

VICTORIA

Auditor General

Victoria

**Vocational education
and training:
Meeting the skill
needs of the
manufacturing
industry**

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AUDITOR GENERAL
VICTORIA

The Hon. Monica Gould MP
President
Legislative Council
Parliament House
Melbourne

The Hon. Judy Maddigan MP
Speaker
Legislative Assembly
Parliament House
Melbourne

Dear Presiding Officers

Under the provisions of section 16AB of the *Audit Act 1994*, I transmit my performance audit report on *Vocational education and training: Meeting the skill needs of the manufacturing industry*.

Yours faithfully

JW CAMERON
Auditor-General

19 July 2006

Foreword

An educated, innovative and skilled workforce is important for growing Victoria's economy. Skill demands within all occupations are increasing and changing rapidly as businesses aim to remain competitive in global and domestic markets. The challenge for both government and industry is to find ways of filling any "skills gaps" through achieving high levels of skills formation.

The primary role of Victoria's vocational education and training (VET) system is to provide people with the skills and knowledge they need to participate fully in the workforce, and throughout their life. The VET system not only needs to be capable of delivering the skills needed by school leavers, but also the higher order skills required by existing workers.

The effectiveness of the VET system can be measured in terms of how well it meets the new and emerging needs of businesses and individuals. Our audit of training for the manufacturing industry found that if the vocational education and training sector is to continue to play a key part in skill formation within Victoria, change is needed.

The VET system needs to identify and respond more quickly to the emerging skill needs of businesses. Overall, it needs to strengthen local information about skill needs and develop strategies to tackle them. At the same time, more effective processes are needed to determine adequately whether training has been effective in meeting identified skill needs of students, businesses and the economy.

Skill development requires commitment from businesses as well as government. Increasingly, partnerships between government and industry are necessary to solve Victoria's skill development requirements. This goes beyond simply maintaining the advisory structures currently in place. It requires new forms of collaboration between industry, government and training providers to identify the particular skill needs and strategies appropriate for each industry, sector and the economy. This collaboration is also important for ensuring that the skills of trainers and the equipment on which training is provided are relevant to current business practices.

These changes also necessitate some rethinking of the current approach to the public funding of vocational education and training away from measures of hours of vocational training to a more flexible mix of outputs and outcomes. Together, these changes suggest that greater flexibility is required on the part of all agencies in the VET system if it is to support a skills-based economy in Victoria.



JW CAMERON
Auditor-General

19 July 2006

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1. Executive summary



1.1 Introduction

Victoria is Australia's leading manufacturing state. A recent assessment of the state of manufacturing by the Victorian Department of Innovation, Industry and Regional Development¹ highlighted the contribution manufacturing makes to the state's economy. The report also signalled a number of challenges facing the industry over the coming years, particularly the need to move into higher value-added markets, especially those involving more advanced manufacturing practices and research and development.

In order to meet these challenges, manufacturing is reliant, increasingly, on workforces of sufficient capability to bring about the changes and productivity gains that will enable Victorian manufacturers to remain globally competitive.

Access to an appropriate supply of vocational education and training is a critical requirement if these workforce skills are to be available.

The Victorian vocational education and training (VET) system delivers employment-related skills and qualifications in a wide range of occupations, including those in the manufacturing industry. These skills and qualifications enable both young and older people to enter the workforce, to retrain for a new job or to upgrade skills in an existing job.

About \$900 million is spent by the Victorian Government annually, through the Department of Education and Training, on the VET system. About 30 per cent of this is Commonwealth Government funds.

However, vocational education and training is not solely the responsibility of government. The cooperation and involvement of employers is critical, whether in identifying the skills needed by workforces or in investing directly in the training of these workforces. Individuals also have responsibility for skills development that advances their private benefit.

The audit examined how well Victoria's publicly-funded vocational education and training is meeting the skill needs of the manufacturing industry. Three sectors in the manufacturing industry – vehicle manufacture, engineering and pharmaceutical manufacture – were selected for particular attention. Specifically, the audit examined:

- To what extent does Victoria's purchase of publicly-funded VET meet the skill needs of the manufacturing industry?

¹ Department of Innovation, Industry and Regional Development 2005, *Strategic Assessment of Manufacturing*, Victorian Government, Melbourne, p.6.

- Do Victorian TAFE institutions have sufficient capacity and capability to provide for the skill needs of the manufacturing industry?

1.2 Vocational education and training in Victoria

The Victorian Government has legislative responsibility for the delivery of VET in Victoria. It operates within national structures and policies agreed by the Australian Ministerial Council for Vocational and Technical Education and within the terms and conditions of the 2005-2008 bi-lateral agreement, the *Commonwealth-State Funding Agreement for Skilling Australia's Workforce*.

The VET system has multiple stakeholders. These include other Victorian Government departments, enterprises, industry associations, employees, students, Technical and Further Education (TAFE) institutions, other public and private training providers and the community. In setting its funding policy, the government seeks to balance a range of often competing demands, having regard to the wider and long-term interests of employers and the economy, the development of a highly skilled, flexible workforce and the aspirations of individual students.

The Victorian Learning and Employment Skills Commission (VLESC) is the state training agency with responsibility for the provision of VET in Victoria. It advises government on vocational education and training, including development of policy and planning for current and emerging requirements of government, industry, the community and individuals. VLESC contracts both public and private training providers to deliver VET training programs, and monitors the outcomes.

The Department of Education and Training (DET), through its Office of Training and Tertiary Education (OTTE), provides support in the areas of VET, higher education, and adult and community education (ACE). Under delegation from VLESC, it is responsible for planning, regulating and delivering a range of vocational education and training programs and services in Victoria. It negotiates the purchase from, and monitors services offered by, registered training organisations (RTOs).

Vocational education and training is delivered through RTOs. In addition to the network of 18 TAFE institutions (including 4 TAFE divisions of universities) there are more than 1 200 other RTOs, ranging from small ACE organisations to private training providers, some of which are large manufacturing companies. About 200 of these other RTOs provide publicly-funded VET training, especially for apprentices and trainees.

Each TAFE institution and many ACE organisations have governing councils or boards of management with independent members who are representative of industry and the community.

1.3 Does Victoria's purchase of publicly-funded VET meet the skill needs of the manufacturing industry?

In examining whether Victoria's purchase of publicly-funded VET meets the skill needs of the manufacturing industry, we assessed:

- whether VLESC's purchase of industry training is based on robust advice
- how well OTTE purchases industry training, on behalf of VLESC
- if the outcomes from publicly-funded VET are measured and reported.

1.3.1 Is VLESC's purchase of industry training based on robust advice?

Enterprises in the manufacturing industry are a very diverse group. They range from very small, locally owned firms to large multinational companies. As such, identifying and meeting the skills needs of this diverse group is a challenge for VLESC, OTTE and the governing councils and management of TAFE institutions.

The advice given to VLESC to inform its purchase of publicly-funded industry training is insufficiently robust. This is despite the fact that the lines of advice, regulation and accountability in the Victorian VET system are diverse, with several statutory bodies involved, including VLESC, 18 Industry Training Advisory Bodies (ITABs) and 18 TAFE institutions.

In carrying out its functions, and to assist it in its decision-making, VLESC frequently relies on work delegated to, or material developed in, OTTE. While we can understand the reasons for reliance on this source of information and advice, it has the potential to place the VLESC into a weakened position in carrying out its independent statutory function of determining vocational education and training priorities across the post-compulsory education sector.

We appreciate that OTTE routinely collects educational information as part of its oversight of funding contracts, but it is important that the work of OTTE does not reduce the capacity of VLESC in its independent strategic priority setting role.

Similarly, the advisory role of ITABs should be enhanced and employed primarily to inform VLESC. In practice, it appears to us that the relationship between ITABs and OTTE serves to strengthen OTTE's role as the conduit of advice to VLESC. If VLESC really is to live out its role effectively, ITABs should report directly to it.

Since the ministerial statement of 2002², announcing new strategic directions and priorities for public expenditure on VET, OTTE has invested substantially in defining industry skill needs and priorities for targeted government funding in training. This planning aims to support Victoria's economic growth, while also ensuring that individuals are able to gain vocational education and training through the state's network of TAFE institutions.

In return for this investment, VLESC has an extensive planning framework, focused mainly on OTTE's planning model. OTTE has emphasised that it uses the model as a planning framework within which moderating dialogue, active discussion and conversations take place with industry, TAFE institutions and other RTOs. However, there are weaknesses in the inputs to the framework, including incomplete industry information and advice. Some of this is not as current as it needs to be in a rapidly changing global environment.

For example, access to and use of information from direct links and collaborative exchanges between OTTE and TAFE institutions, and between OTTE and other government departments (particularly with the DIIRD) is not sufficiently evident, especially with regard to broad industry policy and contemporary industry positions.

The planning process places significant reliance on quantitative data, particularly in the industry shares model. The model has been assessed by 2 independent organisations and their recommendations addressed. However, the data used is not sufficient to provide more than a broad indication of emerging trends and skills needs in the manufacturing industry.

As a model for forecasting industry needs, the industry shares model incorporates all the strengths and weaknesses inherent in labour market models. However, we concluded that this forecasting approach is limited in the dynamic business environments of a global economy. We consider that there is a need for OTTE's planning to strengthen local information about skill needs, gaps and overlaps, and about strategies to tackle these.

² Minister for Education and Training 2002, *Knowledge and Skills for the Innovation Economy*, Victorian Government, Melbourne.

We are aware that OTTE collects information from, and has various dialogues with, key stakeholders in the VET system. Nevertheless, different ways of planning and purchasing, which are linked to the capabilities of TAFE institutions to plan and deliver against their own market intelligence, as well as that gathered centrally, need to be developed. This would strengthen OTTE's direct engagement with enterprises and industry stakeholders to identify the skills that employers value in their employees, and for the growth of their businesses.

Recommendations

1. **That the Victorian Government examine ways to strengthen the capacity of VLESC and other statutory bodies in the VET system to provide independent advice on the operations of Victoria's vocational education and training system.**
2. **That the Department of Education and Training (OTTE) adjust its planning function by collaborating more with TAFE institution governing Councils and other government departments in seeking and validating its strategic planning advice to VLESC.**

1.3.2 How well does OTTE purchase industry training on behalf of VLESC?

From our discussions with TAFE institutions and enterprises, it seems that the current approach to purchasing publicly-funded VET is at odds with the need for TAFE institutions to respond quickly to industry's immediate and fluctuating need for skills.

The focus on the number and kind of student contact hours in publicly funded "profile" funding dominates the purchasing negotiations with OTTE and the delivery activities of TAFE institutions. Failure to meet negotiated targets by TAFE institutions may have financial implications and reduction in future contracts.

One consequence of the current approach is that other strategically important initiatives that TAFE institutions could be expected to carry out are given lesser priority in the purchasing agreements, even though these initiatives may show the way for a more responsive system of government support. This is important when those initiatives are central to achieving the government's objectives for training outcomes that support industry's skill needs and the Victorian economy.

We are not convinced that the current industry shares model that underpins OTTE's purchasing decisions is sufficiently cognisant of recent and planned activities and directions of industries and enterprises to bring about the timely identification of changes needed to an industry's or enterprise's skills base.

