—		—	—	
Family or child allowances contingent on student status		—				—	—	—							—	—
Public loans																
Public loans for fees only	—											—				
Public loans for general purposes		—		—			—		—	—	—	—		—	—	—
Government subsidies or guarantees for private loans	—	—					—		—						—	
Tax reductions or credits	—	—	—		—	—	—		—				—		—	

Source :Burke et al (2000 p 470) based on OECD (2000 p.72)

The lump sum grant, which can be used to cover up to 100% of costs for the young, is seen to offset the difficulties of access to finance when they are greatest, which is for young people without income. The 'open system of learning' is seen to promote efficiency in the way people can learn, with a considerable reduction in unit costs. Van Ravens (1998, p.96) argues 'The drop-out phenomenon, considered an irreparable loss in a closed system, is a non-issue here. Everybody drops out all the time and everybody drops back in. The time it takes to graduate does not need to be reduced and becomes irrelevant'.

There are some similarities, in effect, to the franchise model in the current operations of Australian VET. Over the last decade there has been a promotion of competency-based assessment and the recognition of prior learning including learning in the workplace. The provision of training largely or entirely in the workplace has been promoted.

There is no lump sum entitlement available in Australia but the level of fees in publicly provided VET is low (and at least partly waived for low income students). Courses are available on a part-time and evening basis, sometimes at the weekend or with flexible delivery. The programs range from remedial and educational preparation for those who did not complete secondary school, entry level vocational training and advanced vocational training.

There are two very positive aspects of the Australian system which may in part be attributed to the aspects just described. First, Australia has the highest level of enrolment by persons aged 30 and over among OECD countries (Burke et al. 2000, p.15). Second, there is a very high proportion of students who take units of competency (modules or subjects) successfully but do not complete the whole course. This has been estimated at 50% of all commencers of courses (Foyster et al. 2000). There is movement in and out of the system, as the need arises, that Van Ravens advocates.

The Australian system does not have the incentive to efficiency, as in the Franchise Model. This is the incentive that might come from the funds being allocated entirely at the discretion of the student across all forms of potential learning. However, there are aspects of this in 'User Choice' introduced in 1998 whereby the public funds allocated for apprenticeships flow to the training provider chosen by the apprentice and his or her employer. The public funds can go to public institutions or to private recognised training organisations which include private colleges but also the training arm of a corporations (e.g. hotels chains). The early experience of User Choice has been given some endorsement but there are concerns about quality assurance and the need for better monitoring of the system especially for training which has no off-the job component (Schofield 1999, 2000). In one state the funds that can flow to the private sector have been constrained.

Entitlements being implemented

In the UK a system of Individual Learning Accounts have been established. The government pays £150 into the account after an adult pays in £25. They are open to anyone in work but not in full-time education. The funds can be used for any course the adult wants (DFEE

1998a). It is expected that many of the account holders will spend their funds at the newly founded University for Industry (Ufi) which will co-ordinate a network of learning centres in traditional education settings but also in some non-traditional centres like football clubs and churches (DFEE 1998b). These accounts are at an early stage of development but it does appear that they are unlikely to be a major element in the financing of education and training. One factor is that they are considered too small for the major banks to handle them at a reasonable charge. It is likely instead that more attention will be given to the development in income contingent loans.

Sweden has recently announced a system of Individual Learning Accounts to be used for competence development. These are to be funded by employees and employers contributions, encouraged by a tax entitlement at time of contribution. At time of use the funds are subject to tax, but this is partly offset by a competence grant premium. The premium is determined not by the costs of the training or living expenses but by the competence acquired. The scheme is planned to be implemented by 2002 (Sweden 2000).

Student assistance

The Commonwealth government provides assistance to full-time students aged 16 and over subject to income and wealth tests. Assistance may be provided to part-time students not in employment subject to an activity agreement. The majority of part-time students in full-time work are not eligible for assistance.

Australia has a tradition of considering support for student living expenses separately from support for tuition costs. It is not clear that they should be considered separately. The arguments for entitlements, just considered, or for fees and loans discussed below, could be extended to apply to student living expenses. The point can be emphasised by noting that Sweden uses its loan schemes for student living expenses. Australia relies mainly on grants for living expenses for full-time school, VET and higher education students. It uses loans for tuition costs in higher education but not for the other sectors.

Most systems of student assistance are focused on formal courses of study. To assist older persons there is a good case for allowing the areas for assistance with living costs to be extended as suggested by Timmermann and Van Ravens in their suggestions for entitlements.

Personal taxation

In Australia, education and training expenses related to one's career can be deducted. Tax deductions are available for individuals payments of education expenses in about two thirds of European countries (Bruyneel 1999). Tax deductions partly offset the disincentive that fees cause to investment by adults in education. However the assistance varies with the level of taxation and it offers negligible support for the less advantaged.

Value-added taxes are levied on training expenditures in most countries. Australia introduced a goods and services tax (GST) in 2000 but exempted education and training in accredited courses and also in programs that lead to accredited courses. However the GST applies to

non-accredited programs that provide a way into more formal education, programs taken by those reluctant to enter the formal system.

The Swedish system of Individual Learning Accounts discussed earlier is an innovative combination of taxation reductions at the time of placing money in the accounts together with subsidies offsetting part of the taxation which is levied when the accounts are drawn on for education and training.

Encouraging payments by individuals: fees and loans

Individuals will be encouraged to pay for training if they believe the benefits justify the expense and they have access to the funds to make the investment. Hence providing more appropriate training and providing accurate information on it is one part of the means of increasing individual payments. The other part is to ensure access to funds.

Given the limits to public funds, additional fees in education and training represent an alternative way of funding. At the moment the fees charged in publicly provided VET are low, usually not exceeding $500 for a full-year enrolment with exemptions for less advantaged students. In contrast fees for undergraduate places in public universities under the Higher Education Contribution Scheme (HECS) range from about $3500 to $6000 per annum, though deferred payment through the tax system are available and a discount of 25% is provided for an immediate up-front payment of the fee.[8]

The simple increase in fees in the VET sector is not an option to be considered, even with exemptions for low income students. An increase in fees seems likely to deter many people who do not qualify for exemptions but who do not have ready access to funds to pay fees. It would decrease participation overall whereas an acceptable option would lead to an increase in participation among less advantaged groups and even among the advantaged.

Increasing fees but providing loans to finance the fees would not have the same disadvantages. But students may be unwilling to incur a growing debt when the extra earnings resulting from their training are uncertain and not likely to be as high as for university graduates (Long et al. 1999). Other disadvantages are the consequences of default for the future creditworthiness of the person concerned.

The possible option is to extend the Higher Education Contribution Scheme (HECS) to VET students.[9] The early evaluations did not detect any notable deterrence to enrolment in

8 : There has been a gradual introduction of full-fees for postgraduate coursework programs but not for research degrees. A small number of undergraduate places in higher education are now available at full-fee to Australian students. International students pay full fees in all education sectors. TAFE Institutes also enrol fee paying overseas students and provide some courses at full cost especially to employers.

9 : HECS comprises tuition charges for Australian students and the provision of income contingent loans which can be repaid through the tax system. Under HECS as first introduced in1989: students were initially required to pay about 20% of the operating costs; a discount of 15% was made to the charge if students paid the fee up-front; repayment (through the income tax system) could be deferred until the student's income reached the level of average earnings in the community; no payment was required if income did not reach this level; and no interest was charged but repayments were adjusted by the consumer price index.

higher education. But there were major changes to the scheme and from 1997:

- repayment must be made when income reaches about two thirds of average earnings instead of average earnings
- the level of the charge has been raised from about 20% to an average of over 30% of government operating grant per student—it now varies by course, higher for courses that cost more to provide and for those, such as law, that lead to higher incomes.

The latest evidence suggests that HECS is still not a notable deterrent to enrolment though the full effects of the post-1996 changes may not have been fully realised (Andrews 1999). However, a recent government study found that participation in higher education by people from socio-economically disadvantaged backgrounds remains low and is becoming gradually lower (DETYA 1999b, p.58).

Extending such a scheme to VET would be complicated and its effects less clear. TAFE clearly caters for less advantaged persons than does the higher education sector. The case for the introduction of HECS to universities made by the Wran committee (1988) was based largely on the higher incomes later received by university graduates. As mentioned, the studies of the income of TAFE graduates suggest on average only a modest addition to earnings as a result of their courses. On ground of fairness and also concern about deterrence from study this must be given close attention in any consideration of a HECS type scheme in VET.

The case for investigating the application of HECS to the VET sector and for making more similar the methods of organising and funding the separate sectors, has been made by Chapman et al. (2000). They drew attention to:

- the increasing numbers of students moving across education sectors
- the limited credit given to those who have studied in TAFE when they move to higher education
- the administrative complexities for students studying in both systems
- the complexities in managing the finances in those institutions that provide both TAFE and university level programs (mainly universities in Victoria)
- the complexities caused by different pay and working conditions for staff in TAFE and universities
- the complexities of the Commonwealth having the public funding responsibility for universities and States having the main responsibility for VET
- the relatively low level of fees in TAFE compared with those in university
- the exemptions from some or all fees in TAFE (but not in universities) e.g. for the less advantaged
- the deterrent effect of even relatively low up-front fees in TAFE when loans are not readily available

The need for further research to find methods that improve the ease of undertaking training across the sectors and to increase the fairness in the distribution of resources is endorsed.

Improving student and trainee knowledge of benefits

To the extent that individuals make choices and plan their own pathways it is necessary to improve the range of learning and job information available. A major role for governments is to 'to establish an information system on lifelong learning opportunities that includes data on availability, cost, subsidies and markets for trained personnel in a variety of occupations as well as individual data on providers' (Levin 1998, p.210).

A number of countries have developed models for forecasting employment by occupation which is part of the data required on occupational opportunities by region. Such forecasting systems are important in providing a coherent picture of possible job futures. In the Netherlands, Canada, USA and Australia this work has been enhanced by estimates of the jobs for newcomers or re-entrants to the workforce created by labour turnover (Shah & Burke 2001).

Getting job and education information in a form suitable for job and education seekers to use is a major matter. Intermediaries such as the New Apprenticeship Centres that provide information to employees and would-be apprentices and trainees may be important. 'One-stop-shops' for information on jobs, training and various forms of financial assistance have been provided in Australia.[10]

The least advantaged may not be well fitted to use and profit from the information systems. The introduction in the UK of 'Learning Direct' a help phone line for free information for adults with learning or career queries is an example of one means of making the information system more accessible (DfEE online).

Employer funding

Schemes aimed at increasing employer funding of training include:

- schemes that help firms to capture a greater share of the benefits of training
- legislative requirement to undertake a minimum level of expenditure
- tax relief and subsidies linked to the level of employer contributions to training
- infrastructure support such as information on 'best practice', a qualifications framework and assistance with establishing training programs
- social partnerships and exhortation to train
- schemes to help firms awareness of the value of training including its contribution to intellectual capital and profits

10 : It is necessary though not to exaggerate the accuracy of the information that can be provided. The economic outlook will always be uncertain.

Incentives for employer funding: what theory and research suggests

In reviewing schemes to promote employer training there needs to be recognition that an employer's incentive to invest in training will be greater

- the greater the increases in productivity of the employees trained
- the greater the period of work or retention of workers while the training is still effective
- the smaller the proportion of the benefits of the productivity that are paid to the workers in higher wages and salaries
- the more cost-effective is the training
- the firm's awareness of its benefits

Research in a wide range of countries reviewed by Long et al. (2000) shows the rewards to firm sponsored training are high but that not all of them are captured by the firm providing the training.

A considerable proportion of the benefits are received by employees as increased earnings. Multivariate analysis of Australian data undertaken by CEET (Long 2000a) shows that increased earnings of about 4% are associated with taking a course of training. This is a large increase in earnings in response a relatively small amount of training courses e.g. average hours per person trained of 55 hours in 1997 (ABS 6278.0). Overseas literature indicates that longer training, as expected, has larger effects.

Economic theory used to suggest that profit-maximising employers would not pay for general training (training of use to more than one employer) because in a competitive market all the benefits would be captured by employees in increased earnings. Research reviewed does show that more general courses are associated with larger wage increases. It also shows that employers fund a considerable amount of general training, that is without any obvious reduction in the earnings of the workers while they are being trained (Stern 1995, pp.172–75). There are a number of reasons why firms reap a substantial proportion of the benefits of *general training* as well as of specific training. The reasons include the costs to workers of changing jobs, the lack of knowledge of other firms of the training a worker has received, and the compression of award wages so that trained workers are paid less than their marginal product.

Increasing the employer's share of benefits

Any steps a firm can take to increase its retention of its trained workers without providing pay increases will lead to an increased return on its investment. Hence contracts of employment, generous employer contributions to superannuation schemes, permanent employment and the provision of a career structure, may all contribute to the firm recouping more of its investment in training. One of the reasons why small firms provide less training is that they are at greater risk of losing workers they train. On average smaller firms tend to pay lower wages. They also have fewer career opportunities within the organisation to help retain their workers.

Contract of training, as for apprenticeships, allows an employer to pay less than the market wage, at least during some part of the contract period (Dougherty & Tan 1997). Australia has long had an extensive apprenticeship system, partially subsidised by government. The numbers on three or four year apprenticeships, long the backbone of trade training, have not kept pace with the expansion of employment in recent years whereas shorter 'traineeships' have expanded. It is argued by some researchers that the wages paid to apprentices are too high relative to the productivity of the apprentices in the early part of their training, and relatively high compared with those paid in other countries e.g. Germany. Government policy in the 1990s was amended to allow employers to confine their wage payments to the time the apprentice is in the workplace and the option of a Training Wage, a relatively somewhat lower wage than in the past.

There is a caveat to advocating the extension of contracts that allow the holding down or reduction in wages during the period of training. It is the need to be sure that the wages in general are fairly determined and not already constrained by a non-competitive labour market. The industrial relations issues are substantial.

Legislated requirement to train

In several countries a range of requirements in relation to education and training are made of employers, usually those with 10 or more employees. These include the provision of paid leave as in France, Belgium and Denmark. With the exception of Denmark it is the more educated workers in full-time employment who benefit most.

Several countries including France, Korea, UK and Australia have had schemes requiring minimum levels of employer training expenditure or contributions for collectively funded training as a percentage of wages.[11] UK, Korea and Australia have abolished their schemes. The Australian scheme appeared to increase the level of expenditure of medium sized employers but not larger ones whose expenditure usually exceeded the required level prior to the introduction of the scheme. Very small employers were exempt. Arguments against the scheme were its unpopularity with employers and also that it took no account of the way in which the amount of training required could vary with the type of employment (Teicher 1995).

Recent analyses have been made by Hocquet (1999) and Greenlagh (1999) of training in France in comparison with the UK. Greenhalgh (1999, pp.109–11) finds that France and Britain have a similar incidence of training but in France the training is markedly longer in duration. There is, however, a relative concentration on mature age workers in Britain which is worth further analysis. Hocquet (1999, p.248) finds that training is relatively concentrated on lower paid workers in France compared with Britain, 'which is socially fair and equitable'.

11 : Stevens (1999, p.28) argues that conceptually this mandated expenditure is similar to a government subsidy based on a tax on wages; though the political difficulties in implementation may be different.

Tax deductions and subsidies

Some forms of training in firms are subsidised by governments in several countries. Total expenditure on active labour market programs averages about 1% of the GDP in OECD countries (OECD 2000b). Some of the funds for labour market programs are to subsidise employment, or for job creation schemes, which often have a training component to them. Denmark stands out in applying over 1% of GDP to adult training. Much of this training expenditure is for the unemployed to assist them in entry to employment.

Government subsidies for training are an alternative to taxation concessions, though the incentives for private expenditures may differ. The main forms of subsidies to employers currently operating in Australia apply to apprentices and trainees. It is the young that mainly benefit from these subsidies, though the extension in availability of traineeships to older persons should be noted. The subsidy scheme in recent years embodies start up payments and rewards for completion. The recent rapid expansion in traineeships (usually for less than one year's training with most time on-the-job) might in part be attributed to these subsidies.

Some innovative arrangements have been used to encourage small firms to increase their training. Some Australian training authorities are experimenting with vouchers given to small businesses for a specified number of hours of training to be provided by a recognised training organisation—either public or private.

Employers in Australia benefit from the structure of taxation that treats expenditure on training in the same way as other costs of production. That is, unlike investment in plant and equipment, the full cost of training and grants to employees for training can be charged against taxation in the year it occurs. This is the arrangement in all the OECD countries recently surveyed (Bruyneel 1999).

The immediate deduction of training expenses provides little incentive for the maintenance of records of the training or of the accumulated employee intellectual capital. The options to add a premium to the deduction would encourage greater investment. If the premium had to be treated like fixed capital and deducted over a number of years it would also promote greater knowledge of the extent of the firms investment in training (Wurzburg 1998). The Netherlands in 1998 adopted a scheme to provide an extra 20% deduction of training expenditure from company profits liable to corporate taxation. An extra deduction of 40% of the training costs for workers above the age of 40 is allowed (Baaijens 1998, p.105).

Infrastructure support and information

The benefits for individuals acquiring further education and training will be greater if by potential employers can be made aware of the skills, knowledge, and other capabilities they have acquired. A system of qualifications such as the Australian Qualifications Framework which are understood and recognised throughout the country is seen as contributing to this. These national systems generally involve arrangements for the recognition of prior learning including workplace learning. Such systems are being developed in several countries

including Australia, Austria, Denmark, Hungary, Italy, Netherlands, New Zealand, Norway and UK. How effective they have been is yet to be determined. Greenhalgh (1999, p.108) concluded that 'the UK has yet to achieve a transparent system of reliable vocational qualifications, which can be broadly marketed as individual property rights across labour markets'.

Governments assist firms in defining the types of training needed in particular occupations. In Australia and also UK and New Zealand, industry training boards have been established with a major task of identifying the competencies required for a wide range of occupations. Modes of assessing competencies are also defined. In some cases these developments are linked to a nationally recognised system of qualifications. The production of materials for instruction and particularly for assessment in the workplace similarly reduce the cost to the employer.

Small and medium employers who currently provide the least training are likely to be the main beneficiaries of these government activities. Larger employers are more capable of financing training facilities, identifying training needs and organising in-house and external training. The effect on the level and quality of training of these developments are yet to be well assessed.[12]

Social partnerships and exhortation

The problem of losing the investment in trained workers can be mitigated by tacit agreements not to poach workers, sustained by chambers of commerce most notably in Germany. In Germany too there is social pressure on employers to train irrespective of the costs and benefits. Establishing these arrangements in countries where the social and political framework is dissimilar to Germany may not be at all easy.

Social partnerships in training are used in some countries. A good example, from outside the OECD, is the skill development centres in Malaysia. These are non-profit private corporations established with some funds from State government foundations and contributions from employers. They are governed by boards with a heavy representation of employers. They are usually sited close to industrial parks and support in-plant training in the first instance and also training both on- and off-the-job for qualifications. The most successful of these, in Penang, is regarded as a model for efficient and responsive provision of training. They stand in contrast to the expensive and traditional, if good quality, training provided in government owned and operated technical institutions in Malaysia.

12 : There are some potential conflicts between changes that increase incentives for individuals to seek training and the interests of the firms providing training. The spread of national schemes for the wider recognition of training provided in the workplace will tend to reduce the extent to which the training in one firm is hidden from others. Similarly the widening of the distribution of earnings may create incentives for individuals to invest, but it seems that wage compression may create incentives for employers to invest.

Increasing employers' awareness of benefits

The ABS survey of training practices (ABS 6356.0, p.11) found for employers who do not provide training that cost or time considerations are important factors but the most nominated reason for not providing training was that current employees are adequately trained. This may well be true in the current mode of operation but it could reflect lack of knowledge of training and its benefits.

While estimates of rates of return to the formal education system have been well known since the 1960s the methods of estimating them have little if any application at the enterprise level (Westphalen 1999, p.7). The promotion within enterprises of the measuring and reporting of intellectual capital (OECD 1999c) is a more promising means of raising awareness of the value of investment in training and the subsequent better planning and monitoring of that investment. It is unlikely that firms will make effective use of their training investment if they have little idea of its allocation across the firm and little monitoring of the benefits.

One of the best known schemes to date is the Investors in People (IIP) in the UK. In 1999 some 33 000 organisations covering a third of the total workforce had committed to the standard framework for training. The large majority of organisations involved see it as important for morale, workplace relationships, skills, quality of product, customer satisfaction and financial performance (Westphalen 1999). A more cautionary note on IIP is from Greenhalgh (1999, p.106) who says that "the proportion of employers meeting the criteria for designation is only a fraction of the government's target levels".

Employer reporting of intellectual capital is being studied in Australia by CEET (Ferrier 2000; Ferrier & McKenzie 2000). Such reporting may have an impact on information about the benefits of training, planning of training and better use of personnel. One means of promoting this reporting is a requirement on firms for greater disclosure of their intellectual capital. However it seems unlikely this will occur until schemes seen as useful and usable are developed and more widely trialled, as in Finland and Denmark (Westphalen 1999, p.27).

Conclusion and recommendations

The ongoing rapid change in the economy and the ageing of the population are increasing and changing the needs for education and training. However the relative decline in the population in younger age groups means that a considerable increase in participation by young and older adults could be accommodated if the existing share of GDP given to education were maintained. If real efficiencies can be achieved through flexible learning the potential for increased provision within the existing share of the GDP would be further enhanced.

The paper reviews several forms of government finance and ways of increasing the levels of individual and employer expenditures. It has not however given attention to unstructured learning on-the-job or to other forms of informal learning.

An overview is provided rather than a detailed analysis of particular options. However, the following options seem worthy of continued close consideration or expansion where already in place:

- Schemes to free government funds for the less advantaged by reducing subsidies to the advantaged without reducing their participation, e.g. fees and income contingent public or private loans.
- Entitlements that ensure that less advantaged have access to the same or more government funds as the more advantaged and encourage complementary private spending.
- Improved disclosure of a firms' human and intellectual resources in capital markets, that makes it easier to demonstrate links between training and profitability and provide incentives for employer training.
- Promotion of employer social obligation and social partnerships.
- Continuation of contracts of training especially apprenticeship that permit below market wages in return for provision of general training.
- Consideration of France's minimum training requirements by employers and provision of training leave.
- Increased subsidies or tax incentives encouraging employer expenditure on training especially for small firms.
- Continued development of information systems for students and trainees to optimise their choices and returns to training;
- Continued simplification and development of the training framework and qualifications infrastructure and other training support for employers and trainees.
- Extension of schemes for student living costs for alternative forms of learning for adults.

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10

Trends in public funding for in-company training in Germany: From a dual to a plural system

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Introduction

The responsibility for the implementation and funding of the in-company part of vocational training in the dual system of vocational training in the Federal Republic of Germany lies with enterprises in trade and industry and administration. Nevertheless an increasing importance of public funding of in-company training as a reaction to the continuing virulent problems on the training places market can be observed in Germany. This development will be more closely examined in this article. An overview of the quantitative importance of public funding will be given and the structuring of individual funding instruments will be examined by way of example. As a starting point, an examination will be made of the particular problem areas in vocational training to which public funding reacts with particular funds and what consequences possibly result for the system of vocational training in general in the context of the general developments of pluralisation and deregulation.

1. Developments in the training places market

In the dual system of vocational training of the Federal Republic of Germany, the individual enterprises in trade and industry and administration decide within the framework of their personnel recruitment policies whether and to what extent they will be involved in training.[1]

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1 : Every person who begins training in the dual system of vocational training signs a training contract with the firm providing training—with the organisation responsible for the provision of training in the case of external training. The firm providing training commits itself to train the trainee on the basis of the training ordinance valid for the regulated occupation. The training ordinance represents the basis for a regulated and nationally-unified vocational training for every recognised regulated occupation. It sets down the description of the regulated occupation, the duration of training, the knowledge and abilities to be conveyed, a practical and chronological division of training contents and the examination requirements. With the training contract, the trainee has a legal claim to be trained to a minimum standard and acquires after successful completion the qualification to practice a nationally-recognised regulated occupation. With the transformative dynamic, also to be observed internationally, in the world of work, the qualification profile earned is increasingly acquiring the character of a basic qualification which has constantly to be further developed and up-dated.