Overall, the shift in training provision to high priority industry sectors, as proposed in the industry shares model, is very slow, achieved largely through increases in apprenticeships and traineeships, and reductions – about 9 per cent - in non-apprenticeship training since 2002.

For the sectors we examined, vehicle manufacture training has doubled and apprenticeship training has increased in both vehicle manufacture training and engineering. Overall, training in engineering has decreased by about the same amount as vehicle manufacture has increased. The total contracted training in both sectors remains well below what OTTE has estimated as its "share" of publicly –funded training. Training in pharmaceutical manufacture has declined by about half, most of that moving to fee-for-service provision.

Going forward, there may be limited capacity to move training provision from low to high priority areas, especially as such a shift is dependent on demand from students and on enterprises employing graduates. Recent downsizing in some manufacturing enterprises is unlikely to encourage students to regard employment in the industry as a long-term secure option.

Many TAFE institutions have demonstrated that they are capable of responding directly and flexibly to the needs of enterprises through their fee-for-service activity. This capability needs to be fostered in the publicly-funded area and supported by more enabling agreements and targets.

It would seem that better results for government, individuals and for industry could be achieved if the current approach of purchasing from TAFE institutions – based on numerous centrally designed performance targets – was replaced with an approach based on TAFE institutions being expected to develop and achieve an agreed, rolling 3-year business plan.

Such a rolling 3-year business plan would be expected to relate to the total business of the institution, and acknowledge and incorporate strategic objectives and planning data provided by OTTE, as well as TAFE institution research and analysis.

Recent contributions to the national reform agenda, including those by the Premier, highlight the importance of a clear focus on outcomes. In addition, they suggest that diversity is a key catalyst for innovation. If TAFE institutions are to ensure that their training services are responsive to rapid changes in industry skill needs, it is necessary to underpin this with a more flexible outcomes-focused approach to funding. For this reason, we consider that greater flexibility in the purchase of training from TAFE institutions would enhance innovation and responsiveness.

Recommendations

3. **That VLESC develop a new approach to publicly-funded VET in TAFE institutions, away from the current annualised purchasing model and performance agreements based on student contact hour targets, to one centred on an agreed, rolling 3-year business plan with each institution. Such business plans, developed by TAFE institutions, would include performance requirements that reflect the range of accountabilities that TAFE institutions have as statutory public sector agencies in receipt of state and Commonwealth funds and operating in competitive markets.**
4. **That the Department of Education and Training (OTTE) work alongside TAFE institutions in planning and strategic development so that their respective business plans enable them to meet both Commonwealth and state targets and policy objectives, as well as the skill needs identified by local enterprises.**

1.3.3 Are the outcomes of publicly-funded industry training measured and reported?

OTTE collects and reports on a plethora of performance measures, several of which allow comparability between states and individual training providers. However, the majority of these measures are input or process measures. Much of this performance information does not appear to be used, and where it is used it is difficult to understand in any meaningful way. By this concentration on micro-level data, there is a risk that the success of the bigger picture – whether for publicly-funded training or support for the government’s social and economic objectives – is not captured.

OTTE is not able to determine adequately whether training has been successful in meeting the skills needs for the participants in courses or for industry enterprises. Further, while OTTE has spent considerable time and energy developing a planning model to assist in the determination of what it should purchase, it has not simultaneously developed and implemented measures to test the efficacy or impact of the model in more targeted training, beyond measuring the shift in training effort to high priority areas.

Consequently, from the information available, the public cannot know if the Victorian Government:

- has policies and practices, including the purchase of training, to ensure that skill gaps in the workforce do not impede the growth or the competitiveness of the manufacturing industry and the Victorian economy
- knows how well the training that it purchases is being delivered.
- knows the impact of its purchases on skills shortages and skills gaps in the Victorian manufacturing workforce.

Recommendation

5. **That the Department of Education and Training (OTTE) rationalise and redevelop the current collection of performance information so that TAFE institutions and other RTOs can determine whether training has been successful in meeting the skill needs of individuals in courses and of industry and employing enterprises.**

1.4 Do Victorian TAFE institutions have sufficient capacity and capability to provide for the skill needs of the manufacturing industry?

In examining whether Victorian TAFE institutions had sufficient capacity and capability to provide for the skill needs of the manufacturing industry, we assessed:

- whether TAFE institutions were sufficiently knowledgeable of the business environment in which manufacturing enterprises operate
- how well TAFE institutions identify current and emerging skill needs and translate these into training programs
- whether TAFE institutions had sufficiently skilled and adaptable staff and the necessary infrastructure to meet the skills needs of enterprises.

1.4.1 Are TAFE institutions knowledgeable of the business environment in which manufacturing enterprises operate?

TAFE institutions need to have a good understanding and appreciation of the business environment and business requirements of the enterprises with which they are dealing if they are to meet the demands of industry and operate successfully with manufacturing industries.

Currently, this understanding is variable, dependent, for example, on the skills, age and interests of staff, the currency of their industry experience, the strategic approach of TAFE institutions and the degree to which teaching focuses on academic rather than industry competence.

Industry is generally supportive of the concept of nationally recognised, training package qualifications and of the apprenticeships system. Employment of apprentices is growing and VLESC's decision to shift profile funding to apprenticeship and traineeship training supports this growth, especially in manufacturing.

However, the high drop-out rate of apprentices³ (44 per cent and 38 per cent in the automotive and engineering industries, respectively, for apprentices commencing in 1999) is costly both for employers and the training system. It is an area where further research by industry, OTTE and TAFE institutions would be beneficial.

Both enterprises and VET providers express support for the Competitive Manufacturing Training Package. In most instances, OTTE has not included the Competitive Manufacturing Training Package in its profile negotiations as it expects this to be primarily fee-for-service activity and not to impact directly on publicly-funded delivery.

Criticism by some enterprises of the currency of nationally recognised training and the capability of staff in some TAFE institutions to make the training relevant to the needs of specific enterprises continues.

Enterprises have an uneven understanding of the constraints of government regulatory, policy and accountability environment in which such large TAFE institutions operate. In some cases, they are unaware of the constraints on publicly-funded training, especially those which restrict the capacity of TAFE institutions to provide customised and flexible training programs.

³ Department of Education and Training 2005. *Skill Shortages paper for DET Executive*. Unpublished.

Several of the TAFE institutions that we audited demonstrated good understanding of the business environment of enterprises in their fee-for-service delivery. In this respect, there are a number of innovative programs and partnerships established between enterprise and institutions, some with support from OTTE and leveraged profile funds. These could be given greater standing in terms of meeting the needs of industry and local enterprises. For example, specialist centres have introduced some innovative approaches to meeting enterprise-specific needs. Evaluation of these types of programs would assist the broader VET system in identifying other successful approaches to working with local enterprises.

The current purchasing arrangements focus predominantly on entry level training and do not take account of the commercial and most responsive parts of institutions. This constrains the ability of the institutions to develop their business fully and meet the needs of industry and enterprises.

As we have recommended in Part 4 of this report, we are of the view that VLESC's performance agreements with TAFE institutions need to reflect the whole of the business of each TAFE institution and provide greater autonomy in how their resources are applied. This would enable VLESC and OTTE (as well as the governing councils of TAFE institutions) to monitor and support the diversity of the Victorian VET system as it meets the training needs of enterprises and the Victorian workforce.

Recommendation

- 6. That VLESC and the governing councils of TAFE institutions investigate ways of enabling TAFE institutions to develop their understanding of business and to reinforce engagement with industry and enterprises to build more effective partnerships in identifying and meeting training needs.**

1.4.2 How well do TAFE institutions identify current and emerging skills needs and translate these into training programs?

TAFE institutions engage in a range of activities to identify current and emerging needs of local enterprises and to translate these into training programs. They do this largely by engaging directly with local enterprises and by seeking to maintain currency in both their industry skills and in up-to-date teaching and learning methods.

Frequently, their success is dependent on the relationship which TAFE institution staff have with local enterprises, and the degree to which information is shared between various enterprises and staff in institutions, so that needs are clarified and training can be customised.

Overall, the responsiveness of TAFE institutions is perceived as variable and inconsistent. There is a gap between how management responds and operates and the knowledge and capability of those delivering training programs, which needs to be addressed in order to extend and enhance the ability of the teaching workforce. This is especially so in developing innovative ways of using government funds to deliver economically viable training to small groups in the workplace.

The well-established modes of delivery by TAFE institutions (and the purchasing approaches by OTTE), which are based on student contact hour targets and the delivery of qualifications, continue to drive institution-based, high volume delivery and provide little room for more customised workplace training and the development of these skill sets amongst staff – the latter being addressed in part by fee-for-service programs.

There is a need for a renewed focus on assisting enterprises to know what skills they need, and how they might gain access to these skills through government-supported training and fee-for-service programs, delivered by government-owned TAFE institutions. This demand has been identified in the recent Skills Statement⁴.

Recommendation

- 7. That VLESC support TAFE institutions to give priority to extending the skills of teaching staff with the express purpose of enhancing, developing and maintaining a workforce that is abreast of current and emerging industry needs and whole-of-business activities.**

⁴ Department of Education and Training 2006, *Maintaining the Advantage: Skilled Victorians*, Victorian Government, Melbourne.

1.4.3 Do TAFE institutions have skilled and adaptable staff and the infrastructure to meet the skills needs of enterprises?

TAFE institutions and the broader VET system face the same workforce planning issues that other large organisations and systems in Australia are facing. The challenges of maintaining highly capable staff in a diminishing labour market and a competitive global economy are daunting. This is particularly so in the public sector, where remuneration is traditionally lower than the private sector.

These challenges are compounded for the VET system as it moves to meet the changing needs of industry and enterprises by ensuring that both management and teaching staff are fully knowledgeable of the business environment in which enterprises operate. There will need to be a stronger strategic focus and a higher priority allocated to upgrading and maintaining the skills of the TAFE institution teaching workforce.

While the current total expenditure on raising the skill level of staff in TAFE institutions has increased with the operation of the TAFE Development Centre, it remains below conservative benchmarks that estimate that TAFE institutions should be contributing 2 to 3 per cent of their budgets to skills development initiatives.

Current workforce data in VET is poor, with insufficient information available to be able to plan for the future. This has implications for being able to satisfy future demand arising from skills shortages in the VET system itself, let alone meeting the skills needs of industry.

In recent years, plant and equipment has become increasingly sophisticated and costly. In such circumstances, employers and training providers need to pursue practical forms of collaboration in the acquisition and use of equipment, continuing to explore opportunities for collaboration or for accessing equipment in the workplace and linking this to the move towards the high priority manufacturing industries.

The absence of comprehensive and reliable workforce data at either a system or institution level make it difficult to identify and address future workforce requirements in specific skills areas. For this reason, OTTE should consider developing a state data collection.

Recommendations

8. **That, as a matter of urgency, VLESC support the governing councils of TAFE institutions to develop and integrate workforce planning into the business of TAFE institutions and the broader VET system.**
9. **As a first step in workforce planning for the VET system, VLESC request the Department of Education and Training (OTTE) to coordinate the development of a VET workforce data collection to provide reliable, disaggregated, state-wide workforce data so that workforce planning can be integrated into the business (and business plans) of each TAFE institution.**

RESPONSE provided by the Chair, Victorian Learning and Employment Skills Commission

A formal response (to this performance audit report) will represent the combined view of the Chair of the Victorian Learning and Employment Skills Commission and the Secretary, Department of Education and Training.