Since the enterprises are primarily guided by their need for skilled personnel and cost calculations relating to the individual enterprise, the offer of in-company training places is to a great extent sensitive to cyclical influences. The demand for training places is dependent upon demographic developments and the educational behaviour of young school leavers from the general education system.

In the last few years, it has no longer been possible for enterprises to provide a sufficient supply of training places for young people. The number of training places on offer has remained below the demand for training places since the mid 90s, despite considerable state support (BMBF 2000). The Federal Labour Office was able to record a notional balance between those interested in training places and training supply in the year 2000 (BMBF 2001) but there continued to be considerable training place deficits in some regions.

The problems in the training market can be traced to demand and supply-oriented reasons (Brandes & Walden 1995). The rise in total demand for training places, for example, is to a large degree the result of demographic change. Official estimates assume that the demand for training places will continue to grow from 645 000 in 2000 to 705 000 young people by 2006 (BMBW 1996, p.7f) if transitional behaviour remains unchanged.

Considering the supply of training places a distinction must be made between West Germany and East Germany. With the deconcentration and dissolution of the combines at the start of the 1990s, the previously most important organisations responsible for the provision of training in the GDR were lost. Up until now, the dual system of vocational training has not been able to establish itself sufficiently in the enterprises of East Germany that the demand for training places could even be roughly met. In the face of considerable recession in the need for skilled workers and the high pressure of costs, enterprises often decide against an expansion of their training supply. In so far as there exists a need for skilled workers, this can often be met more conveniently on the labour market.

A lack of demand for newly trained skilled personnel also led to a decline in the willingness to train in West Germany in the first half of the nineties. This retreat from training could be observed not only in large enterprises, but in particular also in small West German enterprises (von Bardeleben & Troltsch 1997). While large enterprises primarily put down the declining training development to a lack of demand for skilled personnel, small enterprises are more likely to refer to the high cost of training and to their problems in finding appropriate applicants for their supply of training places (Brandes & Walden 1995). Demand and supply-oriented factors thus to a great extent have independent effects on the develop-ment of the training market and do not automatically produce the desired balance between training supply and training demand. Since appeals from politics, trade and industry also only make a limited contribution, the state bears the societal responsibility for guaranteeing young people a choice of training supply.

2.Basic vocational training policy conditions: On the need to modernise the vocational training system

The difficult quantitative situation is accompanied by a debate on the general need for reform of the vocational training system. There is a very intensive discussion underway as to whether the dual system of vocational training will be able to meet changed conditions in the economy and society.

The qualifications demanded by an individual enterprise are becoming broader in general, and it has become more difficult to reduce the needs relating of an individual enterprise down to a common denominator for the design of regulated occupations.[2] From an enterprise-related viewpoint these developments create a need for more structural openness and flexibility. Vocational training should be able to react more flexibly to new developments than it has up until now and should offer in general more scope for taking into account the specific qualification needs of individual enterprises and regionally-specific demand. In addition, the existing system of recognised regulated occupations is sometimes questioned in the debate on the reform of the vocational raining system (Euler 1997, p.51ff.). In particular, self-contained and combinable modules are called for as an alternative to the dual system of vocational training (e.g. Kloas 1997).

On the *demand side* of the dual system, a differentiation in the structure of participants has resulted from the changing pattern of secondary school qualifications. There is an increasing number of trainees who have done their upper secondary school examinations and also far more trainees with intermediate school qualifications than earlier. The dual system should in principle remain open to school-leavers who have only completed lower secondary school.[3] The attempt is made to meet this requirement in vocational training in that additional educational opportunities are opened up for especially capable trainees, for example special training courses for those who have done their upper secondary school examinations as well as the imparting of additional qualifications during training or directly upon the completion of training.

It has been unmistakable for a long time that the dual system of vocational training is on the way towards pluralisation (Kutscha 1998, p.259). On the one hand there is a pluralisation of

2 : The goal of training in the dual system of vocational training is successful qualification in one of the currently 360 recognised regulated occupations. Individual partial qualifications are always conveyed only as an integral part of a structured bundle of qualifications—the occupation. The training is not oriented alone on the training needs of the individual enterprise but is meant to allow a broad usability of the qualification profile earned on the German job market. Nationally-uniform minimum standards of training quality and a high degree of transparency of the qualification profile are set down in the design of recognised regulated occupations

3 : In contrast to full-time school-based vocational training courses, there are no formal admission prerequisites for training in the dual system of vocational training. At the same time, firms providing training make their selection from those applying for a training place in accordance with performance criteria such as, for example, general school completion certificates.

the venues for training within the classical dual system. The training no longer takes place simply in the traditional training venues of the firm providing training and the part-time vocational school [*Berufsschule*]; it is much more the case that increasingly inter-company training facilities[4] or further training facilities[5] are the training venues of 'dual' training for the additional qualifications. On the other hand, for example, a quantitative strengthening of full-time school-based vocational training courses can be observed alongside the dual system of vocational training. It would therefore be more appropriate to speak of a plurality of venues for training rather than a duality (Kutscha 1998, p.259). Kutscha points out that a tendency towards the pluralisation of qualification systems can be seen not only in Germany but internationally (ibid., p.257). The problem areas in the vocational training system picked out as central themes within the framework of the modernisation debate signal in general a further strengthening of tendencies towards pluralisation in the future.

The much demanded flexibility of vocational training as a reflection of a corresponding enterprise-related demand means an increased consideration of short-term developments on the markets. The previously practised regulation through state authorities (with considerable participation from associations and trade unions) is being driven back through a strengthening of coordination through the market (Kutscha 1998, p.257). In order not to leave the obvious developments towards more flexibility in vocational training only to the market, Kutscha (1998, p.257) suggests expanding the possibilities of a regulated plurality. Flexibly structured forms of qualification should continue to be subject to public responsibility within the framework of a regulated plurality.

3. Extent of public funding

The following overview of the extent of public funding in the area of vocational training is based on the framework and the data sources consulted in a work by Krekel and Kath (1999).[6] The data to be found here has been updated as far as possible.

Expenditure for the vocational schools (funded by *Länder* and municipalities) makes up the largest block of public expenditure for vocational training. Data from the Federal Statistical Office has till now only been available for the year 1997. Expenditure in this year amounted to 11.2 billion DM. If one considers that in 1988 expenditure for vocational schools in the

4: if firms providing training are not able to convey all the training contents set down in the training ordinance because, for example, of their branch-specific specialisation, this missing knowledge and these missing abilities are conveyed in a training facility outside the enterprise—in inter-company vocational training facilities.

5 :continuing vocational training is understood to be all training activities and training courses which take place chronologically subsequent to the initial training in a recognised regulated occupation. In contrast to initial vocational training, further training is offered in various further training institutions. There are nationally-uniform regulations for implementation and final examination in only a few cases..

6 : Public funding of vocational training comes from various sources (e.g. Federal Government, *Länder* or Federal Labour Office). A statistical documentation of the extent and structure of public funding from the various funding sources presented smoothly in a unified total overview does not exist.

old Federal territory [of West Germany] was already 8.2 billion DM, then the increased expenditure in terms of real value in this most important area of public expenditure in vocational training cannot be regarded as excessively high. If one considers the number of students in the part-time vocational schools in the dual system of vocational training and the other types of schools in the vocational training system between 1991 and 1997, a shift of emphasis to the other types of schools can be observed. While the number of students in the part-time vocational schools in this period declined by 2.6% from 1.697 million to 1.652 million, the number of students in full-time school-based vocational schools rose from 742 000 to 897 000 (+21%). This development signals a (relative) increase in financial commitment by the public sector in the area of vocational training courses outside of the dual system.

Young people are provided with help for vocational training in enterprises or inter-company facilities as well as for job preparation training measures out of funds of the Federal Labour Office, in so far as the necessary resources are not otherwise available to them. These funds amounted to around 1.4 billion DM in the year 2000, compared with 790 million DM in 1995. The heavy increase in expenditure can probably be put down above all to job preparation measures.

The funding of the vocational training of disadvantaged young people from the resources of the Federal Labour Office amounted in the year 2000 to 1.5 billion DM. In comparison to the 80s, the funding of disadvantaged young people received a much higher status in the 90s. The corresponding funds in 1989 in the old *Länder* of West Germany amounted to just 412 million DM.

There is information on the expenditure of the Federal Government on inter-company vocational training facilities. These resources were cited at 215 million DM for 2000. In comparison to the 1980s, the volume of funding of inter-company vocational training facilities in the 1990s has clearly increased. The funds in the year 1987 were at around 140 million DM for the old *Länder*. This increase in expenditure can be fundamentally attributed to the accumulated demand in the new *Länder* of East Germany.

Students can receive funding for attending a full-time vocational school, dependant upon the income of the parents, within the framework of the statutory promotion of training. The Federal Government made available 278 million DM for this purpose in the year 2000.

The difficult situation of vocational training in the new *Länder* of East Germany led the Federal Government to permanent funding measures in the 90s. Training places programmes for East Germany are launched annually with the participation of the *Länder*. Since 1996, the Federal Government has supplied 50% of this joint Federal–*Länder* funding. Between 1996 and 1999, Federal expenditure was about 200 million DM annually. In the year 2000 it was 220 million DM.

The *Länder* have also launched relevant promotional programmes to increase the number of training places. The focus—but not the exclusive focus—of this funding is the new *Länder* of East Germany as a complement to Federal funding. These resources can be estimated at about 500 million DM annually for the years 1997 to 1999. A drop to 430 million DM is to be noted for the year 2000.

A new magnitude of funding for vocational training has been achieved through the Federal Government programme for combatting youth unemployment (Friedrich et al. 1999). Two billion DM annually were made available for this in 1999 and 2000. It must be taken into account however that assistance for an employment initiation programme is also funded with resources from this programme. The funding share for training measures was around 850 million DM in 2000.

If one adds together the individual budget items for the promotion of vocational training, there results a total of 16.1 billion DM. Because of the deficient data situation this is certainly not an exact numerical statement, but the magnitude of public spending for vocational training should nonetheless be correct.

In our overview it is clear that the financial commitment of the public sector in regard to vocational training increased in the 1990s. The largest item of expenditure by far (70% of all expenditure)—the vocational schools—has however only slightly increased. The areas of expenditure which have grown most are those with which an immediate improvement on the training places market can be brought about and which are meant to guarantee a supply of training places. These are the areas which one can really consider a promotion of *in-company* vocational training, because here either *external training*[7] capacities are created as alternatives to a training carried out in-company or incentives are given to enterprises. We will deal more closely with selected elements of this type of public funding in the following sections. The overview of public funding of vocational training shows quite clearly that the pluralisation tendencies in vocational training are being strengthened. For example, it is not training capacities in enterprises which are being funded with the public funds made additionally available, but rather an independent infrastructure of external and inter-company training facilities with a complex financial basis which is being built up. Likewise attention should be drawn to the increasing importance of full-time school-based vocational training courses.[8]

7 : In order to compensate the enterprise-related training place deficit, external training places are funded with state resources. The training here takes place for the most part not in enterprises but rather in the training workshops of organisations responsible for the provision of training. The trainee signs his or her training contract with the organisation providing training.

8 : In the last few years a series of training courses which previously were implemented almost exclusively in the dual system of vocational training have been increasingly offered in full-time school-based form with in-company practical training phases.

4. On the importance of individual funding approaches

There have been numerous Federal funding programmes, accompanied by relevant *Länder* initiatives and statutory regulations on training promotion which have been targeted to eliminate prevailing supply bottlenecks on the training places market and to promote the training of disadvantaged young people. A broad and often barely comprehensible range of various funding programmes has developed in the course of this public promotion. The promotional foci are shaped by the current problems on the training places market and their educational policy perception at Federal or *Länder* level. In this, the training situation in East Germany in the 90s differed clearly from the previous problem situation in the old Federal territory of West Germany (Dahms & Schiemann 1998, p.12ff.; Lutz & Grünert 1999, p.17ff.). Although an insufficient training supply is to be reckoned with until 2006, the short-term nature remains a determining characteristic of the training promotion programmes of the Federal Government and the *Länder*. In addition, the funding conditions are subject to constant alteration. Experience from funding practice and results from programme evaluations influence the structuring of the often annually floated new funding measures (e.g. Lutz & Grünert, 1999, p.31ff.).

A systematisation of the funding instruments is required in order to create more transparency in the area of training funding. Dahms and Schiemann (1998) suggest a systemic approach which is led by the question of 'on which enterprise-related "bottlenecks" do the *Länder* start their funding practice' (p.25). They record a total of 18 promotional foci in East Germany for the 1997–98 training year, which are based on three funding approaches.

Measures which are assigned to the first funding approach are directed at enterprises which up until now have not had sufficient resources for the provision of training. The funding is meant to create the personnel, investment or organisational prerequisites for training. The second funding approach pursues the goal of increasing the motivation for the creation of more in-company training. The third funding approach includes all measures with social and vocational training policy goals. This includes special funding for specific target groups as well as the funding of training in future-oriented occupations or special business branch or regional funding.

The distinction between the funding of external training places and the funding of additional in-company training places represents another criterion for the systematisation of funding measures. Lutz and Grünert (1999, p.61ff.) consider these to be two main forms of training funding in the East German *Länder*. These two forms of training funding will be gone into in the following sections.

4.1. Funding external training

A statutory basis for funding the training of disadvantaged young people has existed since the start of the 1980s. Learning-impaired, disadvantaged and foreign young people can train in a recognised regulated occupation in fully state-funded external facilities. In addition, external training places are state-funded to compensate for the lack of in-company training places. In East Germany training programmes jointly funded by the Federal Government and the *Länder* have been launched annually for this purpose since 1993. To compensate for the lack of in-company practice and to improve subsequent employment chances of the trainees, the external training has included longer in-company on-the-job training placements for a number of years now (Friedrich et al. 1999, p.8). Lutz and Grünert (1999, p.58) observe in this connection that the cost-effective use of external trainees in in-company on-the-job training places leads to the substitution of regular in-company training places.

A fundamental problem for graduates of external training is their reduced chances of ending up in paid employment after training. The reasons for this are partially the result of not having received in-company training which leads to reservations on the part of the proprietor of a firm in regard to the quality of the graduates of external training programmes (Ulrich 1999). In addition, these programmes up until a few years ago concentrated for the most part on a few regulated occupations which had low training costs and were already frequently on offer. At the same time, the training profile of these regulated occupations is relatively narrow and can be utilised only in a limited way on the job market (Lutz & Grünert 1999, p.98). The associated problems are exacerbated for the young people by the fact that they also receive a lower training allowance during their training than trainees in enterprises. If the training is organised on a full-time school-based basis they have the status of school pupils and do not receive a training allowance at all. Dependant upon the income of the parents they can only receive state training support. Since girls form the majority of those who end up in external or full-time school-based training, the above-mentioned problems accumulate into a considerable gender-specific disadvantage (Ulrich 1995).

4.2. Funding additional in-company training places

Incentive systems for the promotion of additional training places

Premium and incentive systems are a means of encouraging the the expansion of private enterprise training. In the end they are based on the assumption that excessive training costs are an obstructive factor in the provision of in-company training supply. There are various possibilities offered for lowering and relieving costs (Timmermann, p.27ff.). Apart from the various possibilities of organising training within the enterprise at lower cost, a change in training venue organisation with a shift to publicly-funded training venues is also conceivable. However, how far cost savings compensate for missed training revenue would also have to be calculated. In addition, cost reallocations to non-training firms and the public

sector are also conceivable. A sharing of training costs with non-training firms through, for example, a form of levy funding does not appear to be politically achievable at present. There remain in the end the provision of public funds, which can contribute to cost relief for firms providing training e.g. through state grants or tax relief.

The present state incentive systems primarily make use of financial premiums which are granted within the framework of the *Länder* programmes for the creation of additional in-company training places. These premiums are as a rule for firms providing training, for example start-up firms. They support initial training and in East Germany the funding of training beyond an existing level as well, using resources from the European Union. The amount of the grants differs from Land to Land. The hiring of young women is often especially grant-aided. Financial incentive systems are also to be found, for example in the taking on of trainees whose previous firms providing training have gone bankrupt or for training in occupations concerned with future-oriented technologies.

The disadvantage of incentive programmes is that they can have an effect on the firms providing training in the form of creating dependency on public funds. These effects should be minimised as much as possible through relevant funding conditions. If however such funding requirements are set too high, the programme is not likely to encourage additional training. If they are too low, they represent an invitation to have already planned training places additionally funded (Hild et al. 1998, p.126ff.). Lutz and Grünert (1999, p.3) establish in their study that the use of additional funding from a certain point does not lead to any further increase in in-company training supply. At the same time, the funding is already considered to be a regular part of the behavioural logic on the East German labour market, so that a severe drop in the readiness of firms to provide training would be expected from a reduction in funding.

Funding training prerequisites

While the funding approach described first, with its premium and incentive systems, primarily serves the motivation of enterprises being able to provide training, the following approach for the promotion of additional training places is directed at creating the necessary training prerequisites.

In the case of investment promotion, a larger in-company training supply is to be obtained by supporting enterprises in the technical-material equipping of training places. The focus for this funding are business start-ups in particular. Through group training, the organisational prerequisites for training are also created in those enterprises which do not fully have the legally-required training eligibility. *Länder*, Federal and EU funds contribute to the funding of training pools in particular in the case of initial training. Beyond this financial support, an expansion of advisory capacities to support enterprises in the planning and coordination of expenditure for joint solutions is considered important (Bundesmann-Jansen et al. 1996, p.92). In this, it is not just the creation of additional training places which is promoted, but much more an improved quality of training. In contrast to other approaches

to funding, training promotion through joint training is associated with the expectation that they in the end flow into self-organised and self-financed training models.

5. Public funding and systems development : Considerations regarding the future

A dilemma of the dual system of vocational training is that the provision of the training supply is indeed the responsibility of enterprises in trade, industry and administration, but that the enterprises in the first instance orient themselves on their current need for skilled personnel. Demographically-related increases in training demand therefore do not inevitably lead to an increase in training supply. At the same time, the cost for the elimination of the in-company training place shortage seems comparatively low in comparison to the thousands of millions of DM which are currently being contributed by private enterprises in Germany to secure global competitive advantages. For the state, the expenditure to increase the training supply is considerable in view of the tense budget situation. It draws attention to the need to question the expenditure and utility of training promotion.

5.1 Subsidiary results of public funding

Programme evaluations and accompanying studies show that the public funding of training helps to meet the short term goal of creating a sufficient training supply. A thorough examination shows clearly however that state intervention in the vocational training system leaves behind a series of unwanted subsidiary results, depending on the funding approach, which also includes the above-mentioned dependency effects. The state activities are primarily concentrated on creating motivation and the prerequisites so that enterprises provide additional training supply as well as the state funding of external training places. The measures are designed in both forms of funding for a limited period, but do not in the end eliminate the problems and are thus renewed year after year.

State-funded training places are often subject to disadvantageous overall conditions precisely for this reason, because they are understood to be inferior to in-company training. The associated unbalanced selection of participants can lead to the graduates of the programs later being stigmatised on the job market. The measures themselves are sometimes considered ‘foreign to the system’ since in these measures the dual principle of the connection between learning and working in real enterprise-related production and business processes is often broken. In addition, the usually short-term orientation of the funding measures leads to the accommodation of ‘unsupplied’ young people, since usually cheaper regulated occupations with a reduced scope of application are funded. Despite these disadvantageous overall conditions, demographic developments and the inadequate training supply have contributed to these training measures developing into a regular part of the vocational training system, especially in East Germany, without having to experience considerable losses to competitiveness, either quantitatively or qualitatively.

Possible effects on the development of the vocational training system as a whole should be

considered as well. The first question is whether perhaps enterprise-related training readiness is negatively affected. Observations lead to the suspicion that the funding measures not only lose effectiveness with each new launch but that in the long-run they contribute themselves to the training crisis. Financial incentives and assistance measures do contribute in the short-term to an increase in the in-company training supply. The orientation of enterprise-related training readiness on skilled personnel demand and cost-benefit considerations is not annulled by this however. In connection with this enterprise-related behaviour, financial training incentives lead to a questioning of the social consensus in which enterprises themselves are responsible for the funding of in-company training. For this reason an examination should be made of the overall conditions and instruments which would be required for financial incentives and assistance measures to encourage a transfer to self-financed training. In view of the inadequate establishment of the dual system of vocational training in East Germany, Lutz and Grünert (1999, p.101ff.) suggest a step-by-step limiting of funding for training as widespread support, with announcement in good time. At the same time promotion measures structured over the long term with transparent funding conditions would strengthen the responsibility and self-management of trade and industry in the provision of an adequatetraining supply.

We have already pointed out that through the considerable use of public resources, new training venues and training venue combinations are gaining in importance, which have previously not been considered to be a part of the dual system of vocational training. Here attention should be directed on the one hand to the increasing importance of external training venues and training courses, on the other hand under pressure from the problems arising with public funds, completely new forms of qualification are being developed as well. For example, because of a lack of sufficient training workshops for in-company practical training, full-time vocational schools developed co-operation with external training facilities from trade and industry with the goal of training jointly in recognised regulated occupations of the dual system of vocational training. This greater variety in training and training venue organisations is perceived by the German expert public as an increased pluralisation of the traditionally-developed dual system of vocational training. In so far as the training forms in question lead to a qualification in a recognised regulated occupation, one is simply dealing with a pluralisation of the organisational forms of vocational training, which do not in the end question the fundamental regulatory principle of nationally recognised regulated occupations. The increase in full-time school-based training supply which only leads to a qualification according to Land law, contains however a tendency toward opacity in the recognition of qualifications. Disorientation of young people and misinformation of enterprises as regards the competence of the trained young persons are very probable (Euler & Löb 2000).

5.2 Public funding and state regulation of training

What effect does the increasing utilisation of public funding of training have on the tendencies of reducing state regulation and strengthening free market elements in the

vocational training system? Public funding represents a certain degree of state regulation because a state authority will wish to pursue its vocational training policy goals. This affects the non-enterprise-related part of the vocational training, which would not even be viable without public funding.

In general, however, the trend towards a withdrawal of the regulatory depth cannot be ignored. This is shown for example by the design principles of new regulated occupations, in which increasingly, optional qualification components with enterprise-specific shape are described in addition to the compulsory qualification core.

Another tendency is to be observed however with the increasing importance of public funding. State funding policy is carried out with considerable participation of the *Länder* and leads in our opinion to a decentralisation of vocational training policy. A growing area of vocational training is no longer centrally determined on the part of the Federal Government, but rather by the particular Land (and is thus valid only for this Land). This concerns in particular the full-time school-based vocational training offers outside of the dual system of vocational training. However—attention was already drawn to this above in connection with pluralisation tendencies—the organisational forms of conventional dual vocational training are also being affected. To the extent to which the range of available qualification forms and thus the range of fundamentally possible solutions increases, the probability also decreases that just one curriculum can be authorised and implemented nation-wide. In this respect, there is a tendency for the traditionally and institutionally hardened regulatory policy basis of nationally regulated vocational training to be weakened through the financial support practised. Efforts to create new national training ordinances, such as in the social care area, for example, could be counteracted by this.

5.3 From the dual system to the plural system?

How should public funding be structured in future? Should the use of public resources perhaps be cut back to reduce negative consequences for the dual system of vocational training as a whole?

We share the opinion that the state must not withdraw from its fundamental responsibility for the qualification of the up and coming generation. It must be guaranteed that young people find a sufficient measure of future-oriented forms of qualification. A reduction of public funding has to be ruled out while the situation remains tight on provision of training places. The state does have options however as to which measures are to be concretely funded and what its financial resources are to be used for in particular. Looked at from a regulatory point of view, there are two fundamental alternatives. On one hand an attempt can be made to stimulate training positively on the basis of the dual system of vocational training in nationally recognised regulated occupations. On the other hand additional possibilities for qualification in exclusive state responsibility can be created through expansion of the full-time vocational schools, although on the basis of Land legislation in the respective *Länder*.

In practice however commitment to either of these alternatives is in our opinion impracticable. The described pluralisation and deregulatory tendencies in vocational training have not arisen by chance but represent reactions in particular to developments in the employment system. It would appear inappropriate to us to lead a fight for an ideal model, obligatory for all. Rather the development of a broad range of forms of qualification and their competition could also be understood as an opportunity for a further development of vocational training. However the state should see to it within the framework of its funding policy that certain principles which have been essential to the dual system of vocational training up until now are also a guide to action in the creation of new forms of qualification. Here the principle of the regulated occupation [*Berufsprinzip*] should be mentioned in particular, which also has a social protective function (Kutscha 1998, p.259) and should not be undermined.

Public funding of vocational training within the framework of the dual system of vocational training should be examined to see how far the developing forms of training could supply positive impulses for the structuring of non-funded dual vocational training. Instead of continuing to regard these measures as 'foreign to the system' components of a 'functioning dual system of vocational training', the potential of these new training venue combinations should be sounded out for a further development of the dual system of vocational training. An examination should be made as to how the stigmatisation-promoting overall conditions of the various forms of external and full-time-school-based training models could be neutralised. The possibilities for alternative form of teaching and learning in in-company, external and vocational school training venues for training in 'high-quality' regulated occupations with a future-oriented breadth of application should be examined. The possibilities for a more efficient distribution of tasks and co-operation among these learning venues sounded out (Lutz & Grünert 1999, p.116ff.). Similar to joint training, vocational training in new training venue combinations would not simply have the goal of expanding training supply but also an improvement of the quality of training. A prerequisite for the resolution of the psegmentation of enterprise-related and state-funded and organised training models and their mixed forms is however that the trainees are given parity of treatment materially and legally with in-company trainees.

As regards full-time school-based training courses within the legal responsibility of the *Länder*, an attempt should be made to utilise the principle of the combination of theory and practice, of systematic and experience-oriented learning, tried and tested within the framework of the dual system of vocational training, for the full-time school-based vocational school as well (Euler & Löb 2000). The approaches created in the new *Länder* could certainly be emulated in the old *Länder* too.

The already available multitude of qualification models and the variety of organisational forms can however lead to the disorientation of young people and of enterprises seeking skilled personnel. This makes higher demands on occupational and learning counselling (Klein & Kühnlein 2000, p.15f). Improved public funding would be required here.

For the further development of a 'plural system' of vocational training, it is important in our opinion that public responsibility for its structuring not be reduced. It would thus be completely inappropriate to anchor the market with its short-term and volatile developments as the exclusive point of reference for vocational training. It is much more that the public responsibility to guarantee a broad and well-founded vocational training for all—in changing overall conditions—be better met. However there do arise new demands for regulation and coordination in vocational training for the public authorities as well on account of the described tendencies towards decentralisation. The question as to whether it is possible to maintain for the most part transparency and recognised quality standards in the vocational training system within a framework of 'regulated plurality' in the spirit of Kutscha (1998), cannot be answered reliably. We do not see a practicable alternative, however.

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Part VI
The role of industry and the economy in shaping vocational training

11

The role of industry and the economy in shaping vocational training, exemplified by Deutsche Bahn AG

Ulrich Wiegand

Deutsche Bahn AG

1. Facing new challenges at the start of the 21st century

> *"The force and complexity of the forces of change are enormous and daunting." (Paul Kennedy—preparing for the 21st century)*

The political and economic merging of Europe, the increasing worldwide meshing of markets and global availability of the latest knowledge mean government, society and enterprises have got to increasingly think and act internationally. Features of this development are:

- the economic globalisation
- transfer of national decision-making powers to European institutions
- the competition for custom is increasingly being played out on international markets
- product life-cycles and development times for new products become shorter and shorter
- the level of quality, versatility and complexity required of new products is rising
- the pressure on prices is growing; more and more suppliers, some from non-European Union countries, are entering the market
- new forms of global division of labor

It is widely realised that we are moving from an industrial via a service-based to an information-, communication- and knowledge-based society. Globalisation is one of the megatrends of our age. This is true for traditional industrial areas and the service sector. Services have undeniably become decisive factors for success in globalised markets. Financing, market research, corporate consultancy, tourism, IT services and further or advanced training are all growing in step with internationalisation. They are becoming an ever more potent export article. Indirect service-related exports from Germany are likely to attain a value of DM 169 billion in 2000—14 billion more than direct exports.

2. The growing significance of vocational training

Knowledge is a central new production factor for enterprises which needs to be grasped as overarching other production factors and to be treated as an integral part of corporate management. Knowledge is the only resource to increase in value when used and divided—and is a tool with the aid of which an enterprise can speedily and flexibly adapt to constantly changing circumstances.

The most important resources in the transformation process are specialists and management. This holds equally for profit and non-profit organisations and especially in countries with few natural resources such as Germany, which will in future have to rely on its ability to think and act in new ways as well as on the creativity and openness to innovation of its people.

Summarising forecasts of likely trends in needs for output and skills furnished by experts like Burkhard Lutz and institutes such as the German Economic Institute and the Institute for Labour Market and Vocational Research, 5 core theses can be discerned:

Thesis 1: Basic activities in production that can be performed without lengthy training or instruction will continue to dwindle in significance—on the German employment scene, at least.

Thesis 2: The need for technical expertise will tend to grow in all jobs. The life cycles for technical expertise are becoming ever shorter.

Thesis 3: 'Experience-based knowledge' will continue to enjoy a high status.

Thesis 4: Organisational and management skills will gain in significance for large numbers of specialist staff.

Thesis 5: Demands for 'mobility–capability' and 'labour market-capability' qualifications will grow. There is ever increasing demand in enterprises for:

- ability (and readiness) to innovate
- creativity
- willingness to perform
- the will and capacity to assume responsibility
- organisational and management skills
- mobility

It is more vital than ever to possess, retain and extend abilities, to be able to adapt to new developments at ever briefer intervals, and to actively help shape such new developments.

The global intermeshing of economic systems and enterprises and the increasingly intensive degree of international co-operation referred to are giving rise to a new set of tasks and requirements for the education system and its institutions (especially firms and vocational schools). German industry is responding to the increased importance of vocational training in a number of ways.

3. How and why industry assumes responsibility for shaping vocational training

3.1. Political function

Industry has a key role to play in vocational training—in two respects:

- specifications for professions and jobs determine how qualifications are targeted, structured and achieved
- it is primarily industry that determines how vocational training is conducted and fashioned, since professional advancement is largely the responsibility of businesses, commercial organisations and the social partners

Entry into the world of work is generally via works-based initial vocational training. This accordingly enjoys high economic and social status. Continuing vocational training help keep qualifications up to date and are an important precondition for a firm's competitiveness as well as for individual development and career opportunities. The high level of qualifications amongst a workforce is further enhanced and guaranteed by the industrially anchored vocational training system.

The work place based initial vocational training and the close matching to the needs of the labor market (i.e. the enterprises) makes people become employable and reduces their risks of becoming unemployed. This is underlined by a level of youth unemployment in Germany which currently is about 9% and about or lower than the general unemployment level.

In particular two characteristic features distinguish the dual system from the exclusively in-school vocational training systems customary in many countries:

1. Training is split between two training locations: the firm and the part-time vocational school. In Germany, on-the-job training is subject to federal law, whereas classroom instuction is subject to the laws of the individual Länder.
2. Learning takes place to a greater extent on the premises of private and public manufacturing plants or service enterprises, sometimes supplemented by interplant training centres.

The firm which signs on the trainee is responsible for the training, which is generally completed after three years, in the context of a training contract. The trainee is given time off to attend a part-time vocational school.

The two training locations, the firm and the part-time vocational school, are complementary to each other and co-operate closely. This co-operation on the part of all involved is an absolute prerequisite for the smooth functioning and further development of the dual system.

Particular benefits of German initial vocational training are:

- Industry's responsibility as guarantor of high training levels.
- Broad range of qualifications in enterprise based training and at vocational school.
- Skills geared to needs of industry.
- Learning in a work environment, facilitating deployment without on-the-job training or transfer input; i.e. after completing their initial vocational training, which normally lasts about three years, young people and young adults are able to begin qualified employment. The combination of learning at work and vocational training provides good opportunities for direct transition from initial vocational training to employment.
- Personality moulded through acquisition of key qualifications—especially social and methodological skills—in a practical setting.
- Broad training as basis for continuing vocational training and lifelong learning.
- The in-company training in the dual system is usually financed by the single enterprise; i.e. an enterprise decides autonomously where to offer training and in which occupations.

3.2. Supplier and buyer functions

Initial vocational training

The 'dual-system' training has remained strong in recent years. Around two thirds of a given age-group end up in work based training. Regional discrepancies notwithstanding, the willingness of firms to provide training has again grown in recent years, notably in eastern Germany.

- Approximately 1.8 million young people were engaged in 'dual' initial vocational training at year end 1997.
- A total of 608 000 new initial vocational training contracts were concluded in 1998, 46% in the industrial and commercial sectors.
- Initial vocational training contracts concluded in 1998 were around 33 000 up on 1996.
- The degree to which firms participate in training is largely determined by their size. 50% of firms employing fewer than 10 people provide initial vocational training, compared with 97% with workforces of between 100–500 (100% for companies with more than 500 employees).
- Most young people elect to learn one of the currently 380 state-recognised occupations for which accredited vocational training is required.
- A further indication of industry's involvement in initial vocational training is the financial investment it makes.

Regardless of State support, especially in the East, it remains the case that: industry funds the works-based constituent (= 80%) of vocational training itself. On top of this there is expenditure from the public sector, especially for the upkeep of vocational schools and for paying staff. In 1997, industry invested approx. DM 35 billion (net) in initial vocational training. Taking account of the revenues produced by apprentices during training, net costs totalling roughly DM 21 billion are left. Approximately 50% of this figure relates to training allowances and 40% to instructors' salaries.

Continuing vocational training

Continuing vocational training has a key role to play in tackling the tasks of tomorrow. For enterprises, continuing vocational training means securing the future. In the highly developed industrial and services society, investment in human resources has the same status as material investment. This is reflected in annual levels of investment on continuing vocational training schemes by businesses. With investment amounting to DM 35 billion, industry is the leading financer of works-based continuing vocational training

In summary, industry invests between DM 56 and 70 billion per year on vocational training—a clear evidence of the significance it accords investment in human resources.

3.3. Shaping function

The social partners are directly involved in fashioning training schemes so as to ensure professional training that is effective and in line with needs. Examples:

- Training regulations are drawn up at the Federal Institute for Vocational Training (BIBB) by experts from both sides before being enacted by the Federal Minister for Industry and Technology.
- Arrangements governing training for promotion are developed and adopted by the social partners. Responsibility for enactment at national level lies with the Federal Minister for Education and Research, at regional level with the appropriate centres (chambers).

To conclude, it can be stated that the contents of training schemes are largely determined by companies or else by associations and trade unions representing them.

3.4. The role of the social partners

The vocational training system is vitally dependent on the social partners pulling together. They have joint responsibility for the basic elements of the initial vocational training, which is organised by occupations and nationally transparent. Thanks to this joint responsibility, the so called dual system's long-time acceptance within the employment system is guaranteed. The consensus approach entails vocational training being jointly fashioned by the parties

affected, the 'social partners' as they are referred to in some quarters. Hence, for instance, training regulations cannot be put to effect against the will of one or other of them.

4. Professional training opens up the future, as exemplified by Deutsche Bahn AG

The Deutsche Bahn AG employs some 240 000 people (excluding apprentices). That means the Deutsche Bahn AG is the largest transport service provider in Germany and Europe. Some facts:

- 7.6% of them are older than 55 years.
- The average age is 41 years.
- 51% are between 35 and 49 years.
- 3.3% are without any diploma (decreasing).
- 6.5% have an academic diploma.
- The Deutsche Bahn AG invests approximately DM 900 million per year on vocational training. Some 50% of this relates to the continuing vocational training of staff. With its 14 000 or so apprentices the Deutsche Bahn is the largest training enterprise in Germany. Every year up to 4000 young people start their professional career here.
- Since 1997, the Deutsche Bahn has completely revamped all the major training regulations. Now, 95% of trainees receive qualifications in trades that are less than three years old.
- The enterprise currently provides initial vocational training for around 35 professions, notably in the commercial/services sector and in the new IT disciplines. Today 70% of initial vocational training is focussed on modern, commercial and service oriented occupational profiles. A dynamic environment awaits the young people, this environment is also reflected in their training. Extensive practical experience, professional competence and a vast potential in terms of creative resources—this is the mix which is the hallmark of Deutsche Bahn AG today. And it is the DB trainees who largely stand to profit from this mix. Deutsche Bahn focuses on training for occupations that are of direct relevance for railway operations. Customer service and customer orientation right from scratch play a major role achieving success. Naturally, this is especially important for a company whose goal it is to become the number one service provider in Germany.
- Over 600 000 training days went on preparing staff for new market and engineering requirements in 1998.
- In the past two years, the Deutsche Bahn has introduced new learning systems across the board (e.g. CBT in foreign languages).

Modern training: three examples

(1) The junior firms of the Deutsche Bahn AG

The junior firms have been a part of Deutsche Bahn since 1996. A Junior Firm is one where young people are in charge. They have taken over the entrepreneurial responsibility for 'their' firm. A firm within a firm—How does it work? Responsible management of one's 'own' firm presupposes planned and clearly defined areas of accountability. In the case of Deutsche Bahn AG, the Junior Firm refers to a railway station which is managed and operated by trainees in their first year of office training. All the tasks that need to be coordinated in a real company come into play here: management, media communication, purchase, sales and marketing, costomer services, and controlling. The young trainees independently organise and implement all these activities. They are guided by an instructor, but he or she acts 'only' as an observer or coach who gives advice and helps out if problems occur. Sales outlets with an annual turnover of approximately DM one million are potential locations for Junior Firms. In early 2000, over 40 train stations were run as Junior Firms.

Why Junior Firms? Being prepared for a succesful future requires more than just technical knowledge:

- The ability to correlate ideas.
- Being able to internalise punctuality and precision. Creatively developing new ideas and solutions through teamwork.
- Taking independent decisions and facing the consequences of one's actions.
- Assuming responsibility and being able to think like a businessman or woman.
- Applying what was learnt, reviewing and further developing it in practice.
- Working as a team, being aware of overlapping areas, communicating effectively.
- Learning to accurately assess one's own capabilities and attitudes.
- It is all these factors put together that form the basis of in-depth knowledge and competence.
- The tried and tested credo of learning by doing acquires a very modern dimension in Junior Firms.

Can this be successful? The answer undoubtedly is, Yes! And the Junior Firms don't just work. The trainees have fully justified the faith put in them by Deutsche Bahn. New service ideas, high customer satisfaction, increased turnover—if these aren't enough arguments to convince anyone!

(2) The international dimension

Lending vocational training an international dimension is crucial to ensure the long-term viability of the Deutsch Bahn enterprise. We have taken a number of steps to this end. Europe approaches.

Since 1998 the Deutsche Bahn has been conducting courses for training French, Czech and German youths as transportation service clerks in border regions, currently in Saarbrücken and Dresden. Young trainees in their first year of vocational training have begun to jointly manage Junior Firms in Ottweiler and Coswig. This type of transnational training is a concrete contribution to open and co-operative working. And this practical experience leads to a common understanding of the new service culture. The young people learn from one another, are familiarised with the partner country, its culture and its language and are made aware of the European nature of their work. Since this programme has proved so successful, further locations have already been planned for 2000.

(3) Joint action

In early 1999, the Deutsche Bahn AG and the Ministry for Education and Research launched an initiative for integrated vocational training. The objective is to create more training places in the transportation sector and in transport-related sectors as well as to intensify co-operation across the entire sector.

5. Outlook

The dual system of initial vocational training proved its worth from our firm's point of view:

- One of its main advantages is that it is conductive to structures embracing trade, methodological, human and social skills. This would not be possible by simply stringing together a series of unrelated qualification modules.
- The special strength of the dual system arises from interaction between working and learning. In this way, trade-related and overarching skills evolve alongside one another.
- Vocational training engenders a practical dimension and an ability to identify with tasks set and corporate objectives.

Nevertheless, the future of vocational training lies in its capacity for renewal. It is thus necessary:

- to refine existing further and advanced training schemes on an on-going basis
- to tap new sectors (e.g. IT, biotechnology, logistics) with the aid of up-to-the-minute training products
- to raise the speed of adaptation within the system (e.g. shorten the time needed to draw up training regulations)
- to make examination structures more effective (e.g. minimising input for exam preparation)
- to intensify measures to encourage lifelong learning (particularly outside working hours)
- to further extend the international dimension of professional training (e.g. intensifying foreign language teaching)
- to optimise an effective co-operation between companies and vocational schools

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The role of industry and economic institutions in shaping vocational training

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It's a great pleasure to be here. I think it is a marvellous to get together people from two countries with rather different sets of institutions to talk about how training systems work. I should disclose I have links with Australia. First I am a adjunct professor at the research school of social sciences in the Australian National University and in fact work closely with Bob Gregory. Secondly before coming here I taught in Oxford and one of my, how I shall say, formative experiences in teaching was giving revision tutorials to Gareth Evans a long, long time ago. So if I have survived that I can survive most things

I want to talk about the institutions which underlie effective training systems and to compare the way the German system works with the way the British and the American systems work.

The German system

I had an interesting experience in 1998–99 when I worked in 10 Downing Street in a policy unit there on refashioning aspects of the British system and in part my experiences of the UK has come from that. But let me start off with the German system. Instead of looking at the training system I think it is important to look at the underlying institutions which make the German system as effective as it is. I do believe it is a very effective system. I particularly liked the talk by Mr Wiegand in emphasising the capacity of the German system for renewal and continuous rethinking. Rethinking, doubts, pessimism, but always going in an upward direction which is characteristic of many things in this country. I reject the idea the German system is not a dynamic system. But I do not want to talk so much about the training system itself as about the political economy which makes the German system possible.

Two collective actors

Let me talk about two collective actors who are needed and four supporting institutional functions. The first collective actor is the employer association. You have to have strong powerful employer associations, who can effectively bring companies in their sector together,

*This paper is an edited version of the record of Prof Soskice's talk.

to bring about some sort of consensus agreement on what type of vocational skills are needed by those employers.

You secondly need effective, co-operative trade unions. You need a system of employee associations which are co-operative at an industry level and sees itself as having responsibility for working in a serious way with employer associations and with companies. And you need to have a strong system of employee representation, such as the German works councils provide, within the companies. This is so for a number of reasons. You need a counter weight to the employer associations wanting skills which are what companies directly or immediately need. The unions act as a counter balance to that. The unions push generally for longer-term skills, slightly more general skills and so on. You also need an effective monitoring device within the companies to insure that companies are training in the right way. The works councils work closely with management in insuring a good training system within a company, in insuring the training is taken seriously. So as a precondition for anything like the German system to work, you need strong employer associations and you need strong integrated co-operative unions.

Supporting institutions

There are four institutional systems outside the vocational training system itself which are needed to give the right incentives for both companies and young people to take part in the German system. The importance of these may be clearer to me as an outsider coming from an Anglo-Saxon system and working in Germany.

First of all you need to have a stable system of collective bargaining. You need that for two reasons. One reason is straight forwardly that it acts significantly to make poaching harder. It is a difficult thing for German employers to simply go and put up wages as a of way getting skilled workers into their company.

Secondly, the incentive structures for companies in the German system support the employment of apprentices. A small company, maybe a garage or a repair shop, can make apprenticeships pay. For example, during a working day there will be some periods when the apprentice is being taught. There will be other periods, particular when the garage is busy, when the apprentice will be doing essentially unskilled work. And then the apprentice will be doing increasingly skilled work during the three and a half years of the apprenticeship. If you have a completely deregulated labour markets, and the price of unskilled labour is low, it will pay simply to hire unskilled workers. But in Germany you keep the price of unskilled and semi skilled labour high enough, relative to skilled labour and the cost of the apprentice labour very low. This makes it worthwhile for the garage owner to employ the apprentice. There are plenty of other examples of this sort. Basically you can not do this with deregulated labour markets

Thirdly, the German system is hugely supported by the system of long term finance to which companies have access. In a world in which companies are facing intense short-run pressure

to make profits it is extremely difficult to justify spending money on apprenticeship where the return is uncertain and takes place over a long of period of time. So in the German system, as indeed in all these Northern European systems, the fact the companies can have a reasonably long-term financial background is a factor of very great importance.

The fourth element, is less obvious but very important. In the German system young people are asked to devote themselves over a three to three and a half year period to aquiring an essentially specific range of skills. It is quite broad but it is a specific range of skills. And it ties one to a particular occupation. It ties those young people into a particular company, for a long period of time. The bigger the company you do your apprenticeship training in, the more likely you are to go on working at this company after finishing your training. You get then a lot of further specific training in company products, product and process technology.

What you are asking young people to do is to commit to a relatively circumscribed future. This means that if you lose your job, you have to have a relatively effective welfare-state system, which is supportive of your need to have time to get another job which uses your skills. You can not have a welfare system as in the UK, which basically says, first job which comes along you have to take. You have to have a supportive welfare system for unemployment. And you have to have provisions which make early retirement possible for people who work in sectors which have gone into decline.

Finally, you need a climate of co-operation between companies within the same industry which supports strong employer association and is in turn supported by strong employee associations if you are to get agreement among those companies on common standards.

So, the German system is not one you can take up and simply plonk down elsewhere. We tried to do this in the UK and I would say it was a complete failure. And most of the examples in the United States have been failures. There is an argument about its success in Wisconsin; that's probably because they are all German there anyway!

It is very clear what the responsibilities of companies are in this sort of system. It is pretty clear what the responsibilities of the state are in this sort of system.

UK and US

Let me then come to the UK and the US, and arguably Australia, although as I say, I do not yet know enough about the underlying institutions of the Australian system and economy. But in the United Kingdom and the United States you have:

- deregulated labour markets
- short run finance with a huge amount of profit pressure on companies to make sure of their bottom line
- pretty powerless employer associations and pretty powerless unions. One might say not just powerless unions but also unions which are forced into a conflictual bargaining

relationship with companies and certainly do not typically have close integrated relations with management within companies

- you have a weak welfare-state system
- you have a product market environment which is a very competitive one

If you take the United States and the United Kingdom as proto-typical Anglo-Saxon countries, with the United Kingdom moving closer and closer to the United States, you have absolutely none of the underlying institutional conditions which I see as necessary for the functioning of something like the German system.

It does not mean that vocational training does not work in the UK and the US. It simply takes a very different form. But I would say:

- It would be a mistake in the UK or the US to try to transplant something like the German or the Northern European vocational training system.
- If the reply to that is why can't you change the underlying institutions in the UK and the US, the answer is simply you can't. That is, their institutions have gone in direction of deregulated markets to such a long way that correcting that process is, in my view, clearly not on the political agenda.

I want to make four comments on vocational training and training in general in the Anglo-Saxon type of environment. First of all, because labour markets are deregulated, companies tend to focus on product markets where they develop new products, indeed completely new markets, more frequently than say German companies or Swedish or Swiss companies would.

Young people face a relatively mobile career. They need to have relatively general competences, a strong general education background and the ability to move around. So a precondition for young people nowadays in Anglo-Saxon countries to get reasonable jobs is that they have a good general educational background, rather than an early vocational traning background which ties them down. I would emphasise in particular, given both of these economies are overwhelmingly service economies, as Germany is slowly becoming, what is critical for young people, is to have social skills to be able to deal with customers and with organisations which are much more flexible.

Secondly, what is the the responsibility of companies as far as training is concerned in this type of world? I would say the following. First of all companies spend a huge amount of money on training in both the UK and the US. They do train. But they train in a completely different way to the way in which German companies train:

- They spend their money on training those who have already got an effective general education background. They do not spend money on training people who come from a weak education background.
- They do not train people in a whole lump type of way. They send people out on relatively short training courses as and when the need arises to learn new technique, to learn some new bit of software or whatever it may be.