I have appreciated the opportunity to provide input and am of the view that a number of observations will positively inform the VLESC's operations.

RESPONSE provided by the Secretary, Department of Education and Training

The recommendations in the report have been considered by the Department and the Chair of the Victorian Learning and Employment Skills Commission.

Responses to these recommendations are provided in the body of the report.

The Department of Education and Training agrees with recommendation 2, notes that recommendations 1 and 4 are consistent with current directions, and that recommendation 5 aligns with the findings of the VET Inquiry and "Maintaining the Advantage: Skilled Victorians".

The Victorian Learning and Employment Skills Commission does not accept recommendation 3, accepts recommendation 7, notes recommendation 8 and notes that recommendations 6 and 9 are consistent with VLESC's current directions.

RESPONSE provided by the Secretary, Department of Innovation, Industry and Regional Development

Delivering the necessary skills for a prosperous Victoria is indeed a significant and complex challenge. As your report indicates, implementing some of the recommendations will not be easy. For example, the complex relationships between numerous statutory and advisory bodies, public and private training providers, state and Commonwealth government agencies and employers will challenge progress on high-level changes recommended.

The Department of Innovation Industry & Regional Development will continue to collaborate with OTTE on broad industry policy and contemporary industry positions where they impact on industry skill needs. This level of engagement will be further enhanced through DIIRD having the responsibility for delivering the \$10.6 million Business Skills for the Future program announced in the Government's "Maintaining the Advantage: Skilled Victorians" statement to improve business planning of future workforce needs.

The Department of Innovation, Industry and Regional Development supports recommendations 1, 6,7 and 8 and comments on their approach to recommendations 2,3,4 and 5.

RESPONSE provided by the Chief Executive Officer, Chisholm Institute of TAFE

Chisholm staff have been involved in the consultation on this performance audit from the outset. The Institute has had every opportunity to contribute comment and data and has in fact provided significant amounts of material to inform the findings. The Institute appreciates the consultative approach that was adopted to compiling the report, which results in there being few real surprises in the recommendations.

From this stand point, it is not appropriate or useful to reiterate the content of earlier discussions in this letter and what follows therefore represents only some concluding observations on reading the final draft

- Taking the recommendations in isolation from the associated text, they are very general in nature and do not refer specifically to the manufacturing industry. This may be perceived by readers as flawed in the sense that it gives rise to questions as to whether it is possible to generalise on the basis of an examination only of the manufacturing industry. On the other hand, if it is not intended that the recommendations be interpreted so broadly, they should be re-worded to reflect a more direct applicability to the manufacturing industry.*

RESPONSE provided by the Chief Executive Officer, Chisholm Institute of TAFE - continued

- *Related to this apparent generalised approach to the recommendations there is the important issue of the requirement for the VLESC and OTTE to balance the training and skill needs of the manufacturing industry with those of all the other industries for which training is purchased and provided. This point does not seem to be acknowledged.*
- *As a major provider of training for the manufacturing industry, it is in some respects disappointing for Chisholm that the report does not provide more guidance on the longer term skill needs of the manufacturing industry that might assist in a more rapid response by TAFE institutes and, for that matter, the VLESC. The audit objectives certainly invite this expectation.*
- *On a more technical note, some of the recommendations reveal a misunderstanding of the powers of TAFE institutes and the associated relationship with the VLESC. These are outlined in the new Education and Training Reform Act 2006 and previously in the Vocational Education and Training Act 1990. Under neither of these pieces of legislation would it be anticipated that the VLESC would become directly involved in the operations of TAFE institutes as is implied in recommendations 6, 7 and 8.*

RESPONSE provided by the Chief Executive Officer, Goulburn Ovens Institute of TAFE

I agree with the conclusions you have reached and each of the eight (8) recommendations you have made.

Overall the report reflects the difficulties this Institute experiences in dealing with small to medium sized enterprises within the manufacturing sector, and in meeting their training needs.

As you will be aware from discussions with my staff as part of the audit process, this Institute has been working over a number years on the enhancement of our strategic business planning processes, your recommendation that VLESC develop a new approach to publicly funded VET in TAFE institutions, based on a negotiated rolling 3.-year business plan (Recommendations 3 and 4), is therefore entirely consistent with our current thinking. Similarly, this institute's recent work on strategic workforce planning to align the emerging skills needs of staff with developments in industry is also consistent with your recommendations to develop and integrate workforce planning in the broader VET system (Recommendations 7, 8 and 9).

RESPONSE provided by the Chief Executive Officer, Goulburn Ovens Institute of TAFE - continued

This institute also fully supports the need for TAFE institutions to develop a better understanding of business to build better partnerships in identifying and meeting industry training needs (Recommendation 6). Regardless of the outcome of your report, we will be working towards a greater integration of the Innoven Food Industry Centre Performance Improvement model (as detailed in your Figure 5C) into our mainstream business. This model focuses specifically on the needs of the business, from a business perspective, and leads to training that is specifically aimed at improving the business rather than simply providing accredited qualifications.

In conclusion, I fully support the conclusions reached by your audit team and agree will all of the recommendations you have made in your report.

RESPONSE provided by the Chief Executive Officer, Kangan Batman TAFE

In our view, the already high level of effectiveness of VET in Victoria could be enhanced by greater alignment between the strategic research and planning of the Department of Innovation, Industry and Regional Development and the Department of Education and Training (OTTE).

We understand over delivery of low priority SCH will not be paid for by OTTE in future.

Industry responses appear at times not to understand the limitations placed on TAFE by virtue of government ownership and rules for the expenditure of public funds.

Standard industry and occupation codes may not always relate effectively to contemporary workforce duties, nor the segmentation of skills required by contemporary manufacturers.

The audit has not commented on limitations imposed by the current nature of the TAFE Teachers Award except to note salary competition from private industry.

Kangan Batman TAFE agrees with recommendation 1,2,4,5,8 and 9, strongly agrees with recommendations 3 and 7, and partly agrees with recommendation 6.

RESPONSE provided by the Deputy Vice Chancellor, Swinburne University of Technology (TAFE division)

Swinburne TAFE Division broadly agrees with the recommendations and conclusions contained in the report and we confirm that overall the report reflects the tenor of the advice provided by staff of our organisation.

RESPONSE provided by the Chief Executive Officer, Northern Melbourne Institute of TAFE

I confirm that the draft report accurately represents information specific to NMIT operations as presented by NMIT personnel to the review panel members.

Further I agree with and support each of the nine recommendations detailed in the draft report.



2. Manufacturing in Victoria



2.1 Manufacturing in Victoria

2.1.1 Manufacturing and the Victorian economy

Victoria is Australia's leading manufacturing state, with manufacturing accounting for around 57 per cent of Victorian exports.

Currently, the manufacturing industry employs 344 300 people and provides 16.8 per cent of all full-time jobs in Victoria. It contributes significantly, through a multiplier effect, to job opportunities in related industries¹, through supply chain links and the transfer of technology.

However, employment in manufacturing has declined over the past 5 years, with skill shortages² being recorded in some occupations and some employers forecasting a "critical shortage of skilled trades persons in the next 5 years"³.

Similarly, exports of manufactured products from Victoria declined by nearly 20 per cent over the 3-year period 2002-04, from \$19.14 billion to \$15.41 billion. Over the same period, the total exports from Australia declined from \$70.84 billion to \$66.31 billion. Victoria's share declined more rapidly, from 27.02 per cent to 23.23 per cent. More recent figures show a continuing decline in manufacturing jobs in Australia and Victoria.

2.1.2 Victorian Government manufacturing policy

In 2002, the Victorian Government released a key industry policy, *Agenda for New Manufacturing*⁴, which aimed to make Victoria a centre for manufacturing excellence in the Asia-Pacific region, as well as, boosting employment and economic growth across the state.

The policy recognises the importance of manufacturing to the state's economy and the emerging role of "new manufacturing" in building a strong knowledge and export base for the state.

¹ Department of Innovation, Industry and Regional Development 2005, *Strategic Assessment of Manufacturing*, Victorian Government, Victoria.

² *ibid.*

³ Australian Industry Group 2004, *Australia's Skills Gap Costly, Wasteful and Widespread*, Australian Industry Group, Melbourne.

⁴ Minister for Manufacturing & Export 2003, *Agenda for New Manufacturing*, Victorian Government, Melbourne.

The policy statement acknowledges the need to build skills in manufacturing by strengthening the government's commitment to education, training and skills (including associated infrastructure). In particular, the policy highlights the role of the Office of Manufacturing⁵ and the Manufacturing Industry Consultative Council⁶ in facilitating skill development and as key mechanisms for assisting to improve manufacturing industry skills and training.

The Victorian Government has also released industry-specific strategic plans (for example, for the Victorian metal fabrication and Victorian automotive manufacturing industries⁷). Both plans identify the importance of employees with sophisticated skills if manufacturing enterprises are to be competitive in Australia and overseas.

The government also works with the manufacturing sector to identify global shifts in manufacturing likely to affect local enterprises in global supply chains. This work takes into account the emerging skills needs of such enterprises, especially those operating within the high end or elaborately transformed manufacturing environment.

2.1.3 Skill shortages in manufacturing

One of the challenges currently impacting on the manufacturing industry is skill shortages. Skill shortages can impede industry growth and innovation, and cause upward pressure on wages. This can affect the responsiveness and productivity of manufacturing enterprises.

However, despite its wide publicity and common usage, the concept of skills shortage often has different meaning for different people, depending on their perspective. For the purposes of this audit, the following explanation is used.

A skill shortage occurs when employers are unable to fill, or have considerable difficulty in filling, vacancies for an occupation (or specialised skills needs) at current levels of remuneration and conditions of employment, and reasonable location. Hard-to-fill vacancies are those that are unfilled after a reasonable period. The Commonwealth Department of Employment and Workplace Relations and others describe "skills shortages" in this way.

⁵ The Office of Manufacturing is part of the Department of Innovation, Industry and Regional Development.

⁶ The Manufacturing Industry Consultative Council is an advisory group of representatives from across the manufacturing sector. The council is the key manufacturing advisory body to the Minister for Manufacturing and Export.

⁷ Department of Innovation, Industry and Regional Development 2001, *Victorian Automotive Manufacturing Industry 2001 to 2011 Strategic Plan*, Office of Manufacturing and Service Industries, Victorian Government, Melbourne.

Skills gaps occur where existing employees lack the required qualifications, experience and/or specialised skills to meet the firm's skill needs for an occupation. Skill gaps may apply to new employees, where employers are unable to find suitable applicants for an occupation and recruit workers who need further training and/or experience to meet the firm's skill needs for the occupation⁸.

Recruitment difficulties occur when employers have some difficulty filling vacancies for an occupation. There may be an adequate supply of skilled workers, but employers are still unable to attract and recruit sufficient suitable employees⁹.

Victorian employers and employer associations that we spoke with were in agreement that a number of enterprises are having difficulty in finding and maintaining skilled workers, especially in some occupations and in some regions, and that in the traditional trades there are particular skill shortages. The Department of Employment and Workplace Relations in 2005 identified that there were the following trade skill shortages in parts of the Victorian manufacturing industry: fitter, metal machinist, tool maker, metal fabricator, welder, sheet metal worker (engineering trades) and motor mechanic (automotive trades)¹⁰.