What then does this imply for the companies' responsibility and the state responsibilty? In my view it is relatively clear. You cannot dictate to companies what type of training they should do. You have to accept that that is the training which they do. Therefore the responsibility of the state is to ensure that the general level of education of everybody, right down to the bottom, is high enough so that it will pay companies to train them. The companies should be basically encouraged then to go on doing what they are doing and to do more of it.

What sort of vocational training system should you then have outside the companies? I am hugely influenced by the American system of community colleges in this type of world. What the community colleges in the United States do is to provide two year associate degrees, which can be spread out over a longer period of time. The very large proportion of those degrees are nowadays vocational degrees. They started off with the idea that they would be basically general degrees and then after these two years the students would go on to two more years at a four year college. That has almost completely changed. About 80% of these degrees are nowadays vocational degrees in two year colleges. These community colleges are responsible for about half of the total of American higher education. Over 70% of young Americans before the age of 30 go through higher education and half of these are in community colleges.

The way these degrees work is extremely interesting. They have a high initial general content. If you are doing a degree, let's say in marketing, you will have courses in general marketing and business courses. And then you will have a set of courses, which may be the equivalent of the second year, which will focus your degree on what may be a very particular aim. You may have an associate degree as a Chrysler auto salesperson. Chrysler will develop these packages which are then run with community colleges, which will make you eligible to get a job as a Chrysler auto salesperson anywhere across the States. Or you may get a degree as a legal associate, or a medical aid, or a dental aid. You just need to go into any of the web sites of American community colleges and you see the huge range of pretty specific degrees available.

In setting out what these degrees consist of the American system does not rely on companies getting together and forming a consensus about a whole body of an occupation. The American system is much more a modular based system. The standard setting bodies operate more in the way by which Microsoft tries to set standards, in a pretty competitive way. For instance take the case with dental aid associate degrees. I think there are four separate associations in the United States which compete with each other to promote a degree which is most acceptable. And once you have that degree, and you have a lot of software and a lot of techniques, it will then pay dentists (much like the way we use "Word") to adopt that software, those sets of techniques, and so on. Which means that they can recruit somebody with one of these degrees and there will be no training needed to be provided by the dentist.

You have then a fully functioning vocational training system which depends on people starting off with at least an adequate level of general education, getting a set of general

competencies, which will enable them to learn something else if they want to, plus a set of standard qualifications geared to a specific profession. But of course a profession where you can very easily be employed around the United States.

The bottom third

The final point is THE big question. What do you do about the bottom third in the US or the UK which is excluded from all this? And that seems to me the biggest problem in the UK.

I am absolutely of the view that pushing these children into vocational training is the wrong thing to do.

In the UK one third of children leave school at 16. They almost all come from very low income backgrounds. There is a whole phenomenon growing in the last 20 years of ghetto-isation of particular areas where the jobs have simply left. These are children from those areas. It is very clear that what they need, above all, is the social skills which enable them to get ordinary jobs. They can not get ordinary jobs because basically they do not know how to communicate with other people and they typically also do not have computing skills.

My view is that you have to try to integrate them into the education system between 16 and 18 rather then pushing them out as happens at the moment in the UK. This was one of the things which I was able to have a hand in reversing. You need somehow to keep these children in the educational system so they spend this critical period between 16 and 18 with their peers and can learn how to communicate with people from different backgrounds to their own. You need to give the colleges of further education a strong incentive to focus on integrating and teaching these children.

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Industry training in Australia: Causes and consequences

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There is a strong and persistent belief in Australian training policy circles that Australia is a poor performer by international standards in the provision of training. This view is particularly strongly held in relation to enterprise training where it is commonly assumed that Australian employers chronically under invest in the training of their employees and show little inclination to increase their training effort in response to government initiatives (Smith 1998:10). Much of this belief is based on the results of successive surveys of employer training expenditure in Australia and some notoriously unreliable International comparative data. Since 1989 the Australian Bureau of Statistics (ABS) has conducted four surveys of employer training expenditure (ABS 1990a, 1991, 1994a, 1997). The original survey conducted as a pilot in 1989 indicated that only 22% of Australian employers carried out any form of training for their employees and that an average of 2.2% of payroll costs was invested in training activities with employees receiving, on average, 22 hours of training per annum.

This data together with the results from some international comparisons of incentive schemes to promote higher levels of enterprise investment in training provided a significant part of the case for the then federal Labor government enacting the Training Guarantee Act in 1990. This scheme operated from 1990 to 1996 (although it was technically suspended in 1994) and required Australian enterprises with payroll costs of over A$200 000 to spend at least 1.5% of their payroll on the provision of 'structured' training for their employees or pay an equivalent levy to the Australian Taxation Office. Assessments of the effectiveness of the Training Guarantee in raising the level of training expenditure in Australia vary but it generally accepted that the scheme failed to lift training provision for the majority of employees in any significant or lasting fashion (Teicher 1995). Subsequent iterations of the Employer Training Expenditure survey (TES) have tended to confirm the original rather gloomy assessment of the state of enterprise training in Australia. Table 1 shows that although training expenditure appeared to increase to 1993, it has since retreated.

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 (1990a, 1991, 1994a, 1997).

Employer size is a major cause of variation in the incidence of training in enterprises. In 1996, 88.3% of large enterprises (100 or more employees) provided structured training compared to only 13.4% of small enterprises (less than 20 employees). Spending on training also varies considerably by sector and industry. In 1996, public sector organisations spent 3.2% of payroll compared with their private sector counterparts who spent 2.3%. However, the increase from 1989 is almost entirely accounted for by the private sector which improved its performance by over 30%, whilst public sector spending as a percentage of payroll remained fairly static. Variation across industry sectors is even more apparent, with air transport, mining and communications spending well over the average whilst manufacturing, retail and recreation and personal services spent considerably less than the average.

The decline in training expenditure since 1993 has led the Australian National Training Authority (ANTA) to focus on increasing industry investment in training as one of its five strategic priorities in the period 1998–2003 (Australian National Training Authority 1998).

However, it is far from clear that this pessimistic view of the state of industry training in Australia is justified from an examination of the range of data now available on the incidence of enterprise training. The ABS conduct two other surveys which present data on industry training—the Employer Training Practices Survey (ABS 1994b, 1997) and the Survey of Education and Training Experience (ABS 1990b, 1994c, 1998). The Survey of Education and Training Experience (SET) and its forerunners is a household survey sampling some 20 000 dwelling and collecting data in all individual aged from 15 to 64 years for the previous year. The results from the 1997 SET show that in 1997, 80.2% of workers received some form of training. On-the-job training was the most common form of training with 71.6% of workers receiving this type of training. The incidence of in-house training in organisations was far less with only 33% of workers receiving this form of training. About 16% of workers were studying for an educational qualification. However, like the figures on training expenditure, there is considerable variation between industries on the type of training received by employees. Employees in the utilities, communications or service industries were more likely to receive training than those in transport, manufacturing or agriculture. The results of the three surveys for employee training are summarised in table 2.

Table 2. Individuals' experience of training 1989–97

Activity	1989	1993	1997
Some training undertaken	79.0	85.8	80.2
Studied in previous calendar year	16.8	18.6	15.8
In-house training course	34.9	31.3	33.0
External training course	9.8	11.8	20.0
On-the-job training	71.8	81.8	71.6

Source: ABS (1998)

The data from SET display some interesting contrasts with the TES data. The most obvious difference is that the experience of training for individual workers is far higher than the TES data might lead one to expect. Over the 1990s, 80% or more of workers have undertaken some training. Although the most common experience is of on-the-job training, over 30% of workers have received in-house training—very similar to the 'structured' training definition used in the TES. Also the pattern of provision has changed during the period 1989–97 in different ways to the pattern of training expenditure from the TES. Whereas the overall incidence of training and of on-the-job training rose in the early 1990s and fell away later in the decade, in-house or structured training increased since 1993 and participation in external training courses almost doubled during the period. This latter figure complements the data for overall enrolments in the Australian vocational and education training system which show that the numbers undertaking a VET course have increased by almost 60% in the last 10 years to over 1.5million in 1998 to the point where 12% of the Australian population undertook a VET course in 1998 (NCVER 1999).

The increasing incidence of in-house training contrasts sharply with the TES data showing a decline in expenditure on structured training over the same period. Despite the differences in definitions between in-house training in the SET and structured training in the TES, the SET data suggest that the provision of off-the-job training courses on the employers' premises has increased since 1993.

More evidence of the widespread provision of industry training can be gained from the Employer Training Practices Survey (TPS). The TPS is a qualitative survey that gathers information on the type and extent of training provide by enterprises to their employees. Data is collected for a full year rather than for three months as is the case for the TES. Two Training Practices surveys have been carried out (ABS 1994b, 1997) covering the years 1993 and 1996. The survey is administered to the same population as the TES so the data is comparable between the two surveys. The results from the 1997 TPS show that 61% of all employers provided training to their employees during 1996. 35% provided structured training whilst 53% provided unstructured training. 27% provided both forms of training. As with training expenditure, the incidence of enterprise training in the TPS varies considerably with size. In 1996, 99% of large enterprises provided training whilst 57% of small employers provided training for their employees. The provision of structured training follows the same pattern with 93% of large enterprises providing structured training and

30% of small enterprises. The TPS data also hows that the low incidence of training provision amongst small enterprises is concentrated in the micro-business end of the spectrum—those enterprises employing fewer than five people. The figures for small business are summarised in table 3.

Table 3. Small business training provision 1996

Type of training	1–4 employees	5–9 employees	10–19 employees	All small business
Structured training	20	43	60	30
Unstructured training	38	65	78	49
All training	45	74	86	57

Source: ABS (1997)

Despite the similarity in the pattern of training provision, however, there is a remarkable difference in the incidence of training provided by the TES and the TPS. In almost every case, the incidence of structured training detected by the TPS appear to be about double that detected by the TES. 35% of enterprises report providing structured training to their employees in the TES compared to only 17.7% of enterprises in the TES. 30% of all enterprises provided structured training in the TPS compared to 13.4% in the TES. For larger enterprises, the figures are more comparable. nevertheless, 99% of enterprises provided structured training in the TPS compared with 88.3% in the TES.

There are some differences between the two surveys which might account for some of these divergent findings. In particular, the TES provides data for only one quarter in the year whereas the TPS gathers data on training activity for the preceding 12 months. The TPS collects a broader range of data than the TES with the emphasis on qualitative data rather than the strictly defined quantitative data of the TES. Thus the TPS may allow the collection of data on training activities that cannot be fitted into the strict definitional guidelines of the TES. Further evidence of the more all embracing approach of the TPS is provided by the slightly different definitions of structured training used in the two surveys. In both surveys the definition of structured training allows the inclusion of on-the-job training. However, in the TES on-the-job training is restricted to training 'associated with the assessment of accredited competency-based skills'. This definition severely limits the amount of on-the-job training captured under the definition of structured training in the TES and may help to account for the lower incidence of structured training reported. Thus, the TPS appears to be a better guide to the true level of structured training provided within enterprises.

Further support for a more optimistic view of the incidence of industry training in Australia is provided by the Business Longitudinal Survey (ABS 1999). The Business Longitudinal Survey (BLS) is a composite of data gathered from a sample of business on the ABS business register. The BLS gathers data primary on business and financial performance of enterprises but also includes some simple questions on the provision of training to employees. In 1997/98, the BLS data indicated that 54% of enterprises provided training to their

employees and 23% provided structured training. Whilst these figures fall between the data provided by the TES and TPS, it is important to note that the BLS collects data from enterprises with less than 200 employees. Thus, large enterprises are under represented in the sample. This would suggest that a higher rather than a lower estimate of industry training is warranted by the ABS data overall. Estimates of the number of employees receiving training from their employers in the period of the survey suggest that 68% received on-the-job training whilst 46% received structured training. These figures are broadly in line with those of the SET for on-the-job training. The numbers receiving structured training are higher than the number receiving in-house training in the SET, however the definition of structured training in the BLS is broader than that of in-house training courses in the SET.

Thus, the data from the TPS, SET and BLS surveys paint a consistently more optimistic picture of the state of industry training in Australia than the TES. Broadly it appears that:

- Some 80% of Australians are receiving some form of training at work
- About 70% of Australians take part in on-the-job training at work
- Between a third and a half of all Australians are taking part in formal, structured training in the workplace
- About 60% of all Australian enterprises deliver some form of training to their employees but over 85% of enterprises employing more than 10 people provide training
- Between a quarter and a third of all Australian enterprises provide structured training to their employees but 60% of enterprises employing more than 10 people provide structured training.

Why do enterprises train their employees?

In Australia, Smith and his colleagues have investigated the determinants of enterprise training (Smith & Hayton 1999). Over a two-year period from 1994–96, a research team from Charles Sturt University and the University of Technology Sydney studied 42 organisations in depth and carried out a survey of 1750 studies of Australian private sector organisations. Organisations in five industry sectors were studied:

- Building and construction
- Food processing
- Electronics manufacturing
- Retailing
- Finance and banking

The research team developed a model of how training operates at the organisational level. The model is illustrated in figure 1. The research identified three key drivers of enterprise training.

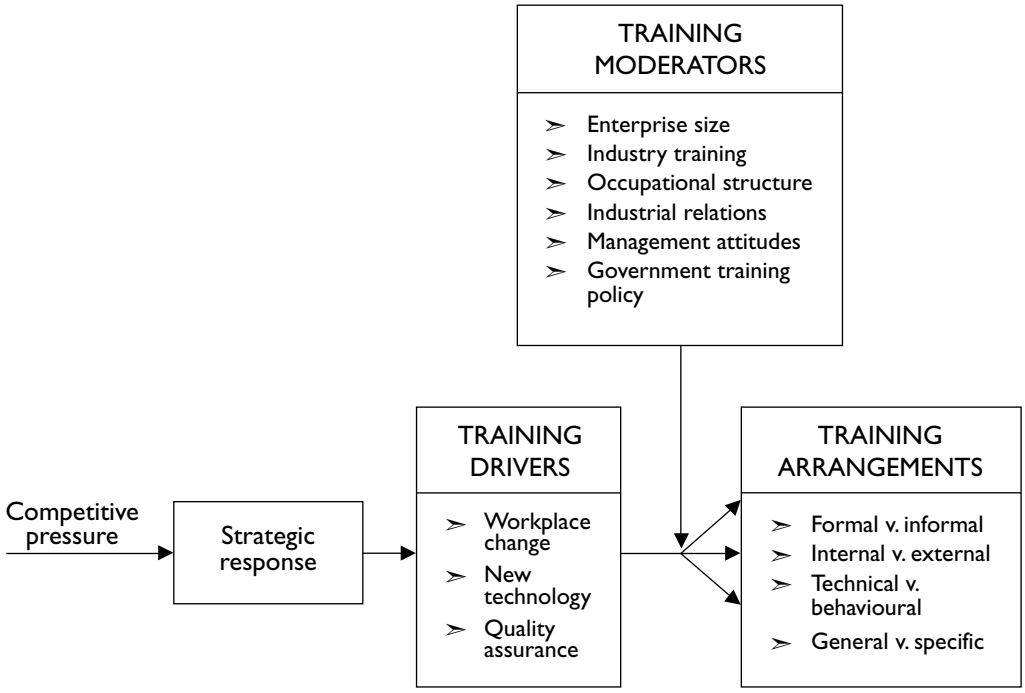
Workplace change. The extent and pace of workplace change varied between enterprises and

between industries. This includes the introduction of teamwork, new management practices and new forms of work organisation.

Quality assurance. A particular form of workplace change that emerged as a consistently significant driver of enterprise training was quality improvement. However, the interpretation of quality improvement differed significantly across industries and between enterprises ranging from quality accreditation to the use of TQM.

New technology. This included new product and process technology, although the extent of technological innovation was greater in the manufacturing and finance sectors than in construction or retail. New product technologies often involved on-the-job training for employees who would be producing the new product. Training for new process technology was more extensive.

Figure 1. Model of enterprise training



Source: Smith (1998)

The operation of the training drivers was moderated by a range of factors internal to the enterprise—training moderators. The model of enterprise training identified six training moderators:

- enterprise size
- industry traditions of training
- occupational structure
- industrial relations
- management attitudes
- government training policy

The outcomes of the processes of interaction between drivers and moderators are the training arrangements that are finally put in place. The diversity of the arrangements in terms of the dimensions of training activity—formal versus informal, external versus internal, technical versus behavioural, generic versus specific—as well as the overall levels of expenditure on training and the distribution of that training between occupational groups in the workforce, is the product of the unique interactions between training drivers and training moderators that take place within each enterprise.

These findings are confirmed by the results of the TPS which asked enterprises to rank the factors which caused them to train their employees and the factors that caused an increase in training expenditure. For enterprises providing structured training in 1996, the five most important reasons for provision training were:

1. improving performance in the current job (38%)
2. improve quality of goods/services (37%)
3. respond to new technology (22%)
4. develop a more flexible workforce (16%)
5. improve employee safety in the workplace (15%)

For enterprises reporting an increase in their provision of structured training in the last 12 months, the five major factors driving the increase were:

1. technological change (32%)
2. changes in management practices (25%)
3. quality assurance/quality control (21%)
4 regulations or awards (18%)
5. availability of external training providers (16%)

Improving quality and responding to new technology appear in both lists. Changes in management practices and the need to develop a more flexible workforce can be seen as aspects of the introduction of workplace change as can the need to improve quality and are important drivers of training. These reasons for providing training relate very closely to the model described above.

Following the work on the drivers of enterprise training, Smith and his colleagues examined the impact of workplace change on the type and extent of training provided by enterprises (Smith et al. forthcoming). This research involved a survey of 3500 businesses investigating the links between different forms of workplace change and the type of training provided to employees. Five forms of workplace change were investigated.

Teamworking. The research examined both the extent of teamworking adopted in enterprises and the degree of autonomy given to teams. 63% of responding enterprises reported that they used teamworking. However, the results also showed that the level of autonomy granted to teams was generally in the low–medium category. The incidence of high team autonomy was relatively uncommon. Thus, whilst teamworking appears to an extensively adopted form of workplace change, most teams enjoy only a limited degree of autonomy. The adoption of teamworking resulted in a greater decentralisation of the training function, a higher level of workplace delivery of training and a more even distribution of training. Higher levels of team autonomy were associated with a greater use of external training provision and a greater formalisation of training.

Total quality management. 43.7% of responding enterprises reported high level of commitment to some form of TQM. This was also associated with a greater level of decentralisation of training responsibility and a focus on generic skills. TQM was also associated with a greater use of internal training resources and provision of nationally accredited training.

Lean production. 44.5% of responding enterprises reported a high commitment to lean production techniques. This was associated with a reduction in training due to cost cutting measures, a more informal approach to training and less likelihood a training specialists existing in the enterprise.

Learning organisation. 40.2% of respondents reported a high level of commitment to the principles of the learning organisation. This was associated a greater level of decentralisation of training, greater attention to the training of managers, a focus on generic skills in training and a greater use of coaching and mentoring.

Business process re-engineering. 28.3% of responding enterprises reported a high level of commitment to business process re-engineering. This resulted in a greater use of accredited training, a higher degree of workplace delivery of training and a more even distribution of training amongst different groups of employees.

This research appears to confirm the importance of workplace change in stimulating industry training but it is clear that the form of change adopted can have a significant impact on the type of training that occurs and who receives it. Other results to come from this research included:

- The relationship of training to business strategy. A key finding from the study was the importance of the link between training and business strategy as a driver of enterprise training. This link was positively correlated with almost all of the measures of training

used in the study and appeared to be the single most important factor in boosting the incidence of industry training.

- The growing importance of generic or 'soft' skills training. Enterprises appeared to less concerned with training in the job-related technical skills but more with training in skills such as problem-solving, working with others and communication. These generic or transferable skills produce a degree of workforce flexibility and adaptability which is congruent with the importance of workplace change as a driver of industry training.
- The importance of the individual. Enterprises in the research were moving away from the 'blanket' provision of training at the enterprise level and increasingly towards the notion that the individual employee must take responsibility for his/her own training. The role of the enterprise is to act as a broker in the relationship between individuals and a variety of training providers.
- Changing nature of training. All of the forms of workplace change adopted appeared to be reinforcing a flight away from the traditional training structures seen in Australian enterprises—training departments with training specialists and instructors. In many cases formal training departments had been abolished, responsibility for training had been devolved to line managers and training was delivered by a new breed of workplace instructors—employees whose primary responsibility was not training but had taken on a training role in addition to their other duties.

Many of these findings have been echoed in other recent studies of industry training in Australia. Analysis of the BLS (ABS 1999) shows that across a range of measures the incidence of industry training is far higher in business that have adopted a formal strategic or business plan than in those that have no business plan. 86% of enterprises with a business plan provided on-the-job training compared to 58% of enterprises without a plan. 67% of enterprises with a business plan provided structured training compared to only 34% of businesses without a plan. Of all the measures contained in the BLS data the existence of a formal business or strategic plan is the one most strongly associated with a higher incidence of industry training.

A recent study commissioned by the Australian Industry Group (AiG) examined the future skills and training needs of Australian manufacturing industry (Allen Consulting Group 1998).

Table 4. Company training objectives in the Australian industry group

Reasons for training	% enterprises agreeing	% enterprises disagreeing
Improve our quality	93.7	1.3
Improve our competitiveness	88.2	3.0
Multi-skill our employees	87.0	4.1
Meet health and safety requirements	77.4	4.4
Implement workplace change	68.8	7.7
Build commitment to the company	67.1	8.1

Source: Allen Consulting Group (1998)

The study covered a representative sample of the 11 500 enterprises who are members of the AiG. The study involved a survey of a sample of member enterprises, as well as interviews in over 50 enterprises and a number of focus groups with enterprise members. The AiG study examined the reasons that their members trained their employees. The findings are presented in table 4.

These reasons for training bear remarkable resemblance to the reasons for training adduced by the TPS. Although the implementation of workplace change ranks fifth in the AiG list of reasons for training, issues of quality improvement and the multiskilling of employees attest to the overwhelming importance of workplace change in the factors that this group of Australian enterprises view as driving their training efforts.

The study also confirmed the importance of the link between training and business strategy in the plans of the enterprises in the survey. 61% of the surveyed enterprises expected that the skills and capabilities within their businesses would make them attractive to investors whilst 71% saw a strong link between their decisions to train and their 'competitive edge'. The AiG enterprises also emphasised the importance of training for generic skills citing basic skills such as literacy and numeracy, information technology capability, relationship skills such as problem solving and communication and a willingness to learn as the 'core' skills which they demand in new and existing employees.

The research points to a number of key factors that are associated with the provision of industry training in Australian enterprises.

- Workplace change. Workplace change is a key factor in enterprises' decisions to change. The form of change varies but an emphasis on quality improvement and flexibility comes through most of the recent Australian research in this area. The introduction of new technology is also important but in conjunction with the development of new sets of skills, including multiskilling to make enterprises more competitive.
- Generic skills. The evidence suggests strongly that enterprises have moved away from an emphasis on training for job-related technical skills and more towards skills that will introduce greater degrees of adaptability and flexibility in the workforces of Australian enterprises. Thus, the traditional human capital explanations for the provision of only enterprise 'specific' training by employers seems to be breaking down quickly as enterprises are increasingly concerned with the provision of highly general and transferable skills, regardless of the dangers of poaching on external labour market.
- Training and business strategy. All recent studies of industry training bear out the importance of the close connection between training and business strategy. There appears to be a growing realisation amongst enterprises that training and skills have an important part to pay in their future competitiveness. The importance of this link appears to be borne out empirically by research evidence which shows a strong association between increases in industry training and strong links to business strategy.

- New training structures. At the same time as enterprises are taking a more strategic approach to their training, the organisation of training within enterprises is changing reflecting the management fashion for decentralisation and the vesting of higher levels of responsibility in both line managers and in individual workers. Thus, specialist training departments are giving way to structures based on workplace instructors with an increasing emphasis on enterprises brokering training opportunities for individuals who take responsibility for meeting their own training needs.

What are Australian industry's future training needs?

It has been commonplace in recent years to refer to the upskilling effect of globalisation on developed economies. The argument is made that globalisation is driven by the impact of new communications technologies which allow enterprises to compete in higher value added, niche markets (Marginson 2000). It has been argued by Reich and others that globalisation is leading to shifts in the skills profiles of occupations in developed countries away from the production worker and towards the more highly skilled 'symbolic analyst'. In Australia, Maglen and Shah (1998) have traced the rise of the symbolic analyst in the labour market and argued that the skills requirements for jobs in the Australian labour market are increasing. There is some evidence from Australian enterprises that now supports this view. The AiG study and recent work by the Department of Education, Training and Youth Affairs (DETYA 2000) have shown that the traditional skills requirements of Australian industry are changing.

As discussed above, the AiG study (Allen Consulting Group 1999) showed that in the manufacturing sector, Australian enterprises were increasingly looking for a range of generic or 'core' skills that would underpin their future business plans. The enterprises in the AiG survey also report that their skills requirements were moving towards a higher overall level. Their recruitment intentions showed a preference for recruitment at the professional/para-professional and trades levels above the production level of employee. 30% of respondents replied hat they anticipated recruiting at the professional/para-professional level compared with 25% who intended to recruit at the production level. This was reflected in the expectations of employees skills levels and training intentions amongst enterprises in the survey over the next five years. These are summarised in table 5.

The AiG argue that, in the manufacturing sector, Australian enterprises are displaying a marked preference for higher levels of skills in both recruitment and in their training, reflecting an underlying upward movement in the skill levels associated with the future business plans of the enterprises:

> *Most jobs in Australian Industry Group companies are expected to move up the skill ladder, reflecting the more sophisticated nature of production and service and the greater level of knowledge embodied in the work taking place among these companies.*
>
> (Allen Consulting Group 1999:37)

Table 5. Australian manufacturing enterprises skills and training intentions in next 3–5 years

Skill level	% requiring more skills	% expecting to train heavily at this level
Professional/para-professional	79.6	53.2
Trades/post-trades	76.5	52.2
Production	*72.0*	*59.8*

Source: Allen Consulting Group (1999)

However, the source of these higher level skills in the future is in some doubt. The AiG study shows that recruitment of apprentices and trainees, the traditional means by which Australian enterprises have sought to meet their future skill requirements, is not likely to grow. This view has been supported by work carried out for the national review of skills shortages in the trades occupations co-ordinated by the federal Department of Education, Training and Youth Affairs (DETYA 2000). This work has shown that across the traditional trades areas of electro-technology, mechanical and fabrication engineering and automotive repair the numbers of apprentices and trainees recruited by Australian enterprises has been declining since the early 1990s. In most of these trades areas, the decline has been arrested in the last two years with some trades, notably electrotechnology showing strong growth in the numbers of apprentices recruited. However, Australian enterprises in these trades report significant skills shortages which are unlikely to be alleviated in the short-medium term through apprentice recruitment, with its long lead times to completion, or through the migration program, a traditional source of skills for Australian industry. The reports from the three working parties established to examine each of the trades occupational areas all emphasise the importance of re-skilling existing workers to meet the growing skills deficit. This has significant implications for the growth of employer sponsored industry training.

The importance of the re-training of existing workers has also been highlighted by work carried out the National Centre for Vocational Education Research (NCVER) on the training needs of older workers (Smith 1999). The NCVER work showed that 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. 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 for people, particularly in the developed world. For non-indigenous Australians, life expectancy at birth in 1996 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 proportion of young people in the population aged 19–24 years. The combination of more people living longer and a lower proportion of 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. Thus, the future skill needs of Australian industry will be increasingly met through training existing, older workers already in the workforce rather than through the recruitment of younger people for training.

However, these rather optimistic views about the upward trajectory of Australian skill levels in the wake of globalisation and occupational change are tempered by work analysing the impact of labour market changes on the skills and training needs of Australian workers. The most important trends in the nature of work in Australian in recent years have been the growth in the numbers of casualised workers and the increasing incidence of outsourcing in Australian enterprises.

Using data from the Australian Bureau of Statistics and the Australian Workplace Industrial Relations Survey (Morehead et al. 1997), VandenHeuvel and Wooden (1999) have shown that the proportion of casual workers has grown from 15.8% of the workforce in 1984 to almost 27% in 1998. The definition of 'casual' workers is somewhat fraught with a number of studies showing that casual workers may enjoy what amounts to permanent employment with a single employer. The ABS has defined casual workers as workers who do not enjoy employment benefits such as paid leave and sick leave and whose degree of attachment to the enterprise is thus lower than a permanent employee. This definition seems to capture the variety of employment arrangements found amongst casual workers whilst emphasising the precarious nature of their jobs. VandenHeuvel and Wooden examined the experience of training for both casual and permanent employees. They gathered data on the incidence of in-house training, external training undertaken with employer support (employer pays for training) and external training unsupported by the employer (employee pays for the training). The results for 1997 are summarised in table 6.

Table 6. Percentage of permanent and casual employees receiving training 1997

Type of employee	% receiving in-house training	% receiving external training (employer supported)	% receiving external training (unsupported)
Permanent	40.5	15.3	9.0
Casual	16.7	3.4	13.2

Source: VandenHeuvel & Wooden (1999: 25)

The data 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 as 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. This finding shows that although casual workers may not

receive training from their employers to the same degree as their permanent colleagues, they are nevertheless investing in their own training and development. This supports the notion, discussed earlier, that workers are becoming more responsible for their own training and development and that training is becoming a more individualised process within Australian enterprises.

The degree of outsourcing in the Australian economy is more difficult to estimate. VandenHeuvel and Wooden estimate that between 4% and 10% of the workforce may be employed as contractors to other organisations. However, they caution that this figure may well understate the extent of outsourcing as many self-employed workers would not categorise themselves as contractors and employees of labour hire firms may view themselves as permanently employed although they are involved in the contracting business. A survey of labour hire firms conducted by KPMG Management Consulting in Australia (KPMG 1998) showed that the major reason for the use of outsourcing was meet peak periods of demand for the enterprise. In many cases this involved the use of highly skilled labour (for maintenance tasks and so on), so it cannot be concluded that outsourcing involves only the use of low skilled workers. However, the incidence of training within labour hire firms appeared to be quite low. Only 14% of labour hire forms in the survey responded that they employed an apprentice or trainee. The expectation appeared to be that employees were recruited for their existing skills and were expected to maintain those skills at their own expense and in their own time. Thus, the growth of outsourcing would seem to be associated with a decrease in the incidence of industry training as enterprises no longer carry the responsibility for the training of outsourced workers and labour hire firms place little importance in training their own staff.

This assumption, however, may be challenged by the data from VandenHeuvel and Wooden (1999) who show that outsourcing seems to be associated with an increase in the incidence of in-house training for employees and in the level of training expenditure. The data for these observations comes from the Australian Workplace Industry Relations Survey (AWIRS) and VandenHeuvel and Wooden caution that the measures of training used in the survey are crude with a large potential error. However, the AWIRS data seems to suggest that out-sourcing, whilst it may lead to a decrease in training for those employees whose functions are outsourced, does not appear to lead to a decrease in training for those who remain.

In summary, it appears that the skills and training requirements for Australian enterprises are changing.

- There appears to be an increasing demand in Australian industry for higher levels of skills and a recognition that industry will have to increase its training effort in order to secure these skills. Higher level skills are already in short supply in many traditional skilled occupations.
- The source of these skills in the future will have to be the re-training of existing workers rather than the recruitment of people with the skills ready made. This shift towards adult re-skilling is also being driven by demographic projections which show that the

Australian workforce is ageing and that employers will increasingly rely on their older workers as sources of new skills in the future.

- Changes in the Australian labour market are emphasising the emergence of non-standard forms of employment—casualised and outsourced workers. Although both of these trends are associated with a lower incidence of employer supported training, it is clear that both casual and outsourced workers depend on their skills for their employment and are increasingly undertaking training at their own expense to maintain and increase their skills. This goes hand in hand with the individualisation of industry training and a changing role for the enterprise as *broker* rather than *provider* of training.

Conclusion

Despite this apparent decrease in expenditure levels on industry training in recent years, there is considerable evidence to show that Australia is developing a culture of training and learning in its enterprises. 80% of Australian workers receive some form of training in their workplace, over one third of workers receive structured training from their employer and over 60% of enterprises provide structured training for their employees. These are high levels of industry training by world standards. This training effort is being driven by changes in the workplace and changes in the nature of work. Change is endemic in Australian workplaces as it is in most countries in the developed world. It is the effort to capitalise on changes to the organisation of work and to new technologies in the workplace that are driving Australian enterprises to invest in more and better training for their employees.

But employers are not demanding the same skills as they did in the past. The evidence shows that it is generic and transferable skills such as problem solving and teamwork that are in demand together with higher levels of technical competence. These skills are no longer 'specific' to the enterprise but are necessary to both the employer and the employee in modern labour market. As a result, the traditional arrangements for industry training are giving way to new ones. Instead of enterprises providing highly specific job related training through blanket training programs devised for all employees, enterprises are decentralising the training role and providing more of a brokerage service to employees who take an increasing level of individual responsibility for their own training and development. It is, perhaps, this latter development that is the most critical for the future of industry training in Australia. Whilst an increasing number of casual and outsource workers are forced to invest in their own training to maintain their place in the labour market, individual responsibility for skills development is also passing to permanent employees in Australian enterprises.

It is meeting the fragmented demand created by this individualised training market that is the future challenge for Australia's training system.

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14

The role of industry and the economy in shaping vocational training: Discussion

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Having a conference in a place of such historical significance it is pertinent to remind us that Australia and Germany represent two very different traditions of education and training. Australia represents the Anglo-Saxon tradition of education being the preserve of a small elite. Within this tradition, workers did not need education. In contrast, Germany at a very early stage saw the importance of continuing to educate the emerging army of industrial workers beyond the elementary level. Thus, at a time when German apprentices by law were required to attend school for a day a week, an Australian educator could only hope that one day all apprentices in all trades would be counted among his students. Of course, these different traditions have converged during the 20th century, but traditions of the past are never quite eradicated.

The Australian debate over the past decade reflects some of this past history. A recurrent theme in this debate has been the perception that employers underinvest in training. Smith's paper shows that industry training in Australia is alive and well. There is more going on than we give firms credit for and some negative facts are given an undue emphasis. Thus the proportion of firms providing some type of training has declined during the past few years. It is still the case, however, that most workers receive some training and there are other figures that suggest that a large proportion of employers provide training. The drivers of these developments are technical change, re-organisation and strategic perspective on where firms are going. The changes in the type of training that is taking place can be linked to these drivers. Thus, technical change leads to shifts in skill requirements, re-organisation requires re-training and the strategic re-orientation towards the core business leads to a greater causalisation of the workforce with its consequences for training.

The optimistic tone of the paper is a welcome change from the many papers that lament the inadequacy of industry training in Australia. In part, it comes from investigating what training firms actually do—what lies behind the quantitative indicators of training. As such the paper is a welcome addition to the literature about industry training in Australia.

In Germany, there is no ambivalence about the role of industry in vocational training and the paper by Wiegand had a more confident tone. The overview of training at Deutche Bahn illustrated many of the more general points. From an Australian perspective many of the figures mentioned are truly impressive. Deutche Bahn alone trains almost four times as many apprentices as all employers in my home state of Western Australia.

The principal conclusions were also optimistic. The German dual system has proved its worth, it has developed a successful interaction between learning and working and the system has the capacity to renew itself. However, while accepting these conclusions in broad terms, there is still a case for questioning some aspects of its scope and operation.

By international standards, a very high proportion of German youth receives their vocational education and training through the dual system. The modern economy needs a great variety of levels of skills. Each type of education and training has its advantages and disadvantages. The advantages of the dual system are well known and Wiegand touched on many of them. However, workplace training can suffer from an excessive concern with how rather than why and may fail to develop the students' cognitive abilities. This is reflected in the relatively flat age-earnings profiles of persons with work based education and training compared to those who have a qualification from a vocational training school. This is not to say that work based training is necessarily a dead end. It is still the case, however, that vocational schooling appears to provide a better foundation for career progression later in life.

Taking into account both the differential abilities of young persons and the needs of the labour market, having two-thirds of every cohort undertaking mainly workplace based education and training seems to me to place too much confidence in what the dual system can achieve. More likely, a greater diversity of offerings, in which general and vocational school based education catered for a large proportion of youth would be a more appropriate arrangement.

The dual system also implies that German youth are forced into an earlier career choice. Although they don't embark on an apprenticeship until they are 17, the choice of this option is predicated on earlier educational choices. In most other countries, considerable effort has been devoted to avoiding the disadvantages of early streaming that are well known from educational research. Social and environmental factors come to play an excessive role in the choice of education and occupation. Thus, young persons from less advantageous background can be discouraged from realising their full potential. At an aggregate level, when the apprenticeship system covers such a large proportion of a cohort as in Germany, the consequent tendency to reproduce the existing social order should also be of some concern.

David Soskice shifted our focus from the training system per se to the environment in which it operates. His central message was that the success of the German dual system could be attributed to external factors. The strength of the system is not to be found within itself. It is the institutions underpinning the system that makes it work.

At a general level the arguments are appealing and address a number of issues that one would believe are important—how externalities are internalised, how poaching is kept in check, how the quality of training is monitored to maintain credibility and many other issues. For the purpose of this paper, there was of course no room for a detailed rationalisation of each point but that can be found in Soskice earlier work.

For empirical support for this thesis, Soskice drew on the evidence from the United Kingdom and the United States. None of the four conditions for an effective apprenticeship system is met in these two countries. Instead, in these two countries, the focus in on providing good general education to a large proportion of youth that is then complemented by in-company training and college based vocational training.

While Soskice's analysis fits some of the facts, it does not fit all the facts. At a broad level, Australia meets only one (or possibly two) of the necessary conditions. Yet, it has had, and still has, an effective apprenticeship system that is the principal method for training skilled blue-collar workers. Another country I know a lot about, Sweden, meets all four conditions. In Sweden, apprentice training was virtually abandoned at the beginning of the twentieth century. It is true that its resurrection is currently under debate, but the reinstatement of something akin to an apprenticeship system of training is a long way off. At the level of detail, one can question the presumption that German youth are prepared to commit themselves to a narrow occupation because a supportive social welfare system shifts much of the risk to the community at large. The fact is that dual system is not particularly occupation specific. During their future career, almost 50% leave the occupation in which they were trained.

The central question that Soskice sought to explain is why employers pay for general training. Now, it is quite possible to explain why employers pay for general training without relying on the institutional features of labour markets. The answer relies on an imperfectly competitive labour market, which permits training firms to pay the trainees they retain less than the full value of their skills. Several sources for this wedge between pay and productivity have been identified in the literature. They include small numbers of firms, the training firm having private information about the level of training or the ability of the worker, minimum wages and the interaction of general and firm-specific skills. Of course, the institutional characteristics of a labour market both reflect and shape the underlying market conditions. Thus, it is quite possible that the explanations suggested by economic theory and Soskice's more institutional perspective derive from the same underlying fundamentals. Traditionally, the two perspectives have been very far apart, but developments in both approaches have brought them much closer during the past two decades. For the time being they remain at least partially distinct explanations but at some future conference they may be synthesised into a universal theory.

Part VII
Pathways for youth

15

Pathways for youth in Germany

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When we speak of educational pathways we generally mean the vertical, horizontal or diagonal connections between formal educational or training programmes. Pathways have a predetermined starting-point and a specific length. They are followed in a more or less predetermined sequence and lead to a specific goal in the form of recognised certificates or skills profiles (Raffe 1998). Pathways for youth are, on the one hand, educational opportunities designed to enable adolescents or young adults to pass from the school to the working life. On the other hand, pathways arise from the actual behaviour of the adolescents, from their combinations of education and training programmes, in which order they complete them and with what goal.

The analysis of such individual pathways has always been at the centre of educational policy interest in Germany. There have been many studies in Germany on the formal educational pathways through various levels and programmes. The studies have been concerned with the extent to which the prescribed institutionalised pathways perform their function, what 'deviations' from these pathways occur and what the reasons for such deviations are, and finally what needs to be done to reinforce the formal pathways where they need reinforcing. The view behind this is that the traditional German model of a relatively disconnected general or academic pathway on the one hand and a strong apprenticeship pathway on the other performs its transitional function in principle.[1] This view was supported by the high rate of formal education and training of young people in Germany in comparison with other countries.

The question of cross connections between the different educational pathways in Germany was correspondingly not very topical for a long time. This contrasts with the Anglo-Saxon countries, for instance, where questions of the link between general and vocational pathways play a much greater role. It was not until a few years ago that the question of the horizontal connection between the different educational pathways began to take on greater importance in Germany. Behind this is the more fundamental question of whether the prescribed

1 : Quantitatively the school-based vocational pathway as the third formal pathway was considerably less significant in the past.

pathways and career patterns still meet the requirements of a knowledge society (Laur-Ernst 2000). Should we not instead be systematically widening the spectrum of career options and individualising the chances of choosing? And what will such developments mean in the future for young people's transition from school to working life?

In the following we shall first introduce the three formal pathways in Germany. These are general academic education, the apprenticeship pathway and finally the school-based vocational pathway. The features that are important for the participation of young people in each of these education and training offerings are of particular interest here. Then we shall deal with links between the general and the two vocational pathways. The main question that arises here is what opportunities of access to universities exist for graduates of the two pathways. And after that, on the basis of empirical data, we shall trace the actual pathways of young people and analyse their decisive factors, placing the main emphasis on the dual vocational pathway. In the final part we shall discuss the challenges facing vocational education policy and outline future lines of development.

1. Core features of the formal pathways in the German education and vocational training system

It is characteristic of the German education and vocational training system that the three pathways, the general academic, the apprenticeship and the school-based vocational pathways, are institutionally relatively independent and differ markedly in their core features.

1.1. General, academic education

This pathway leads from the 'Gymnasium' or academic secondary school as the dominant form of general upper secondary school directly to the university level (universities and polytechnics) and from there to the labour market for university-level graduates.[2] The Gymnasium leaving certificate serves not only as proof of qualifications to attend universities and colleges but also as entitlement to a place of study. That means that the State has to satisfy the individual's claim to a university place in a specific subject. For some subjects and/or some universities and colleges, however, there are admission restrictions (numerus clausus). Direct access to studies in these subjects then depends on the average mark on the upper secondary school leaving certificate and on the waiting time for a place in the subject concerned. The fact that there are no fees for studying at universities in Germany makes it easier to attend university. Recently, however, fees have been introduced in some *Länder* for students who exceed the time limit for a course of study.

2 : In 1988 about 87% of the students in the general education pathway in the second stage of secondary education attended Gymnasiums, 7.6% attended comprehensive schools, 4% attended upper secondary evening institutes or colleges and 1.5% attended free Waldorf schools (BMBF 2000a).

In line with the meritocratic logic that prevails in Germany, a university degree is attractive because it often offers advantages over non-academic leaving certificates in the competition for middle and upper level career positions. University studies are also a prerequisite for access to a number of professions (doctors and lawyers, for instance) and in particular to the administrative/professional civil service grades. It is also in line with these features that on average job occupants with university degrees are paid much higher salaries than those with non-academic certificates and have greater social prestige.

These advantages of a university education, however, are balanced by a number of disadvantages. The most serious of these, in view of the constantly rising matriculation rates, appears to be the under-funding of the universities, which is reflected not only in the limited opportunities of access but also in the poor conditions of study in many subjects. In addition, eight and for some subjects as many as eleven semesters are obligatory for the courses of study at universities. Short courses of study ending in a bachelor's degree are still in the trial stage at universities. At the polytechnics, however, the minimum period of study is shorter. On the whole the pathway from school to job is nevertheless extremely long for those who pass their university-level examinations.[3] For after completing the first stage of secondary education at the age of at least 16, three years of attendance at a Gymnasium, perhaps a period of military or substitute service and six to seven years at the university the graduates are usually 28 when they take their final examinations and enter the labour market for university graduates.

1.2. Apprenticeship pathway

From the point of view of the number of participants, this is the main pathway used by young people in Germany to pass from school to working life. It leads from the lower secondary or intermediate schools or gymnasiums to the dual system of vocational education and training and then to the labour market for specialised personnel.[4] That is one reason why Germany is termed an apprenticeship country in the OECD context (OECD 2000, p.32). The intention of the dual system of vocational education and training is to give young people with widely differing initial qualifications the opportunity of training for the approximately 350 recognised training occupations. Formally, the only precondition for access to vocational training is completion of lower secondary schooling. The period of training is generally three to three and a half years. It may be shortened for young people with upper secondary leaving certificates and for high-performance trainees. The trainees receive training pay averaging about a third of the wages of skilled workers.

3 : The average duration of studies for a degree in 1998 was 5.9 years at universities and 4.7 years at polytechnics. The actual attendance time from registration until the first degree examination was even longer: 6.7 and 6.1 years (BMBF 2000a, p.242).

4 : A trainee with an upper secondary school leaving certificate can of course begin university-level studies immediately upon completion of training.

In the dual system, young people can acquire vocational skills and industrial experience in legally recognised occupations, and by means of (obligatory) part-time vocational school attendance one or two days a week they can also improve their theoretical knowledge and to a lesser extent their general education as well. The German system of recognised occupations places clear emphasis on the development of a wide range of vocational skills. The involvement of the Federal and Land governments, employers' organisations and trade unions has helped in uniformly making vocational capacity the goal of the dual system of vocational training.[5] The vocational capacity of skilled workers is interpreted as the ability to plan, execute and evaluate skilled work independently. This requires not only vocational expertise but also methodical and social competence as well as personal competence.

At the end of their training the young people receive a certificate that is recognised at the national level and is of great importance for entering the labour market for specialised personnel and for their remuneration as skilled workers. The portability of the certificates is promoted by the uniform reference framework and the close integration of management and labour in the overall regulation of training. On the one hand, this enables the companies to structure their work organisation in accordance with the supply of qualified workers or if necessary to insist on the relevant adjustments in examination requirements. On the other hand, the certificates enable individuals to obtain work in similar positions in other companies and organisations. This is a considerable incentive for them to take formal vocational training.

The apprenticeship pathway is not only highly institutionalised, but it depends on the decisions taken in each firm in which recognised occupations and training firms young people end up. The range of choices for young people is especially limited at times when the demand for in-plant training places exceeds the regional supply. In addition, admission to the final examination generally depends on completion of the entire training programme. Certification of completion of parts of the curriculum and their accumulation as credit towards a final certificate has been possible up to now only in exceptional cases. Moreover, the training programme is the subject of a contract at the beginning of training, so that few choices are open to the individual later.[6]

1.3. School-based vocational pathway

The training programmes for full-time vocational schools (basic and higher vocational schools, vocational colleges) comprise a third pathway for young people to pass from school to work. In comparison to the other two, however, this pathway is much more diversified, since the training programmes in these vocational schools have differing functions. They have

5 : This means that all certificates in the dual system are formally assigned to one level of difficulty.

6 : A core plus option approach has increasingly been applied in the reorganisation of training in recent years (Reuling 2000). Whether this tends to expand the choices of companies or of trainees is still an open question.

firstly a residual function, since they offer vocational training, for instance, for the public health and care sectors for which there are no courses of training in the dual system.

Secondly, and this applies in particular to the eastern German *Länder*, the training programmes of the full-time vocational schools have been assigned the function of a substitute for dual vocational training in recent years. Since the in-plant training supply in eastern Germany is far from meeting the demand for training places, full-time vocational schools also supply vocational training for occupations which would normally only be offered within the dual system of vocational education and training.

Thirdly, the training programmes of the full-time vocational schools have a bridging function between the general and the vocational pathways, since they are attempting to provide both general and vocation-specific contents, with the vocation-specific content often dealing with an occupational field as a whole. The duration of these training programmes is usually two to three years, and they lead to fully qualifying certificates. With these certificates the young people can either enter the labour market or continue their vocational school training, optionally up to their entrance to a polytechnic.