Skills gaps are also an issue for industry. Our discussions with the Australian Industry Group on its recently released survey of 500 companies emphasised the training need for generic skills such as communications, problem solving, business acumen and so forth. This need was recently noted by the Business Council of Australia¹¹ and is supported by the enterprises with which we spoke.

Enterprises and other manufacturing industry representatives stressed the need for skills training in Computer Aided Design (CAD), Computer Aided Manufacturing (CAM) and Computerised Numerical Controls (CNC) for metal fitters, machinists and toolmakers. Additionally, as a result of changes in the mode of production and supply chain management, there is a need for training in advanced technical production in the automotive and pharmaceutical manufacturing industries.

⁸ C Shah and G Burke, "Skill shortages: concepts, measurement and policy responses" in *Australian Bulletin of Labour*, Vol. 3, 2005, No. 1, pp. 44-71.

⁹ *ibid.* pp.

¹⁰ Department of Employment and Workplace Relations 2006, *Skills in Demand Lists States and Territories - 2006*, Commonwealth Government, Canberra.

¹¹ The Business Council of Australia 2006, *New Concepts in Innovation: The Keys to a Growing Australia*, The Business Council of Australia, Melbourne.

For example, in motor vehicle manufacturing the use of microcomputer technology has increased the need for students to gain diagnostic skills through microprocessor training. The highly regulated pharmaceutical industry also has skill gaps in business skills of administration, risk management and understanding export markets.

Over the past decades, a number of other factors have impacted upon the manufacturing industry. These include the privatisation of public utilities (many of which were traditional training grounds, employers and suppliers of skilled labour for the engineering trades); the introduction of new labour-efficient technology; and the increased use of labour hire arrangements in preference to direct employment.

A number of companies we spoke with during the audit were experiencing difficulties in attracting and recruiting employees with the right type of skills, especially apprentices. Some of the reasons for these difficulties may lie outside the training arena and could be about the recruitment approaches of enterprises, the attractiveness of the working conditions, the location of the enterprise and the enterprise's commitment to training of the apprentices they employ.

There is broad agreement among Victorian employers that there has been a structural change in the demand for skills. Changes in technology and in the integration of work processes have meant that employees increasingly need higher-level skills and/or a different mix of skills.

Maintaining the skill level of the existing workforce and increasing the skill level of those staff without formal qualifications or with low-level qualifications is a challenge for manufacturing enterprises.

This situation has focused attention on the industry's skill base and the government's contribution toward that skill base, particularly through its support of vocational education and training (VET).

2.1.4 Vocational Education and Training in manufacturing

The VET system plays an important role to help address the challenges facing industry.

Technical and further education (TAFE) institutions deliver most publicly-funded VET for manufacturing, with trade training making up a significant amount of the total training.

Apprenticeships and traineeships account for 27 per cent of publicly-funded VET, and 20 per cent of all VET activity in Victoria. This proportion of apprentices and trainees is higher in the sectors of manufacturing selected for the audit. Sixty per cent of all apprenticeship and traineeship training in Victoria is delivered by TAFE institutions.

Just over 4 per cent of publicly-funded training in TAFE institutions directly supports the engineering and vehicle manufacturing sectors. The amount of publicly-funded training for the pharmaceutical industry is negligible.

2.2 About this audit

The audit examined how well Victoria's publicly-funded vocational education and training is meeting the skill needs of the manufacturing industry. Three sectors in manufacturing industry – vehicle manufacture, engineering and pharmaceutical manufacture – were selected for particular attention. Specifically, the audit examined:

- To what extent does Victoria's purchase of publicly-funded VET meet the skill needs of the manufacturing industry?
- Do Victorian TAFE institutions have sufficient capacity and capability to provide for the skill needs of the manufacturing industry?

We conducted the fieldwork for the audit between November 2005 and February 2006 in the following agencies:

- Victorian Learning and Employment Skills Commission
- the Department of Education and Training's Office of Training and Tertiary Education
- Chisholm Institute of TAFE
- Swinburne University of Technology (TAFE Division)
- Goulburn Ovens Institute of TAFE
- Kangan Batman Institute of TAFE
- Northern Melbourne Institute of TAFE.

The audit was performed in accordance with the Australian auditing standards applicable to performance audits and, accordingly, included such tests and procedures considered necessary.

We provide further details about our audit methodology, including the cost of the audit, in Appendix A.



3. Vocational education and training in Victoria



3.1 Vocational education and training system

The Vocational Education and Training (VET) system plays an important role in assisting industry to address its needs for skilled workers.

The VET system delivers education and training to enhance employment-related skills and qualifications across a wide range of occupations. It provides participants with the skills to enter the labour force, retrain for a new job or upgrade skills for an existing job.

In 2004, 30.2 per cent of Australians aged 15 to 64 held a VET qualification. Apprenticeships and traineeships account for 27 per cent of publicly-funded VET, and 20 per cent of all VET activity in Victoria. This proportion of apprentices and trainees is higher in the sectors of manufacturing selected for the audit.

Total government spending on VET in Victoria is about \$900 million annually, with the Commonwealth Government contributing 30 per cent and the Victorian Government 70 per cent¹. (The Commonwealth provides additional moneys, largely through employer incentives, estimated to bring Commonwealth support closer to 50 per cent.)

Figure 3A shows how the national education and training system, and its various certificates, align with age, years of schooling and post-compulsory education systems. As can be seen, the VET system sits alongside the final years of schooling and undergraduate courses, enabling movement between these sectors.

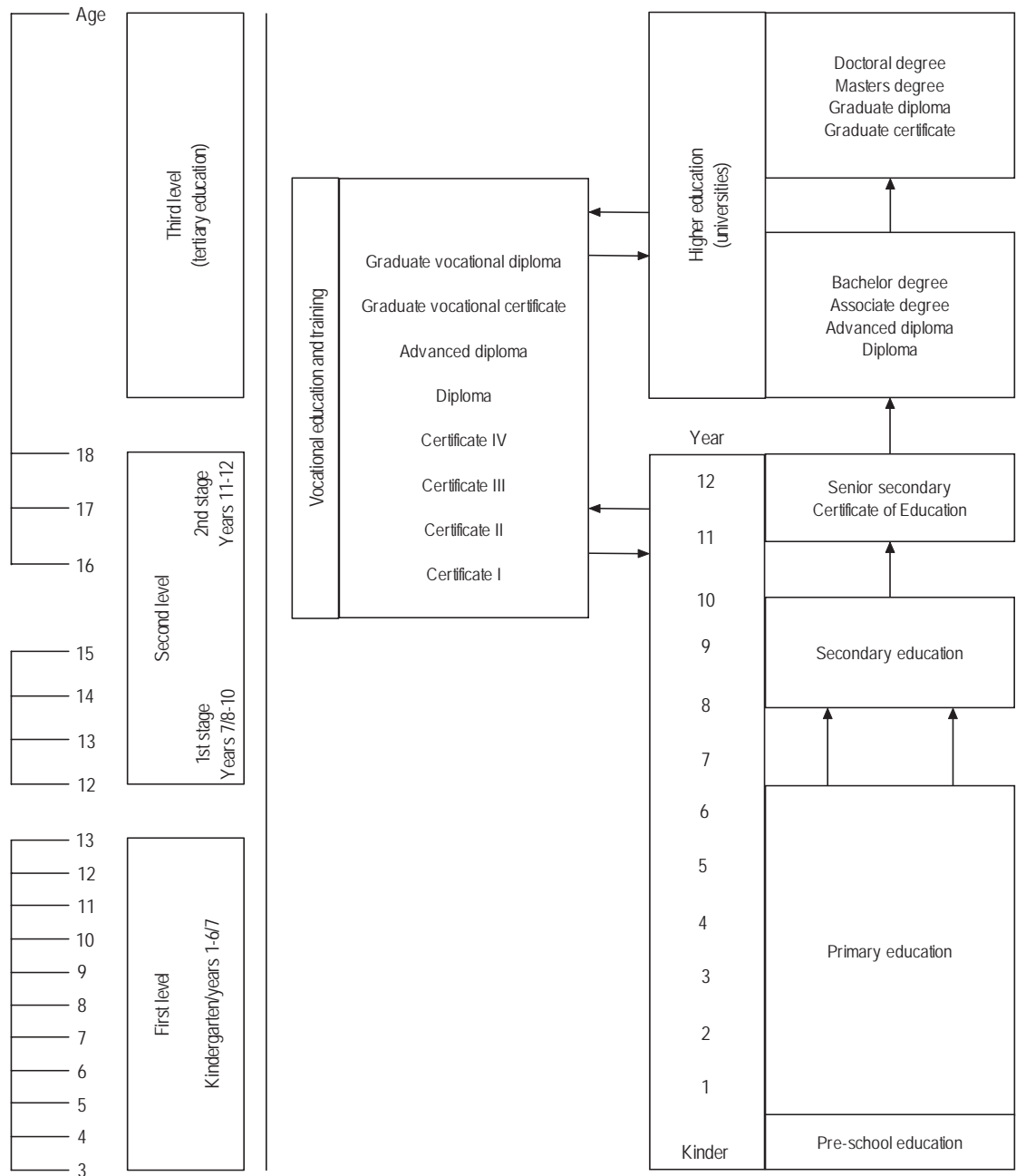
Numerous Commonwealth and state government agencies and statutory bodies, private and public registered training providers, industry bodies, enterprises, labour market participants and students influence the planning and delivery of VET. Figure 3B provides an overview of the governance and training delivery arrangements for VET.

As can be seen, the lines of policy influence and service delivery are complex, with several agencies charged with responsibility for regulating, providing advice, planning, purchasing or delivering VET on behalf of the Victorian Government and the Minister for Education and Training.

The following sections provide an overview of these interrelationships.