Finally, the full-time vocational schools also offer partially qualifying education programmes to provide young people with the basics for a subsequent vocational training within the dual system. This gives these programmes an additional absorption function: getting young people without a training place off the streets and giving them the chance to fulfil their compulsory (vocational) education duties and to acquire a general certificate. However, the duration of this type of partially qualifying education at full-time vocational schools is often not taken into account in case of a subsequent vocational education within the dual system.

Following from the differing functions served by these training programmes, they vary in their entrance requirements, their duration, the share of practical vocational content and especially in the recognition of their leaving certificates by the labour market. The training programmes at full-time vocational schools (except for health and care occupations and in the scientific and technical sector) are not as strongly focused on the labour market as the courses of training in the dual system. For students graduating from these programmes it is therefore more difficult to find a job than, for example, for dual system graduates.

Another factor contributing to the limited attractiveness of full-time vocational schools for young people is the fact that in some cases tuition fees have to be paid for attending the schools. Even when attendance is free, the participants are eligible for government pay only if they lack financial means, and this training pay is then generally lower than in the dual system, for example.[7] On the other hand, one advantage of successfully completing a fully qualifying education at a full-time vocational school is an easier transition to further vocational training, including the entrance to a polytechnic.

7 : In 1999, trainees earned on average 1088 DM per month in western Germany and 944 DM in eastern Germany (BIBB 2000a).

2. Connections between general academic and apprenticeship pathways and the transition into university level education

The general academic pathway and the apprenticeship pathway are the central ways for young people to pass from school to working life. Part of the attractiveness of the apprenticeship pathway lies in its strong focus on the labour market and its goal of directly preparing young people for entering jobs as skilled workers. This strong focus, however, has also lead to an emphasis on the independence of this pathway from the general academic one.[8] Strengthening the system of vocational training and its attractiveness by linking the general academic pathway more closely with the apprenticeship pathway, thereby allowing easier transitions between the two, would be an alternative strategy (Raffe 1998).

This distance has especially disadvantageous consequences for the transition from the apprenticeship pathway to the university (Laur-Ernst 2000). The traditional career path of a dual system graduate is to enter into a job as skilled worker, with the option of taking the master craftsman examination after three years in the job. The master craftsman certificate also serves as university entrance entitlement, limited to certain subject areas and involving the necessity to take additional general academic courses and to acquire certificates. Alternatively, dual system graduates can attend a full-time vocational school (a specialised technical school, for example) to expand their knowledge, thus becoming qualified for specialised jobs above the level of skilled worker. Full-time vocational school graduates can also, under certain circumstances, acquire the qualifications for entering into higher education. There are some disadvantages to these career paths apart from their duration.[9] Acquiring the master craftsman certificate or passing the technical school exams is already a difficult task for many applicants. But even of the successful graduates of the master craftsman or technical school examinations, only very few manage to pass the high barriers for entering into university level education. An important reason is the above-mentioned fact that both full-time vocational school education and, especially, master craftsman training are geared towards the practical requirements of the job and not the requirements of the university. There have been some improvements with regard to recognition of vocational training qualifications and the requirements for entering universities and polytechnics. All in all, however, there has been no real breakthrough in linking general academic and vocational training programmes and consequently in opening career options for dual system graduates (Laur-Ernst 2000).

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8 : Apprentices do receive one or two days of general and vocation-specific education per week in vocational schools. However, the traditional system of teaching subjects has been abandoned in recent years, giving way to a more general approach with a stronger focus on the acquisition of vocational skills.

9 : Three years of practical experience in the given job are required for admission to the master craftsman examination, two years for the full-time vocational school. Although applicants can begin the training courses for the master craftsman examination during these three years, this only happens rarely. Most applicants take these courses after the practical period, for a duration of approximately another two years (Laur-Ernst 2000). However, a university entrance entitlement can also be acquired without these formal certificates, following guidelines specific to each federal Land. A certain age, a completed vocational training, several years of work experience, special aptitude tests and a probationary period of studies are common prerequisites.

Two complementary strategies in vocational training policy have been employed to provide graduates of the dual system (without upper secondary leaving certificates) with opportunities to enter into higher education. The first strategy, developed already in the 1980s, focuses on establishing specialised upper secondary schools (and comparable school types) as bridges from the vocational to the general academic pathway. Anybody with a completed vocational education (for example in the dual system) can acquire the entitlement for entering a polytechnic in a one year programme.[10] This pathway has become very attractive for some of the higher qualified dual vocational training graduates, since it allows them to fulfil their aspirations for higher education and occupational advancement through their own efforts, independent of the decisions of the employer (Althoff 1999). This pathway exemplifies how transitions between the different pathways can be made easier by reducing the distance between the vocational and the general academic pathway. However, this pathway only allows entrance to polytechnics and not directly to the university.

The complementary strategy strives to make the training courses at polytechnics more practically oriented. The extension of dual courses of study in the tertiary system, for example, has been demanded since the mid-nineties, with the goal of underlining the independence and equivalence of the vocational and dual pathways in comparison to the general academic one (Dybowski u.a. 1994). A number of pilot schemes have been implemented in Germany in the past few years, practically testing the integration of dual training programmes at post-secondary technical schools into the vocational pathway (BIBB 1999). It remains to be seen whether this offering provides a real career option for graduates of the dual system without upper secondary leaving certificate, but with a university entrance entitlement.

3. Transitions from school to vocational training and working life

Owing to the importance that the (dual) vocational training pathway has for access to the labour market and for supplying the economy with skilled workers, there is a permanent education policy interest in Germany in the functioning of this pathway. This interest is reflected, for example, in the 1981 Vocational Training Promotion Act under the terms of which the Minister of Education and Research is required to inform the Federal Government about the regional and sectoral development of the supply of in-plant apprenticeships and the demand for them. It is useful to distinguish between two transition periods when analysing the apprenticeship pathway: the transition from the general schools to vocational training courses and the transition from vocational training courses to the employment system.

10 : In 1998 more than 26% of German polytechnic entrants had a specialised upper secondary school leaving certificate as their entrance entitlement (BMBF 2000a, p.188).

3.1. Transition from the general schools to vocational training courses

The intake of 16- to under 19-year-olds to the grammar schools [*Gymnasia*] has continually increased over the past 20 years. It amounts to approximately 34% of a year's age group (1995).[11] Nevertheless, the dual system remains the most important vocational training path for young people of this age group (56%). The importance of the dual system is further increased by the additional approximately 24% of school leavers with university access entitlement (*Abitur*) who commence training in the dual system (Alex 1997; BIBB 2000b).

This transition from the school to the dual system, however, does not take place without friction. As a result of the increasing shortage of in-plant training places since the first half of the 1990s, a growing number of a year's age group attend various educational establishments of secondary school level II. It is above all young people with poor school leaving results, young women (in certain parts of the New *Länder* of eastern Germany) and migrant youth who are affected. In particular, the vocational full-time schools give young people who have not found a training place the opportunity of achieving a partially or fully qualifying training as well as a higher school-leaving qualification level. Vocational full-time schools largely fulfil a buffer function for the dual system. They do not fulfil this function however for vocational full-time schools of the health system.

A direct transition from secondary school level I to the labour market is hardly possible for young people under 18 years of age. Even when young people do not start vocational training, they must attend the (part-time) vocational school for two days until attaining the age of 18. Of all the (part-time) vocational students, between 5% and 7% may be without a training contract, some are in (part-time) employment. By and large there is not a labour market in Germany for young people under 18 years of age.

Access to the dual system is also influenced by the structure of the training supply. Since production occupations are over-proportionally on offer in the dual system and service occupations are under-proportionally on offer (in comparison to the occupational structure of the employment system), only half of the female youth of an age group go through a dual [in-plant/vocational school] training, while it is almost three-quarters for the male youth. Training is also provided for the service sector in full-time vocational schools and schools of the health system.

The number of secondary school leavers in the dual system steadily increased during the nineties. It would be even higher if all applicants were given a training place (Ulrich & Krekel 2000). There are various reasons for the increased attractiveness of the dual study courses for school leavers with university entrance entitlement: some find it difficult to

11 : The actual proportion of adolescents and young adults with university entrance entitlement would probably be about 38%, since such entitlement can also be acquired outside the Gymnasia.

obtain the study place of their choice because of poor marks in their final examinations. While women are more likely to renounce post-secondary studies than men, they tend to go to full time vocational schools, especially those in the health and care sectors, rather than into the dual system. And finally, school leavers with university entrance entitlement who train in the dual system in order to study afterwards expect some sort of basic qualifications enabling them to hold their own on the labour market (Ulrich & Krekel 2000). Of the approximately two-thirds of any age cohort between16 to 26 taking up training in the dual system, about 16.5% had university entrance entitlement at the end of 1998.

The functional mechanisms of the training place market are important for access to the individual regulated occupations and firms providing training in the dual system. The training place applicants are selected in accordance with enterprise related/in-house selection criteria. The selection processes based on the selection criteria of the individual firms providing training lead to a segmentation of the training place market according to criteria such as educational background, sex or nationality of the applicant. Firms do not always favour the applicants with the best school-leaving results however. Trainees with entitlement to study are especially frequent in the service sector. The preferred occupations are in banking and in the new field of information and communications technology as well as in the media.

The declining in-plant training supply in the 1990s and the undersupply in the new *Länder* of eastern Germany and other structurally-weak regions, together with the selection mechanisms of the training place market, have led to an undersupply of training places for 'disadvantaged' youth. Since it was also difficult for the disadvantaged to receive a training place in the past when there were more places on offer, this group of people is offered a full training in external training workshops, complemented by in-plant training phases. These training places are financed with the help of state programmes. The young people receiving support through such programmes often lack important prerequisites for taking up vocational training. Moreover, they can often complete such training later only with special assistance. It is difficult to expand the number of in-plant training places for these young people, since looking after them is more than the plants can manage.

In addition, the lack of in-plant training places in East Germany has led to special *Länder* programmes for young people with an intermediate school leaving certificate ('market disadvantaged'). However, the training success of many of these measures is doubtful, since those completing the training have too little in-plant experience. This also applies to the new models that are being tested in particular in eastern Germany in which dual training certificates can be obtained in full-time vocational schools (including periods of in-plant practical training). Apart from the general shortage of jobs in the eastern German *Länder*, the key problem is that these certificates are not generally accepted to the same extent as those acquired through training in the dual system. All in all, between 100 000 and 150 000 young people of a given age cohort in Germany can probably be counted among the socially and market disadvantaged.

In all fields of upper secondary education there is a rising or consistently high proportion of students who abandon their training. With this group, however, a distinction should be drawn between those who dissolve their training contracts and those who do not obtain their skilled worker qualifications. Of the apprentices in the dual system, between 20% and 25% break off their training contract prematurely. About 40% of these young people continue their training in another enterprise or take another educational path (school or college). For the remaining, the situation on the training place market or job market has worsened considerably in the last few years. If one takes into account, in addition to these young people, those who conclusively fail the final examination, about 16 to 18% of the beginners of a dual training do not successfully conclude it.[12] In 1998, 19% of the young adults in Germany between the ages of 20 and 29 were in training, a good two-thirds had completed vocational training (68%) and about 12% had no vocational training certificate. The latter were above all foreign young people or young people who had not completed school.

3.2. Transition from the dual system of vocational training to the employment system

After successful completion of training, about 58% of those who had completed their training (in the Old *Länder* of West Germany) in 1997–98 moved into an employment relationship in the firm providing training (BMBF 2000b, ch.4.2). These employment relationships are often temporary. Seen as a whole, the chances for trainees of being taken on have decreased somewhat in the last few years. The chances of being taken on for young people in the new *Länder* are generally worse (acceptance rate of 46%). The chances of being taken on are dependant on the current business situation of a firm, on the branch of commerce or industry (81% in the lending and insurance businesses versus 23% for publishers and 37% for restaurants and the hotel industry), they increase with the size of the firm providing the training and with the performance of the trainee. Being accepted into employment after completion of training is sometimes regulated in collective agreements. Fundamentally, in the dual system, the training places market functions for many firms as a 'pre-selection market' for future labour. In particular, firms with higher net training costs orient their training supply closely on their own need for specialised personnel and also take care that their training costs are amortised afterwards. In so far, the young people have difficult access to these training-providing firms, but they also have greater chances of being taken on, if they perform satisfactorily.

About 27% of those who complete their training in the dual system (39% in the new *Länder*) are at first unemployed. This number has already been considerably reduced within three months however. This means that the transitional phase into work is relatively brief for

12 : Incidentally, the discontinuation rates are even higher in the tertiary sector. About one-third of the students leave the universities without obtaining a degree (Lewin u.a. 1995), as do about 18% to 20% of the students at polytechnics. The most common reason given for discontinuing studies is 'remoteness from course content and study goals'.

most of those who complete their training. In comparison over time, however, youth unemployment in Germany has continuously increased since 1993. According to calculations from EUROSTAT, unemployment was 9.8% for under-25s in 1998. There are however big regional differences. The decisive reason for increasing youth unemployment is the drop in acceptance offers for young specialised personnel who have just completed their training and the increase in external training, with those completing their training externally also having poor chances of being taken on in employment. However, youth unemployment in Germany is lower than adult unemployment.

A change of occupation often takes place after vocational training and in the first two years of work and sometimes a change of firm as well. The reasons for this can vary greatly. For example, the discrepancy already mentioned between the structure of the regulated training occupations and the structure of occupations in the employment market is evened out by those who have completed their training through considerable occupational mobility processes. A change of occupation can also, for example, be undertaken because the new occupation is more attractive for the individual.

Of all employed persons with vocational training certificates (below university level) in the old German *Länder*, only about 16% work in jobs for which they are over-qualified; in the new *Länder* the figure is about 25% (Reinberg 1999). In the western German *Länder* the level of employment under worth for skilled workers who have completed vocational training has fallen in the last few years. In eastern Germany, on the other hand, it has risen somewhat, presumably owing to the structural change in the eastern German economy. The situation may differ for young people to the extent that after completion of vocational training there are substantial processes of rotation between the crafts or industrial crafts sector and the service sector. This rotation may well demand considerable qualification efforts by those affected before they can do the job of a skilled worker. The overall figures, however, indicate that these qualification differences level out over time. It can therefore be assumed that the differences in income between those trained in the same occupation and those changing occupations level out over time.

Vocational qualifications in the dual system are determined with an eye to access to the labour market. After a few years of experience as a skilled worker, graduates of the dual system can obtain their master craftsman or technician's certificates or equivalent certificates in the service sector. This traditional path to vocational advancement has come under pressure in the last few years, however. The number of people acquiring intermediate-level vocational training certificates has dropped sharply. This is partly due to inadequate financial support of those attending the corresponding courses. The fact that due to the flattening out of company hierarchies middle management positions tend to disappear or increasingly to be occupied by polytechnic graduates may be more relevant, however. In this respect, opportunities of access to the tertiary sector continue to gain in importance for dual vocational training graduates.

4. Requirements for government vocational education policy and future lines of development

The traditional pathways for young people from the school through university or dual vocational training to work are relatively clearly defined in Germany. The transition to working life via the full-time vocational schools has a relatively small role to play in terms of numbers. As far as dual vocational training is concerned, it is a front-end model leading to the first job. The existence of occupational labour markets, the austere structure of the vocational training system with its institutionalised relationships between government, school and economy as well as the inherited social values are vital conditions for its survival. This model has certainly proved its value in the past, if we see the high rates of participation in vocational training and the level of formal vocational certificates achieved at the upper secondary level as indicators. However, the empirical data also point to problems in young people's transition from school to work. These problems are posed in the actual length of the pathways, in the lower degree of acceptance of alternative pathways in the labour market and generally in the limited flexibility of the existing pathways.

For young people aspiring to vocational education in the dual system the length of the phase of transition from school to the first job is closely connected with the supply of in-plant training places. If the supply is inadequate, young people are often moved to pursue programmes in the full-time vocational schools until they have found an in-plant training place. This addition of programmes is seen also, incidentally, among school leavers with university entrance qualifications. In order to improve their chances on the labour market they first take a course of training in the dual system and then begin their studies at the university level. Vocational training policy in Germany is generally directed towards facilitating access to the dual system by increasing the supply of in-plant training places. This primarily involves appeals to companies to offer more training places, supported by the employers and employees organisations and the professional associations. Other important points of departure include the improvement of the general conditions for in-plant training and financial support for firms providing training (Bündnis für Arbeit 1999).

Another problem is that those pathways that are supposed to replace the apprenticeship pathway are less accepted. Because of the shortage of in-plant training places, such alternative training opportunities have been provided in the past by government agencies. These comprise external or extra-company training workshops for socially disadvantaged young people and the expansion of full-time vocational schools in which dual training certificates can also be acquired. These training programmes are less appreciated in the labour market, however, than the dual training programmes, and they make the transition to the first job more difficult. To some extent these problems are also connected with the traditional strength of the dual vocational training certificates in the labour market.

On the whole, vocational education policy is directed towards strengthening the apprenticeship pathway to such an extent that every young person who wishes to and is

qualified to start vocational training in the dual system has access to an in-plant training place. The government agencies proceed not just from financial considerations but primarily from the conviction that the proximity of in-plant training to the current labour market facilitates the trainees' transition to their first jobs and at the same time meets the current skills requirements of the companies (BMBF 2000b). Equally important is the qualitative improvement of this pathway through the creation of a training supply that meets future demands.

The third question confronting vocational training policy is whether the existing pathways are not too rigid. It should be plausible enough that with the evolution of a knowledge society the traditional fixed career models come under pressure and that as a consequence greater individualisation of the pathways appears desirable (Laur-Ernst 2000). A certain degree of flexibility has been achieved in the apprenticeship pathway in the last few years by increasingly making optional units a feature of new training regulations. In addition to this, with the aid of supplementary qualifications acquired during or immediately after training, initial and further vocational training are to be linked together and easier and more flexible transitions are to be promoted.

It is these supplementary qualifications (or individual units), which can include both general and vocational educational content, that are seen as the central instrument for promoting the development of individual competence. The expansion and application of this instrument could then have the effect that the period of transition to working life would be more varied and would extend beyond the first job. It could also facilitate the transition to the university level studies. There is currently a wide selection of such supplementary qualifications. Increasing diversification, however, entails the risk of diminishing transparency of what is being offered and hence the diminution of its value for further educational careers and/or the labour market. More transparency and coherence of further training opportunities is therefore one of the substantial challenges facing vocational education policy if the aim is not only to make the transition to working life possible for young people but also to promote their employability and their career development.

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16

Pathways for youth in Australia

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Introduction

The concept of 'pathways' has been a powerful organising idea in Australian education and training over the past ten years. The imagery of the pathway, with its sense of order and structure, and linked education and training experiences that lead to employment, has had a significant impact on Australian policy.

Two related trends have been affecting young people: a rapid decline in the number of full-time jobs available to 15–19-year-olds; and increasing education participation rates among 15–24-year-olds. In this environment policy makers have used the pathways concept in pursuing two major objectives:

- to strengthen or even create pathways that connect schooling and work for the majority of young people who neither enter university nor obtain an apprenticeship after leaving school
- to help young people navigate their way through the increasingly complex array of education and training options that are now available

Australia has not been alone in engaging in 'pathways engineering' during the 1990s. As the recent OECD comparative review of education-to-work transitions in 14 countries reported, most countries have been attempting to make the pathways by which young people move from school to work more attractive, open and flexible, and to provide more opportunities to combine vocational learning with general education (OECD 1999). A common motivation in these policy initiatives has been the desire to better prepare young people for an increasingly uncertain economic and social future. The pace of change is so rapid that individuals need to acquire new skills and knowledge throughout their adult lives to maintain their employability and capacity to engage effectively in society—in other words, to be active lifelong learners. There is a growing recognition that a successful transition to work depends on having a sound foundation for further learning, as well as having skills that the labour market requires now.

Although many of the pathways policy initiatives adopted by OECD countries during the 1990s share similar rationales and objectives, the particular forms they have taken in each country have been greatly influenced by existing education and labour market structures and approaches to policy making. This paper attempts to provide an overview of the main features of education and training pathways in Australia and the policy challenges they give rise to.

What are pathways?

The term 'pathways' first started to be used widely in Australia with the publication in 1991 of *Young people's participation in education and training* (the Finn Review, Australian Education Council). The report argued that the concept provided a useful mental image to explain the various combinations of education, training and employment activities which individuals may undertake over time to reach a destination such as a desired qualification or type of employment.

The imagery of the pathway had five main elements as used by Finn:

- a set of interrelated experiences providing for progression
- education and training should have a sense of continuity even when individuals cross institutional and sectoral boundaries
- young people should have access to a range of different pathways and should be able to move from one to another without losing ground
- there is a need for effective credit transfer and articulation arrangements to provide smooth bridges between pathways
- signposts (information and career advice) are needed at the start of each pathway and at each junction between pathways

Each of these elements of a coherent structure of pathways through education and training and into work has figured in various ways in the policy reforms of the 1990s. The Finn Committee's analysis suggested that in each of the above respects the then scope and structure of pathways in Australia was deficient. The committee proposed wide-ranging reforms, including the greater provision of vocational learning opportunities for secondary school students, the facilitation of student movement between the school, Technical and Further Education (TAFE) and university sectors, and the establishment of national targets to help lift young people's educational participation and attainment.

Despite the substantial reforms during the 1990s that drew in large measure on the Finn Committee's pathways imagery, analyses and recommendations, it is perhaps fair to say that a decade later there is still considerable disquiet in Australia about the nature and functioning of the pathways open to young people. In late 1999 the federal Prime Minister established the Youth Pathways Action Plan Taskforce. The taskforce contained representatives of federal

and state departments of education, training, social welfare and family services, employers, academics, and young people. The taskforce is significant not only for its high-level policy origins and broad representation, but for the fact that it is charged with developing a pathways action plan that encompasses not just young people's transitions through education and into the labour market—which was the main focus of the 1991 Finn Committee—but their transition to independence, broadly defined. The final section of this paper returns to consider this broader conception of pathways, but for the moment the discussion concentrates on the concept of pathways as it is more commonly used and understood.

Analysing education and training pathways

Although education and training pathways have become a familiar policy metaphor in most OECD countries during the 1990s, the pathways concept has proven difficult to apply and identify empirically (OECD 1998). Most attempts have used one of two approaches:

- By what policy makers intend. This approach focuses on the institutional and formal opportunities that various counties have in place or are implementing. This tends to be the forward-looking perspective on pathways. The limitation of this approach is that the pathways may be more symbolic than real, for example the chance for an apprenticeship qualification to be recognised for university entry.
- By what young people do. This approach focuses on the journeys that young people make, or the itineraries they follow, which may not always coincide with the formal structures on offer. However this tends to be the retrospective perspective on pathways: you only know that a pathway exists once some young people have gone down it.

The need is for an approach that recognises that a 'system' of pathways results from an interaction between the pathways designs and reforms of policy makers on one hand, and the decisions by young people and their families on the other. Indeed, it could be argued that the greater the emphasis of policy makers on providing flexibility and choice in education and training, the more likely it is that pathways will only become apparent after young people have made their decisions at different points.

This paper attempts to provide such an approach by discussing the major policy changes in Australia alongside a detailed analysis of an extensive longitudinal data base that maps the actual pathways followed by young Australians as they move through secondary school and into tertiary education and/or the labour market.

Pathways in Australia: An overview of features and issues

The recent OECD cross-national review of education-to-work transition suggested that Member countries could be broadly classified into four main groups in terms of their dominant upper secondary pathways (OECD 1999).

- Apprenticeship countries in which more than 50% of young people participate in apprenticeship-type arrangements (e.g. Germany and Switzerland).
- Quasi-apprenticeship countries in which between 20 and 50% participate in apprenticeship-type programs, and less than 50% in general education programs (e.g. Austria, Denmark and Norway).
- School-based vocational education countries in which more than 50% are in vocational programs, but less than 20% in apprenticeships (e.g. the Czech Republic, France and the United Kingdom).
- General education countries in which more than 50% take part in general education programs (e.g. Australia, Japan and the USA).

The OECD analysis drew on 1996 data which indicated that at age 16—the first year after compulsory schooling—94% of young Australians were enrolled in general education programs, and only 3% were in apprenticeship-type programs and 2% were enrolled in school-based vocational programs (OECD 1999). By contrast the distribution of enrolments in Germany at around the same age was 24% in general education, 24% in school-based vocational education, and 52% in apprenticeship-type programs. Although the report acknowledged that in Australia participation in apprenticeships tended to increase over the 16- to 19-year-old age range, such that by age 19 around 20% of males are in an apprenticeship (but only about one-third that many females), and that school-based vocational programs have grown substantially since 1996, it is still fair to say that Australia and Germany provide markedly different pathways for their young people.

Although care is needed in the application of terms such as 'general' and 'vocational education' in different countries (e.g. 'general' education in Australia is probably not as general as in many other countries) the OECD classification is useful as it suggests some of the ways in which education-to-work processes and outcomes differ in Australia from other countries. The classification also serves as a useful reminder that just because two countries are similar in terms of the distribution of enrolments by program type, it does not mean that they are alike in other aspects of the school-to-work transition. For example, both Japan and Australia have a high proportion of young people enrolled in general education programs in secondary schools, but the close relationship established between Japanese schools and local employers means that young Japanese usually experience a shorter and more direct transition from school to work than do young Australians.

McKenzie (1998) drew on the OECD review to argue that young people's pathways through education and into work in Australia can be characterised more as *individually constructed* than as *institutionally based.* All students attend a comprehensive form of secondary school in which, until recently, there were few options open for young people who did not want to proceed to university. By contrast, the post-school education and training sector is extremely diverse, and becoming more so, with a wide range of institutions, program areas, qualifications levels, and different forms of enrolment (including part-time, modular and off-

campus).

A high proportion of full-time students hold part-time jobs, although generally not in the areas they are studying. Students do not specialise in particular curriculum areas until a relatively late age (sometimes not until reaching tertiary education at age 18 or 19), and the qualifications they obtain at different points in the education system often do not give them direct access to particular types of jobs or occupations. Rather, the emphasis is on signalling young people's employability and trainability to employers via the level of education completed.

McKenzie argued that these arrangements in Australia stem from the fact that the interface between education and the labour market is relatively *loosely coupled* compared to the more *tightly-connected* interface that characterises countries such as Germany. In loosely coupled systems employers and trade unions play a relatively limited role in the education and training system. Labour markets in such countries tend to be organised around broad employability attributes rather than specific occupational qualifications. The labour markets are relatively open and flexible and subject to comparatively little government regulation.

Secondary education in loosely coupled systems like Australia tends to have a strong emphasis on general education oriented to university study, modularisation of curriculum provision and courses, and highly individualised pathways connecting education and work. Under the Australian approach, most young people acquire their vocationally-specific skills on-the-job, rather than prior to entering employment.

It is worth noting, though, that Australia provides substantial opportunities through the Technical and Further Education (TAFE) and university sectors for adults to obtain second-chance education and to build new skills. Australia has one of the highest enrolment ratios in tertiary education among OECD countries for people aged 25 years and over. In this sense, therefore, vocational education and training in Australia can be characterised as less focussed on the young than in many other countries.

The Australian approach to education and training offers great flexibility to young people, especially in the tertiary education sector. However, on the downside Australian education perhaps offers less certainty for young people than in countries where there is a tighter connection between the education and labour market systems. Those who leave school early in Australia without any recognised qualifications can tend to struggle to find stable work. Because of the relatively strong emphasis on general education programs up to the end of secondary school, early school-leaving tends to be associated with a disadvantaged social background and difficulty in coping with school.

There has been increasing awareness at policy level of the need to both reduce early school leaving and to have effective safety-net measures so the problems of early school leavers in the labour market do not intensify earlier disadvantages. However, as noted later in the paper, it

can be difficult to gain the necessary policy co-ordination across different levels and portfolios of government in Australia to put effective safety nets in place.

The fact that labour markets in loosely-coupled systems such as Australia are relatively open and less dependent on occupationally-linked qualifications means that young people are able to try a variety of jobs as part of the career maturation process. Because much of the employment of young people is part-time and casual in nature (including many of the jobs held by students), the early work experiences of young Australians are often episodic and fragmented.

Since the tertiary education system has a great variety of institutions and programs, and access to tertiary education can be obtained in a number of ways, there is a need for up-to-date and comprehensive information and counselling services to assist young people and their families learn about and navigate through the study and work possibilities that are now available. As discussed later in the paper, one of the current major policy concerns is how best to provide such services.

Which young people take which pathways?

The most detailed analytical work on which types of young people follow which types of pathways, and with what effects, has been conducted by Stephen Lamb from ACER using data from the Longitudinal Surveys of Australian Youth (LSAY) program. LSAY is a program of national longitudinal studies that is jointly managed by ACER and the federal Department of Education, Training and Youth Affairs (DETYA).

The particular study reported here followed a sample of around 2200 Year 10 secondary school students from the late 1980s for seven years until the mid-1990s (Lamb & McKenzie 2001; Lamb 2001). By that time sample members ranged in age from about 23 to 25 years. The Year 10 level in Australian secondary schools is around the time that compulsory schooling concludes, and from that point onwards young people are able to choose whether to leave to seek employment, including trying to obtain an apprenticeship or traineeship that is linked to employment, or whether to continue with their studies. The Lamb analyses show that different types of young people make different types of decisions, and that they experience markedly different pathways to employment as a result.

In broad terms, 43% of the sample had obtained a university degree or at least associate diploma qualifications from the technical and further education sector, or were studying for such qualifications in the seventh year after leaving school. The majority (57%) of school leavers did not obtain such relatively high-level tertiary qualifications in the seven years after leaving school. Of this particular group 13% (or around 7% of the cohort overall) obtained an apprenticeship-type qualification.

Table 1. Percentage distribution of Year 10 students in the late 1980s by whether they obtained tertiary qualifications over the seven post-school years to the mid-1990s, by selected background characteristics

Characteristic	Original sample of Year 10 students			
	No tertiary qualification or current study (%)	Tertiary qualified or still in study (%)	Total (%)	n
Gender				
Males	62	38	100	1062
Females	52	48	100	1106
Socio-economic status				
Lowest	70	30	100	456
Lower middle	60	40	100	658
Upper middle	47	53	100	494
Highest	39	61	100	352
Parent's education				
Secondary school or less	67	33	100	1234
Some postsecondary	53	47	100	362
University	33	67	100	517
Ethnicity				
Australian-born	58	42	100	1682
Other-English	61	40	100	157
Non-English-speaking	48	52	100	329
Residence				
Urban	52	48	100	1491
Rural	67	34	100	677
School type				
Government	65	35	100	1487
Catholic	40	60	100	439
Independent	35	65	100	242
Disability				
No disability	56	44	100	1979
Disability	63	37	100	189
School attainment				
Early school leaver	92	8	100	564
Year 12	44	56	100	1587
Total	**1229**	**939**		**2168**

Source: Lamb & McKenzie (2001)

Table 1 records the distribution of the cohort according a range of personal and social background factors. Those without tertiary qualifications were more likely to:

- be male (62%) than female (52%)
- have parents from the lowest group of socio-economic status (70%) than the highest group (39%)
- have parents from the educationally least qualified group (67%) than parents with a university degree (33%)

- be from an Australian-born (58%) or other English-speaking background (61%) than from a non-English-speaking background (48%)
- have lived in a rural (67%) than in an urban (52%) location
- have attended a Government secondary school (65%) than a Catholic (40%) or Independent (35%) secondary school
- have a disability or other health problem that limited the work they could do (63%) than no such disability (56%)
- to have left school early (92%) rather than having completed Year 12 (44%)

The other key influence on the likelihood of entering tertiary study is achievement at school, as measured by literacy and numeracy tests at age 14. Such data were not available for the cohort analysed in this paper. However, analyses of a younger cohort who were in Year 10 in the early 1990s show that as well as the patterns described in table 1, young people who take the university or TAFE diploma route after leaving school are generally higher achievers in school. Nearly 60% of those in the highest quartile of literacy and numeracy achievement at age 14 were studying for a university degree or TAFE diploma three years after school, or had gained the qualification, compared to only 12% of those in the lowest quartile of achievers.

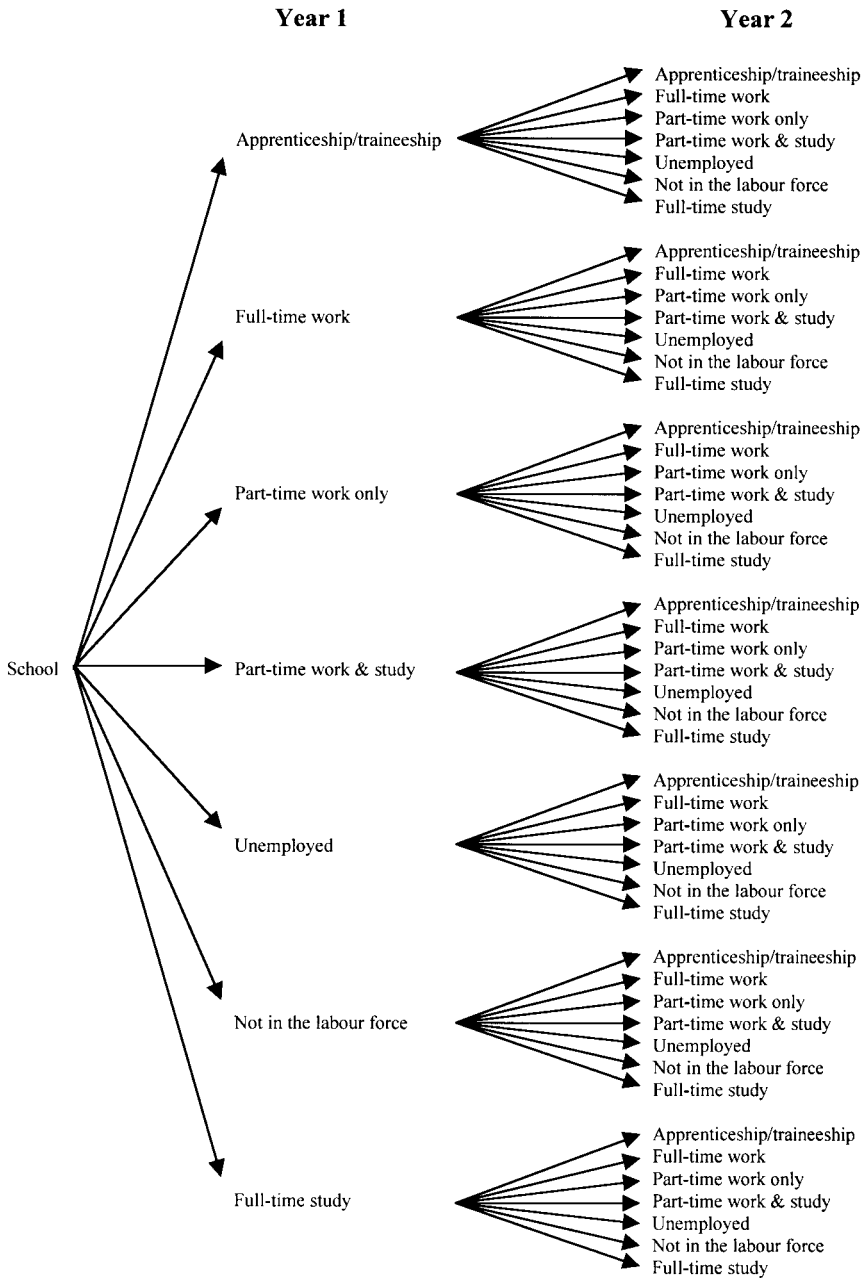
Mapping pathways to employment

The longitudinal data allow a detailed mapping of young people's education, training and labour market experiences over time. In the study concerned, the data were collected annually and were based on calendar data on week-by-week experiences. These data were used to identify the young person's main activity in each of the seven post-school years. Seven broad types of activities were used in the classification; these are illustrated in figure 1 for the first two post-school years. For example, as the model shows, while the principal activity in year 1 after leaving school may be an apprenticeship or traineeship, it is possible that in year 2 the apprenticeship may be continued or the young person may leave that for full-time employment, or become unemployed and so on. In fact, as may have been expected, the particular activity in any one year is a major determinant of the activity in the next year. Young people who are in full-time employment in year 1, for example, are more likely to be in full-time employment in year 2 than someone who is unemployed in year 1, other factors equal.

In looking at the combinations of activities across the whole seven years it is possible to identify around 500 different patterns of activity in the transition from school experienced by the 1229 sample members who did not obtain a tertiary qualification (or around 2.5 persons for each pattern of activity). Among the group of 939 sample members who did obtain a tertiary qualification, around 300 different patterns of activity were evident over the seven post-school years (or about three persons per pattern of activity on average). The largest number of these patterns were experienced by just one person, and many other

patterns by fewer than 10 people. Only 20% of the group who did not obtain tertiary qualifications (or 11% of the cohort overall) were in full-time employment in each of the seven post-school years. The diverse patterns of activities evident from these data reinforce the point that young people's post-school pathways in Australia are highly individualised.

Figure 1. Illustrative model of the possible patterns of combined activities over the first two post-school year



Those without tertiary qualifications

To abstract from the mass of detailed individualised data the analysis grouped similar patterns of activity that can be viewed as pathways. For the group that did not obtain tertiary qualifications eight pathways were defined:

1. Those who obtained a full-time job on leaving school and remained in full-time work across the seven years.
2. Those who gained an apprenticeship or traineeship followed by full-time work.
3. School leavers who participated in full-time further study before entering full-time employment.
4. Young people who experienced a brief period (no more than 24 months) of unemployment, part-time work or not in the labour force, but were in full-time work for the remainder of the seven years.
5. Young people who experienced an extended period or periods (3 to 4 years) unemployed, in part-time work or not in the labour force, but were in full-time employment for the rest of the time.
6. Those who worked mainly part-time for the seven years (four years or more).
7. Those who were unemployed for the majority of the time (four years or more).
8. Young people who were mainly not in the labour force.

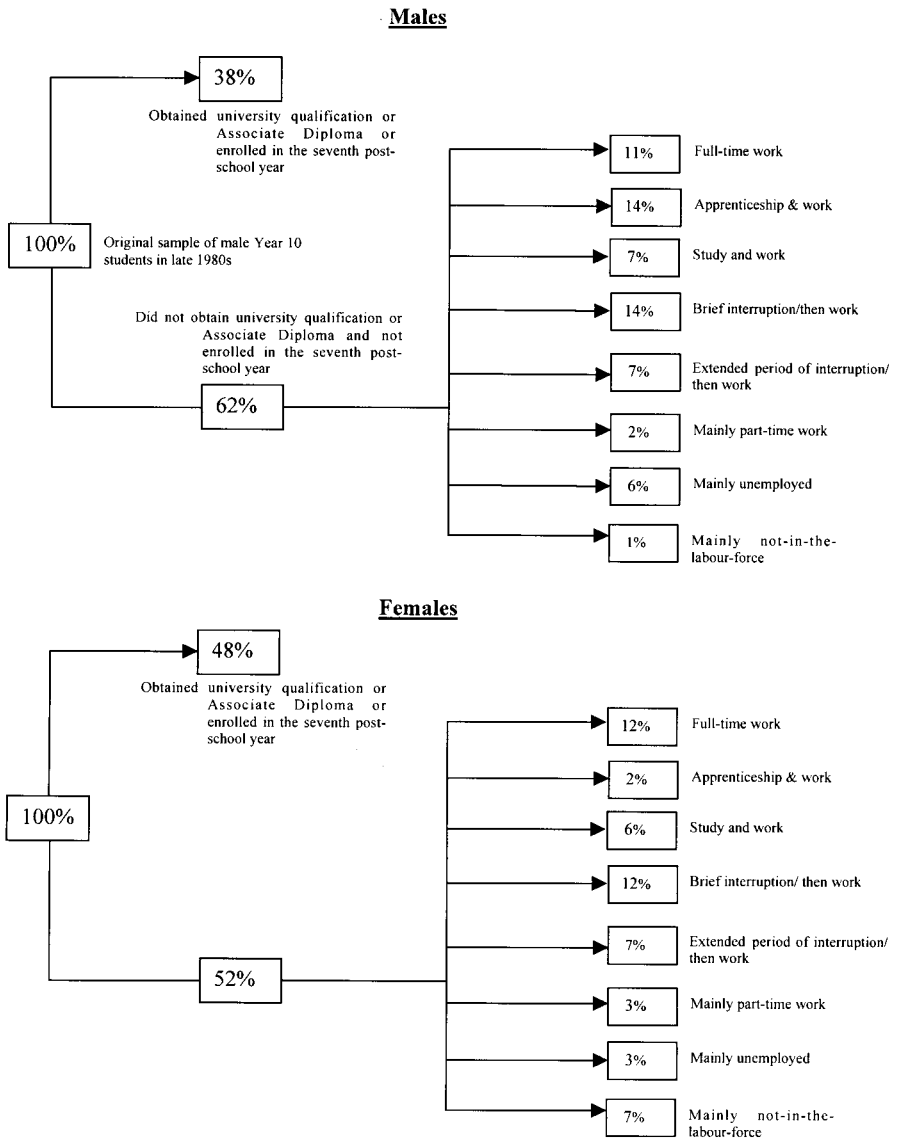
In terms of achieving the goal of stable employment, the first four pathways can be viewed as relatively successful transitions from school to work. They are relatively successful in that full-time employment is achieved mostly without lengthy periods of unemployment, or periods not in the labour force. The last four pathways represent less successful transitions. While one of these involves a considerable period of full-time employment (the fifth pattern), it is achieved only after an extended period of time spent unemployed, in part-time work or not in the labour force. Entry to the labour market for those who experience this pathway is marked by an extended settling-in period. The final three pathways involve even more difficulty in securing full-time work. One of these includes young people who are mainly not in the labour force for the whole period.

Figure 2 records the proportions of the whole cohort who followed these eight main pathways after leaving school. Separate charts are provided for males and females because they have different levels of educational attainment, and also because females were more likely to enter full-time work without further training, but they were also more likely to spend time neither working nor in study.

Figure 2 suggests that around three-quarters of the male school leavers without qualifications (or 46% of males overall) do not experience a problematic transition to employment in thatthey can be classified into one of the first four pathways. The proportion of females who do not experience a problematic transition to work is lower than that for males: about 62%

of females who do not obtain tertiary qualifications, or 32% of females overall. There are two main reasons for these marked gender differences. First, a much higher proportion of young men than young women obtain an apprenticeship are leaving school, and apprenticeship qualifications are strongly linked to employment. Second, a much higher proportion of young women spend most of the seven year period after leaving school not being in the labour force, presumably for child-rearing purposes.

Figure 2. Pathways of Year 10 students from the late 1980s who did not obtain tertiary qualifications over the first seven years after leaving school, by gender



In addition to the role of gender in shaping school-to-work pathways, multivariate analyses suggest that the young people whose transition from school is more problematic are disproportionately drawn from those who have low levels of achievement in school, who have left school before completing Year 12, who come from relatively low socio-economic backgrounds, or who have a disability. The concern about these findings is that difficulties in the transition from school to work appear to be compounding other disadvantages.

A particularly important finding is that the nature of the first year's experience after leaving school seems to play a key role in determining the likelihood of making a successful transition to employment (see table 2). The longitudinal analyses showed that young people whose principal activity in the first year after leaving school was either an apprenticeship, full-time employment, full-time study, or part-time work and study, were much more likely to experience a successful pathway over the first seven post-school years (defined as spending the majority of that time in full-time employment), than were young people whose principal activity in the first post-school year was either part-time work, being unemployed, or outside the labour force. A good early start—in the sense of being in full-time education, training or employment—seemed to be particularly important for female school leavers..

Table 2. Percentage distribution into 'successful' and 'problematic' pathways over the first seven post-school years, for Year 10 students from the late 1980s who did not obtain tertiary qualifications, by main first year activity and gender

Main activity in first year	Successful pathways		Problematic pathways	
	Males	Females	Males	Females
Apprenticeship/traineeship	95	74	5	26
Full-time work	83	81	17	19
Full-time study	74	72	26	28
Part-time work & study	67	63	33	37
Part-time work	34	33	66	67
Unemployed	39	20	61	80
Not in the labour force	38	9	62	91
Total	75	62	25	38

Source: Lamb & McKenzie (2001)

Those with tertiary qualifications

As noted earlier, some 43% of the Year 10 class from the late 1980s had either obtained a tertiary qualification (university degree or TAFE Associate Diploma and above) in the seven years after leaving school or were studying for such a qualification in their seventh year. In mapping the post-school activities of this group, and in classifying them into pathways of similar activities, a slightly different classification system was used compared to the group that had not obtained tertiary qualifications.

In this instance, six main pathways were identified based on their main activity each year, which reflected the fact that few among this group experienced extended periods of unemployment or time outside the labour force over the first seven post-school years:

1. Those who entered tertiary study straight from school (normally after Year 12) and then went straight onto full-time employment.
2. Those who worked for one or two years before entering tertiary study and then full-time work.
3. Those who were currently studying in their seventh post-school year.
4. Those who combined work and part-time tertiary study.
5 Those who went straight from school to tertiary study and who then experienced a brief interruption (up to a year) before obtaining work.
6. Those who went straight from school to tertiary study and who then experienced an extended interruption (more than a year) before obtaining work.

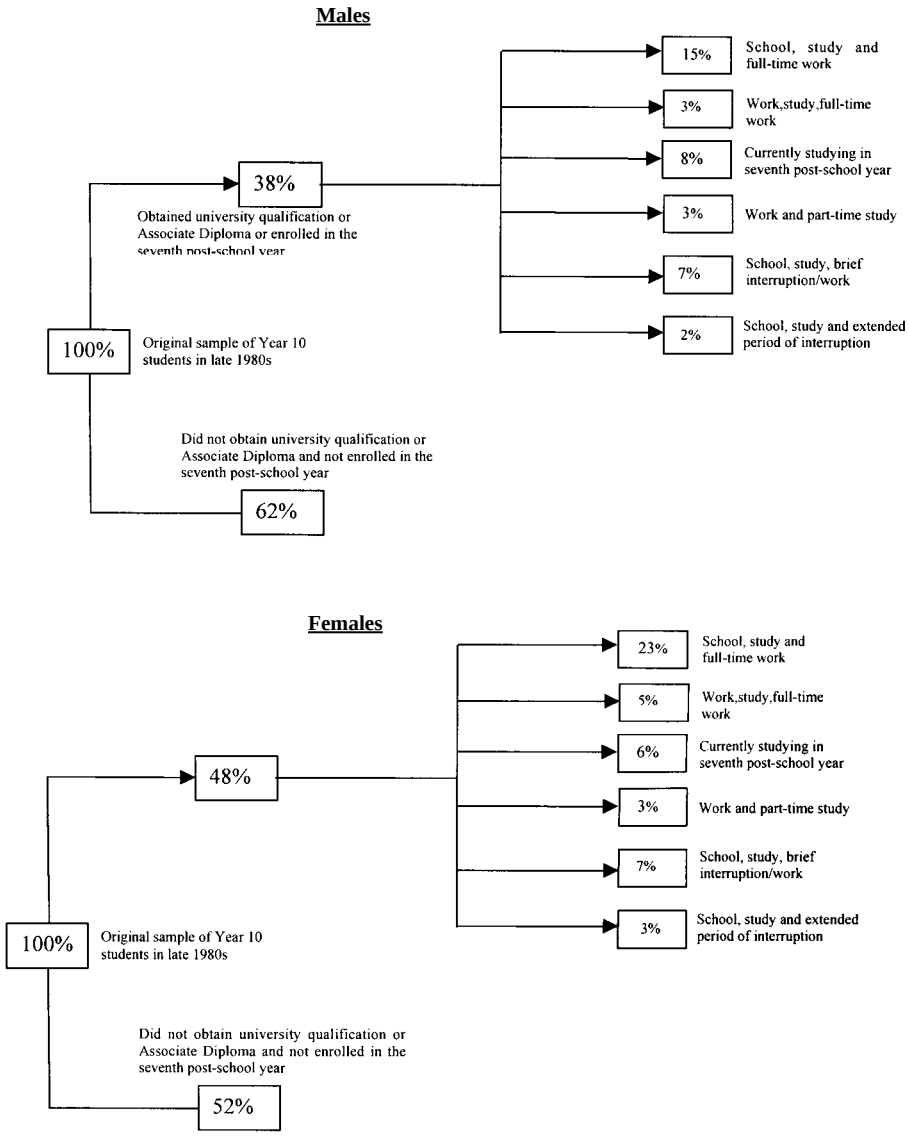
It is noteworthy that among this group who had obtained tertiary qualifications, it is really only the last of these pathways that stands out as highly likely to have been 'problematic'. This is not to say that the other pathways have necessarily led to the types of jobs that young people have wanted, but at least they are in full-time employment or studying and therefore fall outside conventional notions of young people at risk. In very general terms, tertiary qualifications serve to protect young people from labour market difficulties in Australia, and despite a very rapid growth in the number of tertiary graduates over the past 15 years, the demand for workers with those qualifications appears to have at least kept up with the increased supply.