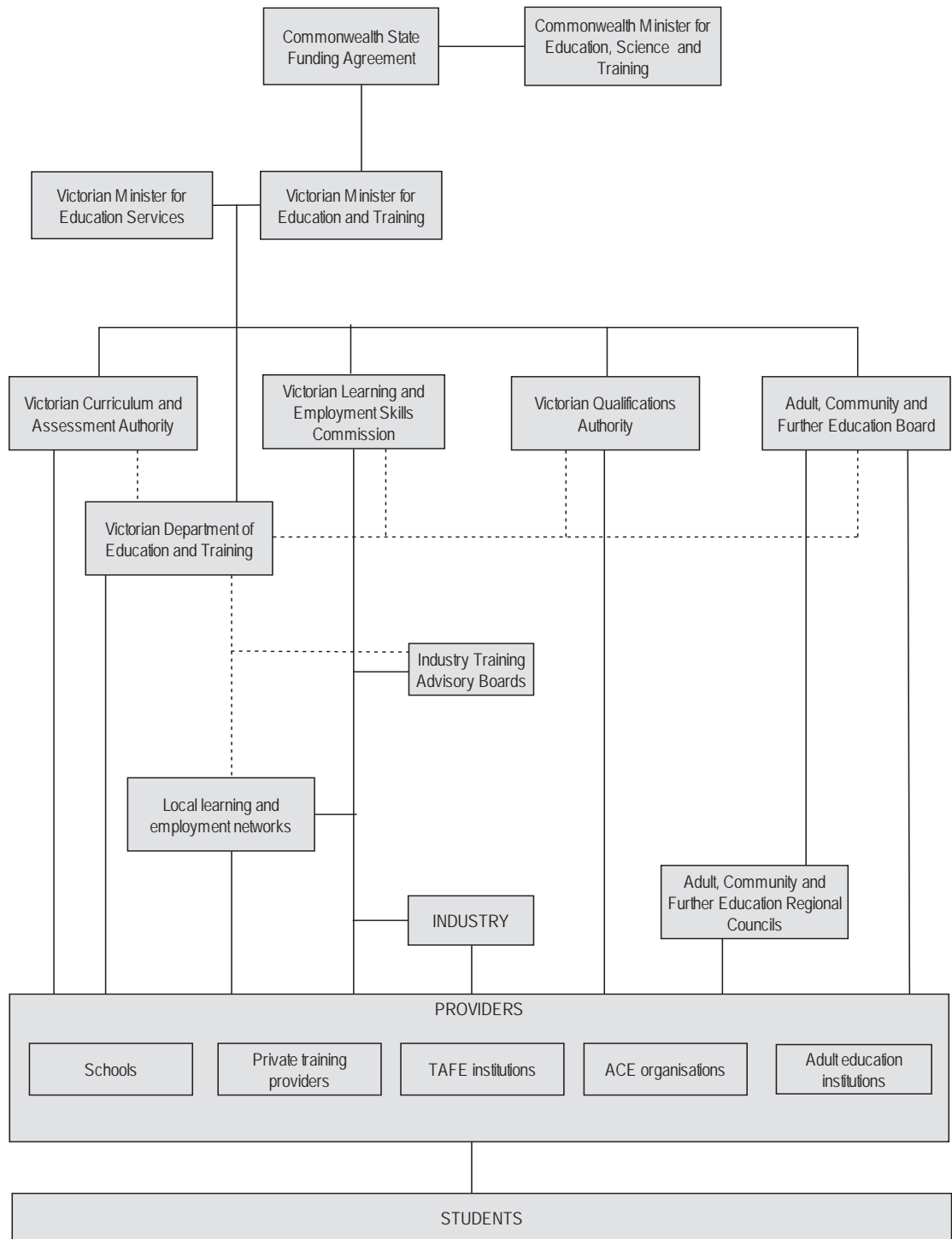
¹ Victorian Learning and Employment Skills Commission 2005, *Annual Report 2004-05*, Victorian Learning and Employment Skills Commission, Melbourne.

FIGURE 3A: THE AUSTRALIAN EDUCATION AND TRAINING FRAMEWORK



Source: Victorian Auditor-General's Office, based on Steering Committee for the Review of Commonwealth/State Service Provision 2006, *Report on Government Services, 2006*, Productivity Commission, Canberra.

FIGURE 3B: GOVERNANCE AND TRAINING DELIVERY ARRANGEMENTS FOR THE VET SYSTEM



Source: Based on Victorian Learning and Employment Skills Commission VLESC, *Annual Report 2004-05*.

3.2 Policy environment

Although Victoria retains legislative responsibility for VET, it does not have unfettered control of the system. Commonwealth funding brings with it a number of conditions; the content of training packages is determined through a complicated and lengthy national process, and quality assurance is underpinned by a national framework.

3.2.1 Commonwealth-state bilateral arrangements

VET in Victoria is subject to the national structures and policies of the Ministerial Council for Vocational and Technical Education. These national arrangements include:

- *Australia's National Strategy for VET: 2004–2010*, which guides VET planning for states and territories, priority setting and resource allocation arrangements for VET across Australia
- The *National Skills Framework*, which regulates national qualifications, accredits courses, produces national industry standards, establishes quality assurance arrangements and supports a network of national industry skills councils.

Victoria also has several responsibilities under the *Commonwealth-State Funding Agreement for Skilling Australia's Workforce 2005-2008*. This agreement sets out the terms and conditions applicable to Commonwealth funding, as well as several requirements that Victoria must comply with. These include:

- compliance with the Skilling Australia's Workforce legislation
- submitting an annual VET plan that demonstrates how Victoria is responding to the national priorities, is achieving national targets and delivering against national key performance measures
- improving the system's responsiveness to rapid changes in demand for skills development and addressing skills shortages, especially in traditional trades and in emerging industries
- increasing participation and up-skilling mature age workers.

Under the agreement, the Commonwealth and Victoria have agreed to a range of national targets and state-specific targets and accountability measures. These are measured primarily in student contact hours (SCHs).

In an era when recognition of prior learning and workplace training are increasing in importance, the retention of the SCH as the primary measure of VET activity is becoming less appropriate. Although there seems to be a considerable body of opinion that the SCH should be replaced as the major accountability measure, it has been difficult to obtain agreement on a viable alternative or alternatives.

3.2.2 Council of Australian Governments

In February 2006, the Council of Australian Governments (COAG) agreed, among other measures, an action plan to address skill shortages through key strategies aimed at removing barriers to alleviate skill shortages. This included shortening the duration of apprenticeships if participants achieve competencies before the usual time period (by December 2006); targeted regional programs to improve the supply of skilled labour in targeted industries and regions (funding from July 2006); and new arrangements for sharing labour market data, nationally.

In May 2006, the Victorian Government released *A third wave of national reform: A new national reform agenda for COAG*, setting out proposals to increase national prosperity through improving the competitiveness of Australian businesses.

The proposals highlight the importance of clear objectives, transparent accountability and continuous improvement based on long-term outcomes and intermediate goals.

3.2.3 Victorian Government VET policy

The Victorian Government's own policy framework for the delivery of VET is articulated in the following documents:

- *Growing Victoria Together*, a broad government vision statement that identifies, as key goals for the government, high quality education and training for lifelong learning as well as more quality jobs and thriving innovative industries across Victoria.
- *Knowledge and Skills for the Innovation Economy*, a ministerial statement that the Victorian Minister for Education and Training released in June 2002. It sets out the future directions for the Victorian vocational education and training system and commits the Victorian Government to the goal of a "training system that is responsive to the needs of existing and emerging industries, innovative and able to specialise in key industry areas"².

² Minister for Education and Training 2002, *Knowledge and Skills for the Innovation Economy*, Victorian Government, Melbourne.

In February 2006, the minister issued a further report titled *Inquiry into Vocational Education and Training*³. This report states that it “continues and strengthens the directions set in the 2002 ministerial statement”. It makes 63 recommendations to respond to the key challenges Victoria faces, with the overall aim of raising Victoria's skill and qualification profile.

In March 2006, the Victorian Government released *Maintaining the Advantage: Skilled Victorians*⁴, which commits a further \$241.47 million to Victorian VET and sets out the government's key priorities, including the skills of existing workers and adult learners, as well as apprentices and trainees.

3.3 Structure of VET in Victoria

3.3.1 Victorian Learning and Employment Skills Commission

Vocational education and training in Victoria is governed by part 2 of the *Vocational Education and Training Act 1990*. The Victorian Learning and Employment Skills Commission (VLESC)⁵ advises the minister on a number of matters, including the development and implementation of policy for post-compulsory education and training and vocational education and training strategies to complement state and national economic and social development.

The VLESC is a statutory authority chaired by an industry leader. Its board includes 4 members from industry associations, 2 community members, the chairs of the Victorian Qualifications Authority and the Adult, Community and Further Education Board as well as the secretary of the Department of Education and Training.

The VLESC has legislative responsibility for the delivery of VET training in Victoria. As well as advising government on vocational training and education, the VLESC also contracts both public and private training providers to deliver VET training and monitor their outcomes.

³ Minister for Education and Training 2006, *Inquiry into Vocational Education and Training*, Victorian Government, Melbourne.

⁴ Department of Education and Training 2006, *Maintaining the Advantage: Skilled Victorians*, Victorian Government, Melbourne.

⁵ The VLESC will be renamed the Victorian Skills Commission when the new Education and Training Reform Act 2006 comes into effect.

Although VLESC has legislative responsibility for policy development, administration of the system mainly occurs through the Department of Education and Training's Office of Training and Tertiary Education (OTTE). Under delegation from VLESC, OTTE is responsible for planning, regulating and delivering a range of education and training programs and services in Victoria. As an agent of VLESC, it purchases from, and monitors, services offered by registered training organisations (RTOs). In practice, largely because the VLESC has such a small secretariat, policy advice also appears to originate mainly from OTTE.

For the purposes of the Commonwealth-state agreement, the VLESC is the State Training Authority for Victoria under the Commonwealth *Skilling Australia's Workforce Act 2005*.

3.3.2 TAFE institutions

Technical and Further Education (TAFE) institutions in Victoria are independent public statutory authorities, under the *Education and Training Reform Act 2006*. They deliver about 80 per cent of all publicly-funded VET and receive most of their funds through the Department of Education and Training, especially through their profile of publicly-funded training.

The capital assets of the 18 TAFE institutions are worth more than \$2.1 billion, including the land, buildings and other assets owned by the state. This network of TAFE institutions has an annual turnover of around \$1 million dollars in delivering both fee-for-service and publicly-funded training.

The councils of TAFE institutions are responsible for the good governance and policy direction of the institutions, including working to achieve the social and economic objectives of the Victorian Government.

Both the VLESC and OTTE have a role in overseeing the TAFE institutions and other training organisations that make up the Victorian VET system.

3.3.3 Other registered training organisations

In addition to the network of 18 TAFE institutions, Victoria's VET system is made up of more than 1 200 other registered providers, including enterprise-based and other private providers, schools and Adult Community Education (ACE) organisations.

Providers are collectively referred to as registered training organisations (RTOs). Most courses delivered by RTOs are nationally accredited and they must meet national quality assurance standards to deliver nationally recognised training. This has resulted in a national system for the provision of vocational education and training.

Each year, VET providers deliver approximately 80 million SCHs of publicly-funded training in Victoria at a cost, in 2005, of around \$660 million. The recently announced an additional \$241.47 million for the VET system is to be available over the next 4 years.

Publicly-owned VET providers are estimated to deliver an additional 30 million SCHs each year as fee-for-service training. The amount of fee-for-service training delivered by private providers is not available.

About half of all training effort is at the level of Certificate III and Certificate IV, with one-quarter at Diploma and Advanced Diploma levels, and a further quarter at entry level, Year 12 or bridging courses.

3.3.4 Industry training advisory bodies

There are currently 18 industry training advisory bodies (ITABs). They act as the primary source of industry advice for VET in the state. Membership of these bodies is generally made up of employer and union representatives, with some provider and enterprise membership.

Section 3 of the *Education and Training Reform Act 2006* sets out the legislative role of Victorian ITABs to include the promotion of training within industry and the preparation of industry training plans.

This is more fully prescribed by their performance and funding agreements with the VLESC. OTTE manages the performance and funding of ITABs on behalf of VLESC, requiring ITABs to:

- develop an operational plan
- produce a “change drivers” report on the training needs arising from key changes in industry and a legislative impact statement
- provide advice in relation to the Priority Education and Training Program (PETP)⁶
- provide feedback/validation to OTTE on the research undertaken by OTTE
- report on, and participate in, policy consultations and OTTE quarterly industry workshops
- report on curriculum development initiatives in new and emerging areas.