Figure 3 records the percentages of male and female school leavers who moved along the various tertiary qualifications pathways. Overall, a higher proportion of females (48%) than males (38%) obtained a tertiary qualification in the seven post-school years or were studying for such a qualification in the seventh post-school year. A higher proportion of females than males also took the 'classical' transition path of moving straight from school to tertiary study and then to full-time work (23% and 15%, respectively). In the case of both males and females, however, fewer than one-half of those with tertiary qualifications could be classified as being on this particular pathway. These proportions serve to reinforce the point that even for those with tertiary qualifications the pathways connecting school, work and tertiary study are becoming more differentiated and probably also more complex.

Only some 2% of males and 3% of females from the original Year 10 cohort experienced a post-school pathway that involved tertiary qualifications and an extended period of interruption before taking up work after their studies. These proportions represented respectively 6% and 7% of the males and females with tertiary qualifications. Multivariate analyses indicated that those young people with a disability or those with a TAFE

qualification (rather than a university degree) were more likely to experience these circumstances, other factors equal.

Figure 3. Pathways of Year 10 students from the late 1980s who obtain tertiary qualifications over the first seven years after leaving school, by gender



Current policy challenges

Over the last decade Australia has taken many significant steps to improve the education-to-work transition process in Australia. Included among these have been the development of a national framework for education and employment policy within a federal political structure, curriculum and financing changes that have helped lift education participation rates, the attempts to strengthen linkages between the education sector and enterprises, and the emphasis on providing young people with multiple pathways, including more vocationally oriented options in secondary school, and flexible delivery of education and training.

However, substantial policy challenges remain including:

- how to continue reforming upper secondary education so that it is relevant and inclusive for the whole age group, and not just those oriented to higher education
- how to strengthen education–industry partnerships where there is limited tradition of this type of relationship
- how to better meet the needs of the 15–20% young people who are at greatest risk of not finding stable employment
- the need to clarify the respective responsibilities of the Commonwealth, the States, and public and private institutions for policy development and program delivery
- how to generate employment growth—answers to transition problems have to be also found on the demand side of the youth labour market, and not just on the supply side where most of the attention seems to have been directed

In April 1999 the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) identified a new set of national goals for schooling in Australia. Included among the goals was that:

> *Schooling should be socially just so that:*
> *all students have access to the high quality education necessary to enable the completion of school education to Year 12 or its vocational equivalent and that provides clear and recognised pathways to employment and further education and training* (MCEETYA 1999)

This statement has four significant implications for the current debate on pathways in Australia:

- that completion of Year 12 or its vocational equivalent is the minimum acceptable level for all young Australians
- a recognition that high quality initial schooling is critical in determining the proportion of young people who reach this minimum
- that pathways should lead to both employment and further education and training
- the pathways should be clear (i.e. recognisable in advance and known about) and recognised (i.e. by those in the labour market or further education and training)

Consideration of how to respond to such challenges has recently received an impetus through the Prime Minister's establishment of the Youth Pathways Action Taskforce in late 1999. The taskforce is attempting to develop a set of policy directions that will provide a more coherent notion of pathways for all young people, with particular attention to those for whom secondary schooling is least attractive, and who may lack access to other social support services. Interestingly, the taskforce's terms of reference are concerned with young people's transition to independence, broadly defined, and not just to work. This orientation presumably reflects a view that, at any one time, transitions are underway in a variety of aspects of young people's lives, and that the rate and direction of transition on any one of these aspects can affect the likelihood of successful transitions on the others. [The report is now available on-line at http://www.youthpathways.gov.au/ (eds).]

Nevertheless, it is clear that the transition to work is a central part of the taskforce's agenda. For example, problems in finding a job can make it difficult to leave the family home, establish relationships, or participate actively in the wider society. Potential disjunctions between the transitions occurring in different parts of young people's lives reinforce the need for policies aimed at improving transition to be broadly based and comprehensive in scope.

As the analyses in this paper have shown, those who leave school early find it harder to overcome any initial poor start in the labour market, and face greater risks of exclusion in a society that requires active learning over the lifespan. Particularly important in this regard, therefore, are policies to reduce the incidence of early school leaving, improve the information and counselling available to young people and their families, to track the experiences of school leavers, and early intervention to assist those at risk in the transition process. It will be a very substantial achievement if Australia is able to develop the broad, comprehensive and integrated policies and programs that are now needed.

From an educational policy perspective, the strongest thrust needs to be preventative: improving young people's foundation skills for lifelong learning, and providing learning environments that are attractive and relevant to the great majority of the young. Experience in Australia and elsewhere shows that there is no inevitability about the number of early school leavers, and that chances for successful intervention are higher while young people are still in school. Offering a range of pathways suited to differing interests and needs at the end of compulsory education encourages a higher proportion of young people to remain in education and training. Intensive measures to help early leavers in the labour market can be all the more effective if resources are freed up by keeping their numbers low in the first place.

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17

Youth pathways: Comparing Australia and Germany

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Introduction

Germany's dual system of apprenticeship has played a central role in comparative research on the transition from school to work. It has commonly been treated as a yardstick against which other national transition systems have been measured, and the metric on this yardstick most commonly has been the youth unemployment rate: measured either among 15–19-year-olds or among 15–24-year-olds. Whichever of these is used, a common message to emerge from comparative policy debates is that Germany's dual system of apprenticeship has much to teach other countries because of its success in keeping youth unemployment rates low. Admiration for Germany's system of apprenticeship was, for example, a major inspiration for the Clinton administration's 1994 School-to-Work Opportunities Act and was an important lever in extracting from Congress the some US$1b in funding that flowed from the act. It would perhaps be an exaggeration to characterise the tone of much comparative analysis of transition outcomes as "If only we could adopt the German dual system our youth unemployment problems would be solved", but there is more than a grain of truth in this simplification, particularly when some Anglo Saxon countries are being contrasted with Germany.[2] Ryan (1999, p.450) for example contrasts Japan and Germany's transition arrangements with those of the United Kingdom and the United States in the following terms:

> *These examples of successful institution building in Germany and Japan contrast to the national records of programme innovation in many other Western countries, notably the US and UK, which have seen a succession of ephemeral and poorly funded youth programmes, with little continuity across programmes and limited learning from mistakes. The weakness of the results of such programmes is, from this perspective, hardly surprising. The implication is that the UK and the US would be better served by a sustained effort geared to longer term institutional development than by short-term policy innovation.*

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1 : The views expressed in this paper do not necessarily represent those of the OECD, or of the governments of its Member countries.

2 : Examples of enthusiastic advocacy of the adoption of apprenticeship can be found in Hamilton & Lempert (1996), Gitteer & Scheuer (1997) and Steedman et al. (1998).

There are some technical problems in the way that youth unemployment is measured that makes a reliance upon youth unemployment rates suspect in coming to any conclusions about comparative transition outcomes:

- The youth unemployment rate, particularly for teenagers, is heavily influenced by education participation rates: it tends to rise as more young people remain in education and as the absolute number of youth in the labour market falls. When educational participation is high, those youth who are in the labour market but not in education increasingly are those early school leavers with low qualifications who struggle hardest in the labour market. As a result countries can unjustly appear to have severe youth unemployment problems even though they have been successful in keeping the absolute numbers of youth on the labour market low through their success in raising educational participation.
- Measures of youth unemployment are skewed by students' participation in the labour market. Where such participation is high the absolute number of youth who are unemployed is inflated by the number of student job seekers; and the youth unemployment rate is lowered, as unemployment rates among students are generally lower than they are among non-student youth.
- Youth unemployment rates are often said to be artificially lowered when countries have large apprenticeship systems. This is through the inclusion of large numbers of employed youth, who under other transition arrangements might be treated as students, in the denominator when calculating unemployment rates. Calculating unemployment measures in such countries using only the non-student labour force will normally lead to substantially higher unemployment estimates: both unemployment rates and unemployment to population ratios.
- There are important differences between the teenage (aged 15–19) and young adult (aged 20–24) labour markets in many OECD countries. The former typically consists of a higher proportion of those with an incomplete secondary education, fewer with tertiary qualifications, and more with less labour market experience. Hence the use of employment and unemployment measures based upon 15–24-year-olds can be misleading.

The first of these problems can be addressed by using unemployment to population ratios calculated upon the total youth population, rather than unemployment rates which are calculated only upon that fraction of the youth population that is in the labour force. Other problems can be minimised by expressing only the number of non-students who are seeking work as a percentage of the population rather than the total number of youth who are seeking work as a percentage of the population, and by reporting indicators for teenagers and young adults separately.[3]

3 : These issues are discussed in more detail in appendix 4 (Using labour market indicators of transition outcomes in comparative studies) of OECD (2000a).

Putting these technical reservations aside, the principal problem in judging the efficacy of national transition arrangements on the basis of single youth unemployment measures is that any single transition outcome indicator, no matter how carefully defined and measured, presents too simplistic a picture of the complexities of the transition process and its outcomes for youth. The OECD's recently completed Thematic Review of the Transition from Initial Education to Working Life (OECD 2000a) approached the evaluation of the effectiveness of national transition arrangements through the use of multiple indicators. This is because within any one country transition outcomes can differ widely between age groups, between the genders, or between education indicators and labour market indicators, and between measures of success in the transition and indicators of difficulties in the transition. Countries rarely perform well on all indicators or poorly on all, but more typically well on some and poorly on others. Their particular institutional arrangements can result, for example, in good outcomes for young adults but poor outcomes for teenagers; or in good labour market outcomes but poor education outcomes. A second reason for preferring multiple outcome indicators is that countries typically have multiple goals for their transition arrangements. Keeping youth unemployment low is one, but also important are goals such as high rates of initial qualification and skill among school leavers, high employment rates at the end of the transition period, and periods of youth unemployment being brief, whatever their incidence. As a consequence the Thematic Review adopted a set of 14 key indicators of transition outcomes in arriving at judgements about the effectiveness of national transition arrangements: education indicators such as qualification rates and literacy levels; labour market indicators such as employment rates, unemployment duration and youth to adult unemployment ratios; as well as more traditional unemployment measures. These 14 indicators are described in the appendix.

Australia and Germany compared

In their papers to this conference Reuling and McKenzie have described two quite different types of institutional arrangements to manage young people's transition to work, which McKenzie has described elsewhere as the difference between 'tightly connected' and 'loosely coupled' transition systems (McKenzie 1998). Do either of these different types of arrangements lead to clearly superior or clearly worse transition outcomes? To assist comparisons between the two countries the relative position of Australia and Germany on 13 of these 14 key indicators[4] has been expressed in a common way. Each country's absolute score on each indicator has been standardised to a mean of zero and a standard deviation of one using the mean and standard deviation of all OECD countries for which values were available for that indicator.[5].Table 1 shows the resulting z scores for Australia and Germany on each indicator.

4 : Australian data is missing for one: apparent high school completion rates.

5 : The signs of the resulting z scores have been adjusted so that positive values always indicate favourable outcomes and negative values always indicate unfavourable outcomes when compared to the average OECD experience. For example an unemployment to population ratio that is above the OECD average is assigned a negative value; a youth to adult unemployment ratio that is below the OECD average is assigned a positive value.

Table 1. Position of Australia and Germany on 13 transition outcome indicators relative to OECD average

Indicator	z scores		Original values		
	Australia	Germany	Australia	Germany	OECD average
Unemployment to population ratio, 15–19-year-olds	–1.48	1.04	10.10	2.60	5.68
Non-student unemployed as a % of all 15–19-year-olds	–0.95	0.86	6.00	1.60	3.69
% of unemployed 15–19-year-olds unemployed for six months or more	0.00	–0.35	41.90	50.80	41.85
Unemployment to population ratio, 20–24-year-olds	–0.10	0.51	9.60	6.90	9.16
% of unemployed 20–24-year-olds unemployed for six months or more	0.11	–0.34	45.00	55.20	47.46
Employment to population ratio, 20–24-year-olds	1.02	0.32	71.40	63.10	59.39
% of non-students employed, age 20–24	0.63	0.62	78.00	77.90	71.53
Ratio of the unemployment rate among 15–24-year-olds to the unemployment rate among 25–54-year-olds (youth to adult unemployment ratio)	–0.05	–1.88	2.30	1.10	2.33
% not in education one year after the end of compulsory schooling*	0.97	1.13	3.30	2.00	11.51
% of 16–25-year-olds at document literacy level 4/5	–0.40	0.03	19.20	22.80	22.57
% of 20–24-year-olds whose highest level of education is lower secondary	–0.30	0.00	26.10	22.70	22.68
Ratio of low qualified 20–24-year-olds' share of total unemployment to their share of total employment (relative labour market disadvantage of the low qualified)	–0.15	–0.15	1.80	1.80	1.71
% of 25–29-year-olds with tertiary qualifications	0.04	–0.74	25.10	16.70	24.68

*In the case of Germany, where participation in some form of education is required until the age of 18, 15 or the age at which full-time education ceases to be compulsory is used.
Source: OECD

Labour market outcomes

Comparison of the two countries on the basis of their levels of teenage unemployment appears to confirm conclusions about the clear superiority of Germany's dual system of apprenticeship in reducing youth unemployment levels when compared to the more loosely organised transition systems of Anglo Saxon countries. The difference between Australia and Germany is not as great when only non-student unemployed teenagers are considered as it is when all unemployed teenagers are taken into account.[6] Nevertheless it is substantial, with Australia close to one standard deviation worse than the average OECD experience and Germany close to one standard deviation better. The youth to adult unemployment ratio for Germany is also substantially better than that observed across the OECD as a whole, and

6 : The proportion of teenaged students who were in the labour force in Germany in 1998 (27%) was roughly half the level observed in Australia(47%).

some two standard deviations better than Australia's, which in turn is very close to the OECD average. This suggests that German youth find it much easier to compete with adults in the labour market than do youth in Australia.

Figure 1. Unemployment to population ratio (15–19-year-olds), 1998

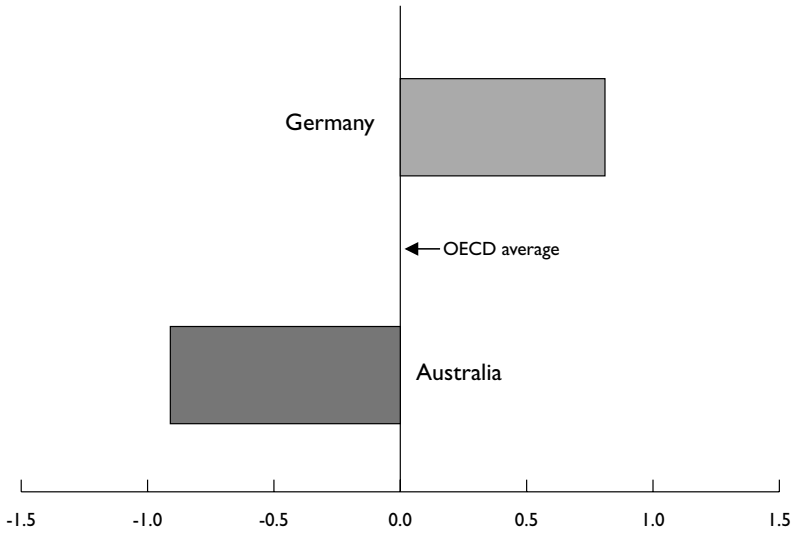
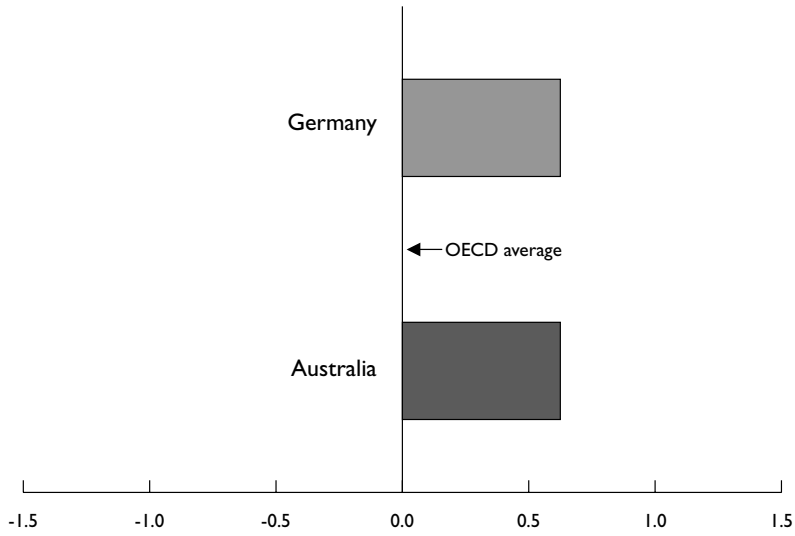


Figure 2. Percentage of non-student 20–24-year-olds employed, 1996



However when the relative positions of the two countries are compared on other labour market indicators, the apparent advantages of German transition arrangements diminish somewhat. For example differences between the two countries in the unemployment to population ratio among 20–24-year-olds still favour Germany, but the difference is only around .6 of a standard deviation rather than the two standard deviations observed for teenage unemployment. Differences between the two in the incidence of long-term (six months or more in duration) unemployment are less than half a standard deviation, are within the average range of OECD experience, and favour Australia for both teenagers and young adults.

When employment rates for 20–24-year-olds[7] are considered a surprising apparent contradiction of conventional wisdom emerges. The employment rate for the age group based upon the total population in fact suggests a relatively large Australian advantage, with Australia being close to one and a half standard deviations better than the OECD average, compared to Germany which is less than half a standard deviation better. However when employment rates for young adults are adjusted to exclude working students[8] differences between the two countries disappear, with both being somewhat over a half standard deviation better than the OECD average. Figures 1 and 2 illustrate the national differences on these two indicators.

This result demands some pause for thought about the supposed advantage of what McKenzie has termed 'tightly connected' transition systems such as Germany's dual system over the more 'loosely coupled' arrangements that exist in Anglo Saxon countries such as Australia. Certainly the differences between the two countries in the incidence of unemployment among teenagers are large and favour Germany. But by early adulthood differences between the two countries in employment rates have to all intents and purposes disappeared.[9] In the case of Germany its relatively better standing, compared to the OECD average, in employment rates for young adults is likely to be almost entirely a function of its coherent vocational education pathways, with the dual system being the largest and most important of these. In the case of Australia its comparably good standing is likely to be due to two factors: the size, flexibility and responsiveness of its tertiary education system, both its university and TAFE dimensions; and the relative openness of its labour market to youth, with ample opportunities for students to obtain part-time jobs and relatively low levels of employment protection legislation (OECD 1999) making it relatively easy for new labour market entrants to obtain work. However it is important to emphasise that while differences between the two countries are greatly reduced by early adulthood with both being better

7 : This age band includes the average age at which the transition period ends in most OECD countries.

8 : In 1998 roughly a third of 20–24-year-olds in each country were still in education, but in Australia two-thirds of these, compared to only half in Germany, were employed.

9 : While employment rates among teenagers were not used as an outcome indicator in the recent OECD Thematic Review, it might be worth pointing out here that in fact the total employment to population ratio for teenagers in 1998 was substantially higher in Australia than in Germany (44% compared to 28%). In Germany 83% of this employment was associated with education, mostly through apprenticeships, compared to 68% in the case of Australia, although there mostly through student part-time jobs.

than the OECD average, one of the big weaknesses of Australia's transition arrangements is the greater ease with which those under the age of 20 are able to fall through the cracks, isolated both from work and from education.

Education outcomes

It is important to assess the effectiveness of national transition arrangements using education indicators as well as labour market indicators for several reasons. One is that young people's initial level of qualification and skill is a significant predictor of their labour market prospects both in the years immediately after leaving initial education and in the longer term. Another is that skills and qualifications are significant predictors of the likelihood of engaging in further education and training during working life (OECD and Statistics Canada, 2000b). When a number of education indicators are examined it is again by no means clear that Germany's transition arrangements necessarily lead to outcomes that are superior to those of Australia. Both countries are roughly one standard deviation above the OECD average in educational retention after the end of compulsory schooling, and both are only minimally lower than the OECD average in the disadvantage that poorly qualified young adults suffer in the labour market. Australia is somewhat below Germany in the literacy skills of 16–25-year-olds and in the proportion of 20–24-year-olds with low qualifications, but both fall within the average band of OECD experience. However when the two are compared on 25–29-year-olds' rates of tertiary qualification, Germany falls three-quarters of a standard deviation below the OECD average but Australia at the OECD average.

Conclusion

These results have three main implications.

- When looking at a wider set of outcome indicators than simple youth unemployment rates, and in particular when looking at employment outcomes in early adulthood, they lead one to be very cautious about adopting or continuing to accept conventional wisdom about the supposed superiority of 'tightly connected' transition systems such as Germany's dual system of apprenticeship over more 'loosely coupled' Anglo Saxon arrangements. This conclusion is reinforced when education indicators are examined as well as labour market indicators.
- They remind one that whatever the overall employment outcomes by early adulthood, the proportion of people who fall through the cracks, outside of either employment or education, under the looser arrangements in largely Anglo Saxon countries such as Australia, is well above the OECD average.
- They impel us to a deeper examination of the wider set of arrangements that support youth transitions in other countries and in Australia, and suggest a search for better understanding of the strengths of Anglo Saxon transition arrangements as well as their weaknesses.

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Appendix. Key transition outcome indicators used in the OECD's Thematic Review of the transition from initial education to working life

Indicator	Description	Sources	Notes
1.	Unemployment to population ratio, 15–19-year-olds, 1998	OECD labour force database; Switzerland INES Network B transition collection	Switzerland subject to high sampling variability
2.	Non-student unemployed as a % of all 15–19-year-olds, 1996	INES Network B 1998 special transition collection	Switzerland subject to high sampling variability
3.	% of unemployed 15-19-year-olds unemployed for six months or more, 1998	OECD labour force database	Ireland 1997
4.	Unemployment to population ratio, 20–24-year-olds, 1998	OECD labour force database; Switzerland INES Network B transition collection	
5.	% of unemployed 20–24-year-olds unemployed for six months or more, 1998	OECD labour force database	Ireland 1997
6.	Employment to population ratio, 20–24-year-olds, 1998	OECD labour force database; Switzerland INES Network B transition collection	
7.	% of non-students employed, aged 20–24, 1996	INES Network B 1998 special transition collection	
8.	Ratio of the unemployment rate among 15–24-year-olds to the unemployment rate among 25–54-year-olds, 1998	OECD labour force database	Italy, 25–59-year-olds
9.	% not in education one year after the end of compulsory schooling	OECD education database	Belgium, Germany, Netherlands: % not in full-time education one year after the end of compulsory schooling
10.	Apparent upper secondary graduation rates	OECD (1998) *Education at a glance* Indicators, Paris, table C2.3	1. Refers to first educational programmes 2. Belgium Flemish community
11.	% of 16–25-year-olds at document literacy level 4/5, 1994–95	OECD (1997) *Literacy skills for the knowledge society*, Paris, table 1.6	1. Belgium Flemish community 2. Switzerland average of French and German communities
12.	% of 20–24-year-olds whose highest level of education is lower secondary school (ISCED 0,1,2), 1996	OECD education database	New Zealand 1997