⁶ VLESC uses the PETP to purchase training from private registered training organisations in industries and regions that are government priorities.

The role of ITABs is now more qualitative in nature than previously, with no requirement to “prepare quality training plans detailing industry skill requirements, the quantity and types of training needed by the industry and training arrangements” as specified in the Act. This research and planning function is now undertaken by OTTE.

3.4 Responses to social and economic change

3.4.1 Links between vocational training and education

As Figure 3A shows, the VET system is located in a continuum of education between compulsory education and undergraduate degrees. The VET system is intended to facilitate lifetime learning and to contribute to an increasingly educated workforce.

VET students fall into 3 significant categories: adult part-time, apprentices and trainees, and young full-time students. A system of connected “pathways” between various post-compulsory courses facilitates crediting competencies gained in one course to other courses. This includes courses at other educational providers.

Since the industrial reforms of recent decades, a system of nationally recognised training in the form of training package qualifications, state accredited courses and units of competency assists this integration with education and the mobility of a credentialed labour force between states.

Nevertheless, the connection between TAFE students’ area of study and their long-term employment in the occupations for which they trained remains tenuous.

Consequently, the economic and social obligation on the VET system to invest in the education of young people yet to enter the workforce full-time (or older workers re-entering) may not meet the demands of industry for immediately useful skills – whether these are basic competencies, trades, more advanced skills in new and emerging technologies, or business skills in information technology, global marketing or exporting, and so on.

Resolution of these complex policy conundrums is at the heart of government’s decisions about where and when and how allocation of limited public funding of VET is made

Government aims to achieve a balance between broad access for individuals and investment in skill development in areas of high economic and social importance to the economy.

Government cannot realistically fund all training for employment. Its role is to balance these competing needs ensuring that vocational education qualifications are sufficiently flexible to meet the skill needs of employers and learners, the social and personal aspirations of the community, and of individuals.

3.4.2 Strategic responses in managing change

Since the mid-1980s, Victorian and national responses to the far-reaching economic, industrial and social changes of previous decades are numerous. Traineeships were introduced as a new form of structured training for young people and further reforms associated with industrial award restructuring linked industrial training into the educational continuum of lifelong learning.

Subsequently, reforms to state and national systems of industry advice, targeted funding, quality assurance and accreditation of qualifications have been established along with the registration of private as well as public training providers.

Public training providers, largely TAFE institutions and ACE centres, have been freed to provide fee-for-service training, including in-industry training. TAFE institutions operate as statutory bodies and complex, competitive businesses. Some are highly successful, innovative in meeting industry needs and flexible in delivering public policy outcomes.

The VLESC's purchasing priorities for publicly-funded VET are made within a complex array of Commonwealth and state accountabilities and performance targets.

Consequently, skilled leadership continues to be needed on the part of both OTTE and TAFE institutions' management to operate successfully within the dual environments of:

- highly prescriptive performance agreements for publicly-funded training
- responsive training delivered to meet current and emerging needs of industry, and students.

3.5 Conclusion

The national and state VET system is characterised by complex interrelationships, with numerous statutory bodies charged with managing and advising on the system, interweaving advisory structures, expressed needs from industry and the community, multiple private and public delivery arrangements, and diverse accountabilities required by both Commonwealth and state governments.

We have taken this complexity into account in addressing the audit question of whether the VET system is meeting the skills needs of the manufacturing industry.

Additionally, we have taken into account recent statements by the Minister for Education and Training⁷ and the Premier of Victoria on vocational education and training and Commonwealth-state relations⁸.

⁷ Department of Education and Training 2006, *Maintaining the Advantage: Skilled Victorians*, Victorian Government, Melbourne.

⁸ Department of Premier and Cabinet 2005, *A Third Wave of National Reform: A new national reform initiative for COAG*, Victorian Government, Melbourne.



4. Does Victoria's purchase of publicly-funded vocational education and training meet the skill needs of the manufacturing industry?



4.1 The Victorian Learning and Employment Skills Commission

Government funding of vocational education and training (VET) in Victoria is the responsibility of the Victorian Learning and Employment Skills Commission (VLESC). The VLESC seeks to achieve a balance between the aspirations of individuals and skill needs in areas of high economic and social importance.

The VLESC is a statutory authority established under the *Vocational Education and Training Act 1990*¹. It advises the minister on a number of matters, including policy and planning for post-compulsory education and training, vocational education and training strategies to complement state and national economic and social development, and the effective spending of money made available for VET.

The VLESC is chaired by an industry leader and its board includes 4 members from industry associations, 2 community members, the chairs of the Victorian Registration and Qualifications Authority and the Adult, Community and Further Education Board, as well as the secretary of the Department of Education and Training.

As the Victorian state training agency, the VLESC is accountable for Commonwealth funds for VET under the Commonwealth *Skilling Australia's Workforce Act 2005*.

The Victorian Government spends around \$900 million each year on vocational education and training, with about 30 per cent of that in Commonwealth Government funds. The Commonwealth provides additional moneys, largely through employer incentives, estimated to bring Commonwealth support closer to 50 per cent of all public funding.

The VLESC contracts Victorian public and private training providers to deliver VET and monitors their outcomes. VET programs range from informal workshops to nationally accredited competencies and courses. They can be conducted in-house or through a variety of public and private registered training organisations, including Victoria's network of technical and further education (TAFE) institutions.

¹ The VLESC will be renamed the Victorian Skills Commission when the new *Education and Training Reform Act 2006* comes into effect.

The VLESC has a small secretariat to service its responsibilities. It delegates responsibilities for planning, purchasing and monitoring the delivery of VET programs to the Department of Education and Training's Office of Training and Tertiary Education (OTTE).

In examining whether Victoria's vocational education and training met the skill needs of the manufacturing industry, we assessed:

- whether VLESC's purchase of industry training is based on robust advice
- how well OTTE purchases industry training on behalf of VLESC
- if the outcomes from publicly-funded industry training are measured and reported.

4.2 Is VLESC's purchase of industry training based on robust advice?

4.2.1 Planning framework

In June 2002, the Minister for Education and training announced the development of new strategic directions and priorities for public expenditure on VET. Specifically, the VLESC was to provide more detailed advice on how to determine priorities for such public expenditure.

In December 2002, following advice from OTTE, the VLESC endorsed *The Framework for Assessing Demand and Establishing Priorities for VET* to address the minister's request. The aim of the framework is to:

- identify the nature and extent of priority training needs
- map those needs against the supply of publicly-funded training to identify where there is over-supply and/or poor training outcomes; that is, lower priority needs
- develop strategies to realign lower priority training to high priority training *within* and *between* industry areas.

The framework incorporates research, dialogue with key stakeholders, priority setting for publicly-funded VET and resource allocation.

Research and priority setting

Since 2003, OTTE has undertaken most of the research to establish industry priorities for publicly-funded VET. Reports from 18 Victorian Industry Training Advisory Bodies (ITABs) and 13 regional reference groups complement OTTE's research.

OTTE advised us that its early research on training in TAFE institutions showed that more than 15 per cent was delivered in low priority areas. Consequently, for 2003 and 2004, OTTE encouraged TAFE institutions to shift their delivery from areas of low priority training to those of high priority *within* industries.

These priorities were quite specific, developed at a course level and based on occupational groupings.

By the end of 2004, training in higher priority sectors had decreased by 1.5 million student contact hours (SCHs) from 2002, although apprenticeship and traineeship training increased by about 700 000 SCHs (10 per cent on 2002 delivery).

In early 2005, the VLESC endorsed an *Industry Shares Model* which builds on previous work. This model moves beyond shifts *within* industries to determining the most reasonable allocation of publicly-funded training *between* different industry sectors.

OTTE uses a labour market planning tool to identify its priority industries. In doing so, OTTE draws on a range of quantitative data, including:

- Australian Bureau of Statistics (ABS) census data 2001
- National Centre for Vocational Education Research (NCVER) surveys
- OTTE supply data from registered training organisations
- Department of Employment and Workforce Relations (DEWR) National Skill Shortage List
- DEWR *Job Prospects* publication.

The industry shares model weights the criteria of industry skill needs, return on investment in training and the impact of government policy (the skill needs of industry have a weighting of 70 per cent). This process enables OTTE to arrive at the relative share of government-funded VET that each of its industry categories² should have.

Figure 4A gives the relationship between publicly-funded training delivered to the different industries in 2004 and the relative share of publicly-funded training that is needed by each industry for the future, based on OTTE's industry shares model.

Figure 4A also shows how OTTE defines industries by reference to the industry coverage of its 18 ITABs.

² OTTE uses Australian Standard Classification of Occupations (ASCO) occupational categories as the basis of its planning analysis and advice rather than ANZSIC industry codes, acknowledging that "the term industry used (in this technical context) has a different meaning from that usually attributed to it. Individuals usually train for occupations not industries. The training system therefore uses the term industry to refer to training relevant to groups of occupations". From Office of Training and Tertiary Education 2005, *Determining Priorities for Publicly Funded VET 2006-08: Report to the Victorian Learning, Employment and Skills Commission*.

FIGURE 4A: DELIVERY AND NEED SHARE COMPARISON BY INDUSTRY (PER CENT)

Industry	2004 share of publicly-funded training	Projected need for share of publicly-funded training
High priority industries (a) -		
Automotive	3.3	5.5
Building and construction	7.9	12.0
Business services	17.5	22.9
Metals and engineering	4.3	8.6
Transport and storage	2.4	3.8
Wholesale, retail and personal services	6.4	7.8
Low priority industries (b) -		
Community services and health	14.8	12.9
Culture and recreation	9.9	2.2
Food processing	2.4	1.4
Tourism and hospitality	9.3	3.6
Industries in balance (c) -		
Electro-tech, printing, IT and communications	12.2	12.8
Forests	0.4	0.2
Furnishing and light manufacturing	1.1	1.1
Primary industries	5.3	4.0
Process manufacturing	1.1	0.6
Racing	0.4	0.1
Textiles, clothing, footwear and leather	1.2	0.4
Water	0.0	0.1
Total	100.0	100.0

(a) Where training need is greater than delivery.

(b) Where training delivery is greater than need.

(c) Where training need is in balance with delivery.

Source: Victorian Auditor-General's Office, from information provided by OTTE.

For the 3 industry sectors selected for the audit, the share of training delivered in 2004 and the relative share needed in the future is set out in more detail below.

Vehicle manufacturing

The automotive industry has 15.6 per cent of employment within identified skill shortage occupations in Victoria with an estimated 270 new employees per annum to the sector. Figure 4A, shows that the industry shares model estimates that the share of publicly-funded training should be increased from 3.3 per cent to 5.5 per cent.

For the vehicle manufacturing sector of the automotive industry, OTTE has estimated that the need for the share of publicly-funded training should increase from 0.3 per cent to 0.8 per cent.

Engineering

New employees in the engineering sector are estimated at 2 357 per annum for the next 3 years. The industry has significant skill shortage occupations and a high proportion of employees needing VET qualifications, including a large proportion with qualifications that may require further training for up-skilling. Apprenticeships are important for entry into certain metals and engineering occupations.

OTTE's industry shares model shown in Figure 4A, estimates that double the training effort is needed for the metals and engineering industry – from 4.3 per cent of publicly-funded training to 8.6 per cent, with the engineering sector of the metals and engineering industry also needing to double its share – from 3.8 per cent to 7.6 per cent.

Pharmaceutical manufacture

For the purposes of OTTE planning, the pharmaceutical manufacturing industry is located within the broader food processing industry. The weighted need for publicly-funded training is about half as much as for 2004 delivery, for both the industry as a whole and the sector that includes pharmaceutical manufacturing.

OTTE's projections are for 495 new entrants to the food processing industry per annum; the number for the pharmaceutical industry is not known, although the sector is noted for its growth and export potential for the Victorian economy and could be expected to employ staff with VET level competencies³.

Assessment of the model

The industry shares model is complex, with inputs from a range of published sources and multiple weightings. The model was independently assessed by 2 organisations in late 2004 and early 2005. These reviews reported that the model appeared innovative and the process rational and reasonable, given the acknowledged difficulties of this type of quantitative research. OTTE has addressed the majority of weaknesses identified and continues to review the model.

³ Over the 3-year period 2002-2004, the value of Victorian exports in medicinal and pharmaceutical product manufacturing increased from \$529 million to \$615 million. Victoria's export share of medicinal and pharmaceutical product exports also grew from 21.93 per cent to 24.72 per cent. (Sourced from the Department of Innovation, Industry and Regional Development.)

The assessments confirmed the difficulties in this area of research and modelling, noting that while there is a strong link between labour market developments and demand for training, it is not a consistent or uniform link across occupations, or over time. Each reported that the source and use of the criteria, factors, and weights appeared reasonable, especially as they are conditional on ongoing research and discussion.

One review also noted that some forecasts are not realistic when compared with stakeholders' detailed knowledge of the particular region or industry sector; stakeholders were concerned that the model consistently underestimated the training requirements for the trades, with OTTE's model a "lower bound" or conservative estimate of jobs growth and related training needs.

The use of a labour market planning model within an ever-changing market-based, global economy has limitations in defining industry priority training needs for skills as well as for occupations.

Such models are based on retrospective and aggregate data, which reveal little about the complexity of changes that are occurring, such as the blurring of occupational boundaries, the emergence of higher order skills sets, and the need for rapid up-skilling as processes, technology and productivity change.

OTTE emphasised that it uses the model as a planning framework within which moderating dialogue, active discussion and conversations take place with industry, TAFE institutions and other registered training organisations (RTOs). This intelligence informs a continual cycle of review and innovation.

A different approach to priority training setting has been adopted by the Queensland Government in its recently released green, then white paper, *Queensland Skills Plan*. The *Queensland Skills Plan* focuses on reform of the VET system, working closely with industry to customise strategies for skills development and to deliver customised training for the workforce. Like Victoria, Queensland is giving priority to trades.

Stakeholder response to the model

OTTE told us that the model provided "information into the training market place". As such, it is welcomed by many key stakeholders that we spoke to for its synthesis of quantitative source data analysed and weighted in a way that estimates the share of publicly-funded VET that certain industry sectors need.

Some key industry and education stakeholders also noted that the model's reliance on complex research and validation processes covered the risk of including incorrect information in the model, but they held concerns about the currency of information.

We found, and others observed, that the model does not adequately factor in current and dynamic economic and industry information from other government departments, institutions, industry and enterprises, although these sources frequently yield important information on trends or emerging needs.

Further, the model does not take account, fully, of either fee-for-service or industry contribution to Victoria's training effort. Nor can it take into account the critical variable that individuals need to enrol in courses in order to train in these high priority industry sectors or occupational groupings.

The ITABs we spoke to were reserved about OTTE's research. This was especially so where they felt the information used for planning was too aggregated and not reflective enough of the nuances in employment and the needs of particular enterprises at particular cycles of manufacturing.

Enterprises we spoke to believe that in some cases, occupational boundaries are blurring and that the Australian Standard Classification of Occupations (ASCO) descriptors, on which OTTE bases its planning, are generally inadequate to capture or define emerging work practices and converging technologies in some areas of manufacturing.

TAFE institutions

While TAFE institutions generally welcome the planning research by OTTE, they too are concerned about the currency of the data. Several institutions, as a matter of course, conduct their own environmental scans through multiple information sources, including local government data, industry associations, employers of apprentices and enterprises.

They use this data in constructing their plans for the industry training that they intend to deliver in the coming year. They also draw on other local, national and international research, and on intelligence provided by the managers of industry departments within the institutions.

Some institutions we spoke to emphasised the importance of enterprise data relative to industry data, noting that industry issues may focus more on national or industrial relations aspects of training, than on the training needs of enterprises in the parts of Victoria where they operate.

For the most part, OTTE relies on training providers to engage with enterprises on their offerings and to communicate VLESC's training priorities both to enterprises and to their other industry sources. This local intelligence is fed back to OTTE mainly during the negotiations around TAFE institution training plans and performance agreements, rather than being used as a primary source of advice in the planning model, although it is considered in study area reports (see below).

4.2.2 Strategic dialogue with key stakeholders

In addition to research and priority setting, OTTE's other main mechanism for informing the VLESC's *Framework for Assessing Demand and Establishing Priorities for VET* is "strategic dialogue" with key stakeholders. Such dialogues provide qualitative information for the review of industry training priorities and to support OTTE's training purchasing plans.

Industry advice

As previously mentioned, OTTE does not engage directly with enterprises to identify their current and emerging skill needs, or overtly seek direct input from particular industry sectors or enterprises. OTTE does not see this type of consultation as part of its responsibility, although some sections of OTTE consult with enterprises on an ad hoc basis around specific projects, for example specialist centre studies in priority industry sectors. However, we found no evidence that the results of such projects are taken into account in the planning framework.

Industry members on the VLESC provide a strong industry perspective. They give advice on proposals that OTTE develops and on proposed purchasing arrangements with training providers before giving formal approval to policies and strategies, and before signing performance and funding agreements with TAFE institutions and other providers. Beyond its own considerable knowledge and networks, VLESC's resources are such that it is reliant on OTTE for most of the technical advice it receives.

State industry training advisory bodies

In addition to providing advice to and receiving feedback from VLESC, OTTE relies primarily on Victorian ITABs to provide market intelligence and qualitative data on industry changes that will impact on training needs.

The state ITABs prepare annual "change driver" reports for their respective industries. These reports outline the factors that will create change in business practice, service and production processes, and workforce organisation over the coming 5 years and their projected impact on training needs.

OTTE uses the "change driver" reports to supplement and, where appropriate, affirm the quantitative data and interpretation of industry needs used in their industry priority reports.

Industry representatives and other stakeholders we spoke to question the current capacity of the ITABs to offer advice that truly represents industry skill needs. Their reservations were based on a concern about the level of resources available to ITABs and the changing requirements set by VLESC for them. In 2003, the Commonwealth withdrew funding support for state ITABs. The VLESC continued its support for state ITABs, although this has remained static at \$2.47 million since 2002.

Industry coverage by ITABs varies considerably. Some ITABs have a single industry coverage where the industry may have one or more sectors. For example, of the sectors we examined, the Manufacturing and Engineering Skills Advisory Body (Engineering Skills Training (Victoria) Inc.) covers fabricated metals products, aerospace and mining.

The Automotive Industry Training Board covers vehicle manufacturing and repair service and retail.

On the other hand, pharmaceutical manufacturing is covered by the Victorian Food Industry Training Board, which also includes dairy, meat, milling, confectionery, wine and other beverages. One consequence of this coverage is that neither the change drivers reports, nor OTTE's industry priority reports for the food industry comment on whether or not there are training needs for the pharmaceutical sector. This is despite its growing export value to the Victorian economy of \$615 million annually, one-quarter of all Australian pharmaceutical exports.

Further, training advice in these industry categories does not adequately capture the broader "employability"⁴ skills that enterprises need across industries in growing markets.

Several such enterprises mentioned that their training need was for transferable business skills. We found, and enterprises commented, that neither ITABS (in their "change driver" reports) nor OTTE (in its industry priorities reports) appeared to address these needs.

⁴ The Business Council of Australia's report, *New Concepts in Innovation: The Keys to a Growing Australia* 2006 argues that Australian education systems, including universities, are failing to develop employability skills such as communication, problem solving, ongoing learning, creativity, cultural understanding, entrepreneurship and leadership, Australian Higher Education, 3 May 2006, p. 29.

Employability skill needs are being addressed in several of the most recent (yet unpublished) "change driver" and industry priorities reports. This follows the 2005 decision, nationally, by all ministers for VET that employability skills would be explicitly set in all units of competency by the end of 2006.

Overall, we found that although the membership of the ITABs was appropriate to the industries they represented, they were constrained by their lack of resources and extent of their industry coverage in their capacity to provide effective advice.

Manufacturing ITABs

When we spoke with the Metals and Engineering Skills ITAB they noted that there is a need for information to supplement the "big picture" and what that means for training providers and enterprises.

The ITAB "knew when the bumps were happening", particularly those driven by highly competitive national and global markets, tight margins and contractors who can quickly leave the industry. They noted that occupations now are more diverse, with less demand for traditional trades even though traditional trades people, such as boilermakers, fitters and turners, and welders are very hard to find. Outside the trades, skills were seen to be more important than qualifications and those skills are often specific to the technology.

Other ITABs we spoke with were uncertain how OTTE used the information they provided and were concerned about the lack of feedback from OTTE. They expressed concern that the communication between OTTE, themselves and industry needed to improve.

The process for charting of skills shortages and review, which previously was the task of ITABs (but is now undertaken by OTTE), has inadequacies in terms of detailed knowledge or understanding of Victorian industry. This is especially so in interpreting or moderating the use of aggregated data or in validating vacancy data.

The Automotive Industry Training Board also noted that OTTE's use of occupational categories "can end up a long way from what you are actually talking about" because the tasks in a number of companies are becoming more fractured and diverse.

Regional study area reference groups

OTTE also seeks regional information from 13 study area reference groups. These 9 non-metropolitan and 4 metropolitan reference groups produce change driver reports that OTTE uses to validate its conclusions about industry needs. Senior personnel from TAFE institutions chair the reference groups, whose membership includes other providers in the region and the Local Learning and Employment Networks⁵.

The reference groups develop the study area change driver reports based on regional research. This research identifies industry need and education and training supply in the 13 areas across Victoria. The reports analyse whether priorities identified at a state wide level need to be modified to reflect any characteristics of regional need.

However, specific industry input from enterprises, especially in the metropolitan regions, is limited and the ITABs are not involved in the study area reference groups.

There are greater opportunities for more formal sharing of information from TAFE institutions on training needs, other than through study area reference groups and annual negotiations over purchasing agreements. These opportunities include formal planning advice from the governing councils of TAFE institutions.

Dialogue with other parts of government

OTTE has limited formal links with the Department of Innovation, Industry and Regional Development (DIIRD) in its key role as the government agency responsible for broad industry policy. DIIRD has significant knowledge of current and emerging industry practices and is able to present contemporary industry positions to other parts of government in a way that would be useful to the VET system.

For example, the government's key industry policy, *Agenda for New Manufacturing*, recognises the importance of manufacturing to the state's economy and the emerging role of "new manufacturing" in building a strong knowledge and export base for the state. It acknowledges the need to build skills in manufacturing through strengthening commitment and infrastructure for education, training and skills, including "strengthening links between manufacturers and OTTE".

⁵ Local Learning and Employment Networks were established in 2001 to bring together education providers, industry, community and government organisations to improve education, training and employment outcomes for young people.

These links are most apparent through informal collaboration between the 2 agencies on research, circulation of industry reports, comment on government papers and participation in information forums.

For the industry sectors we examined, other informal links occur through their respective membership of the Manufacturing Industry Consultative Council and the VLESC Manufacturing Skills and Training Taskforce.

DIIRD is also implementing \$10.6 million of initiatives⁶ directed to Victorian businesses, particularly manufacturers, in planning their future workforce.

ITABs are a source of industry information for other government departments, such as DIIRD. The automotive and metals ITABs are noted as important partners in implementing the government's industry strategic plans for the 2 sectors.

The outcomes from this collaboration, especially in influencing planning advice in OTTE, could benefit from being stronger. For example, the strategic development of the biotechnology industry is not linked to the pharmaceutical industry's training need in OTTE's food processing industry report.

Outside the manufacturing area, however, in the Community Service and Health Industry, the Department for Victorian Communities and the Department of Human Services each advise OTTE formally on training priorities in that industry. The Department for Victorian Communities also administers targeted funding for skills shortages in regional Victoria.

4.2.3 Conclusion

Enterprises in the manufacturing industry are a very diverse group. They range from very small, locally owned firms to large multinational companies. As such, identifying and meeting the skills needs of this diverse group is a challenge for VLESC, OTTE and the governing councils and management of TAFE institutions.

The advice given to VLESC to inform its purchase of publicly-funded industry training is insufficiently robust. This is despite the fact that the lines of advice, regulation and accountability in the Victorian VET system are diverse, with several statutory bodies involved, including VLESC, 18 ITABs and 18 TAFE institutions.

⁶ Part of the \$241 million of initiatives announced in Department of Education and Training 2006, *Maintaining the Advantage: Skilled Victorians*, Victorian Government, Melbourne.

In carrying out its functions, and to assist it in its decision-making, VLESC frequently relies on work delegated to, or material developed in, OTTE. While we can understand the reasons for reliance on this source of information and advice, it has the potential to place the VLESC into a weakened position in carrying out its independent statutory function of determining vocational education and training priorities across the post-compulsory education sector.

We appreciate that OTTE routinely collects educational information as part of its oversight of funding contracts, but it is important that the work of OTTE does not reduce the capacity of VLESC in its independent strategic priority setting role.

Similarly, the advisory role of ITABs should be enhanced and employed primarily to inform VLESC. In practice, it appears to us that the relationship between ITABs and OTTE serves to strengthen OTTE's role as the conduit of advice to VLESC. If VLESC really is to live out its role effectively, ITABs should report directly to it.

Since the ministerial statement of 2002⁷, announcing new strategic directions and priorities for public expenditure on VET, OTTE has invested substantially in defining industry skill needs and priorities for targeted government funding in training. This planning aims to support Victoria's economic growth, while also ensuring that individuals are able to gain vocational education and training through the state's network of TAFE institutions.

In return for this investment, VLESC has an extensive planning framework, focused mainly on OTTE's planning model. However, there are weaknesses in the inputs to the framework, including incomplete industry information and advice. OTTE has emphasised that it uses the model as a planning framework within which moderating dialogue, active discussion and conversations take place with industry, TAFE institutions and other RTOs. Some of this is not as current as it needs to be in a rapidly changing global environment.

For example, access to, and use of information from, better links and collaborative exchanges between OTTE and TAFE institutions, and between OTTE and other government departments (particularly DIIRD) is not sufficiently evident, especially with regard to broad industry policy and contemporary industry positions.

⁷ Minister for Education and Training 2002, *Knowledge and Skills for the Innovation Economy*, Victorian Government, Melbourne.

The planning process places significant reliance on quantitative data, particularly in the industry shares model. The model has been assessed by 2 independent organisations and their recommendations addressed. However, the data used is not sufficient to provide more than a broad indication of emerging trends and skills needs in the manufacturing industry.

As a model for forecasting industry needs, the industry shares model incorporates all the strengths and weaknesses inherent in labour market models. However, we concluded that this forecasting approach is limited in the dynamic business environments of a global economy. We consider that there is a need for OTTE's planning to strengthen local information about skill needs, gaps and overlaps, and about strategies to tackle these.

We are aware that OTTE collects information from, and has various dialogues with, key stakeholders in the VET system. Nevertheless, different ways of planning and purchasing, which are linked to the capabilities of TAFE institutions to plan and deliver against their own market intelligence, as well as that centrally gathered, need to be developed. This would strengthen OTTE's direct engagement with enterprises and industry stakeholders to identify the skills that employers value in their employees, and for the growth of their businesses.

Recommendations

- 1. That the Victorian Government examine ways to strengthen the capacity of VLESC and other statutory bodies in the VET system to provide independent advice on the operations of Victoria's vocational education and training system.**
- 2. That the Department of Education and Training (OTTE) adjust its planning function by collaborating more with TAFE institution governing councils and other government departments in seeking and validating its strategic planning advice to VLESC.**

RESPONSE provided by the Secretary, Department of Education and Training

Recommendation 1

The Department notes this recommendation which is consistent with current directions.

The Victorian Government has recently undertaken a major review of the Education and Training Legislation, including the statutory responsibilities of the VLESC, which will be renamed the Victorian Skills Commission (VSC) when the Education and Training Reform Act comes into effect. The VSC will be further strengthened with the appointment of two additional members with 'direct industry experience or experience in the training system.'

The VLESC Secretariat is responsible for ensuring the Department provides the support necessary to enable the Commission to fulfil its role under the governance arrangements prescribed in legislation. The Department will note the recommendation as part of its regular review of the role and effectiveness of the Secretariat.

In 2005 the VLESC Audit and Risk Committee assessed as low the potential risk that the VLESC does not analyse training needs accurately. The VLESC has put in place a number of risk treatments to ensure that continuous improvement actions are developed and monitored to ensure the evidence base and information about the training needs of industry is rigorous, objective and unbiased.

Recommendation 2

The Department accepts this recommendation.

The Department currently auspices local area research to 13 reference groups, convened by TAFE institutions, to assist in determining the applicability of VLESC priorities to local industry needs and training markets. The Department will encourage TAFE institution governing Councils, in their capacity as independent statutory authorities, to validate this research and associated planning advice provided to the Department.

The Department will continue to work with other government departments to ensure the development of priorities for publicly funded VET is cognisant of government strategic directions for Victorian industries.

60 Does Victoria's purchase of publicly-funded vocational education and training meet the skill needs of the manufacturing industry?

RESPONSE provided by the Department of Innovation, Industry and Regional Development

Recommendation 1

Supported.

Recommendation 2

DIIRD will continue to collaborate with OTTE on broad industry policy and contemporary industry positions where they impact on industry skill needs.

RESPONSE provided by the Chief Executive Officer, Goulburn Ovens Institute of TAFE

Recommendation 1

Agree.

Recommendation 2

Agree

RESPONSE provided by the Chief Executive Officer, Kangan Batman TAFE

Recommendation 1

Agree.

Recommendation 2

Agree.

RESPONSE provided by the Chief Executive Officer, Northern Melbourne Institute of TAFE

Recommendation 1

Agree.

Recommendation 2

Agree.

RESPONSE provided by the Deputy Vice Chancellor, Swinburne University of Technology (TAFE division)

Recommendation 1

Broadly agree.

Recommendation 2

Broadly agree.

Additional comments by the Secretary, Department of Education and Training

The Department and the VLESC strongly disagree with the observation in the conclusion that the "advice given to the VLESC to inform its purchase of publicly-funded industry training is insufficiently robust". The report has failed to substantiate this assessment and in particular fails to adequately take account of:

- the VLESC Audit and Risk Committee's Risk Management Plan which has a number of risk treatments in place to enhance the quality of industry advice*
- the positive assessments of the planning model, as noted by the report, provided by two independent referees that specialise in labour market forecasting. The Auditor-General has placed heavy reliance on the views of staff of some TAFE institutions and a small number of enterprises to reject the assessment made by ACCESS Economics and the National Institute of Labour Studies*
- current arrangements (noted in Section 4.2.1 of the report) that enable TAFE institutions to provide input into the evidence-base used by OTTE and to make local decisions about the implementation of government training priorities that address local market requirements*
- recent work undertaken with Local Learning and Employment Networks to encourage greater input into the OTTE planning advice in relation to the local training needs of young people*
- existing relationships with other government departments, most notably: DIIRD through its representation on the Manufacturing Skills Taskforce; the Department of Human Services, which provides annual planning advice to OTTE; and the Department for Victorian Communities, which has provided a range of inputs to assist in the moderation of planning advice.*

Additional comments by the Chair, Victorian Learning and Employment Skills Commission

The VLESC wishes to note that it is satisfied by the manner in which its statutory functions are being carried out by the Department. In particular it notes that the independently chaired VLESC Audit and Risk Committee has developed and monitors a Risk Management Plan to ensure the relationship with the Department optimises its capacity to carry out its responsibilities.

Further comment by the Auditor-General

We have considered the comments from the Department and VLESC, and confirm the findings and conclusion we have drawn in section 4.2 of the report. Our assessment of the robustness of advice on which VLESC purchases training is based on how well the various mechanisms by which OTTE collects and synthesises information enables VLESC to predict the future demands from employers.

Specifically, our comments on the model in VLESC's planning framework are directed to the use of labour market modelling as a means of forecasting industry training needs. Labour market data, based on past trends, is not able to comprehensively anticipate emerging skill needs. Such forecasts become even less reliable as they are disaggregated, such as, by region and by type of trade.

We believe that a more robust evidence base would result from supplementing existing information with current market intelligence drawn from a wider range of sources. It is not enough to say that the opportunities for this exist; OTTE must take the lead in ensuring that this information is taken into account in its ongoing advice to VLESC so that it is able to make strategic decisions about the nature of changing industry training needs affecting the Victorian community and economy.

4.3 How well does OTTE purchase industry training, on behalf of VLESC?

VLESC purchases training from, and funds infrastructure for, registered training organisations, including TAFE institutions and other government and community organisations. It also contracts training from registered private providers and industry bodies. VLESC delegates the negotiation of these contracts to OTTE⁸.

⁸ Funding agreements are expressed in terms of Student Contact Hours (SCHs), a unit used over many years in Commonwealth-state funding agreements. One SCH represents one hour of training for one student. Part 3 of this report has more information on SCHs.

Underpinning state priorities and targets for publicly-funded training is a highly regulated national training system tied to a Commonwealth-state agreement. National frameworks exist both for the accreditation of training programs and for the quality standards of training providers.

At the same time, the TAFE institutions are encouraged to be entrepreneurial, commercial businesses operating in a competitive training market. Victorian TAFE institutions are recognised as more successful in their commercial training activity than TAFE institutions in other states, making up about 40 per cent of commercial activity nationally.

4.3.1 VLESC's allocation of publicly-funded VET

VLESC contracted about \$543 million in 2004 in publicly-funded VET training in TAFE institutions, and about \$579 million in 2005.

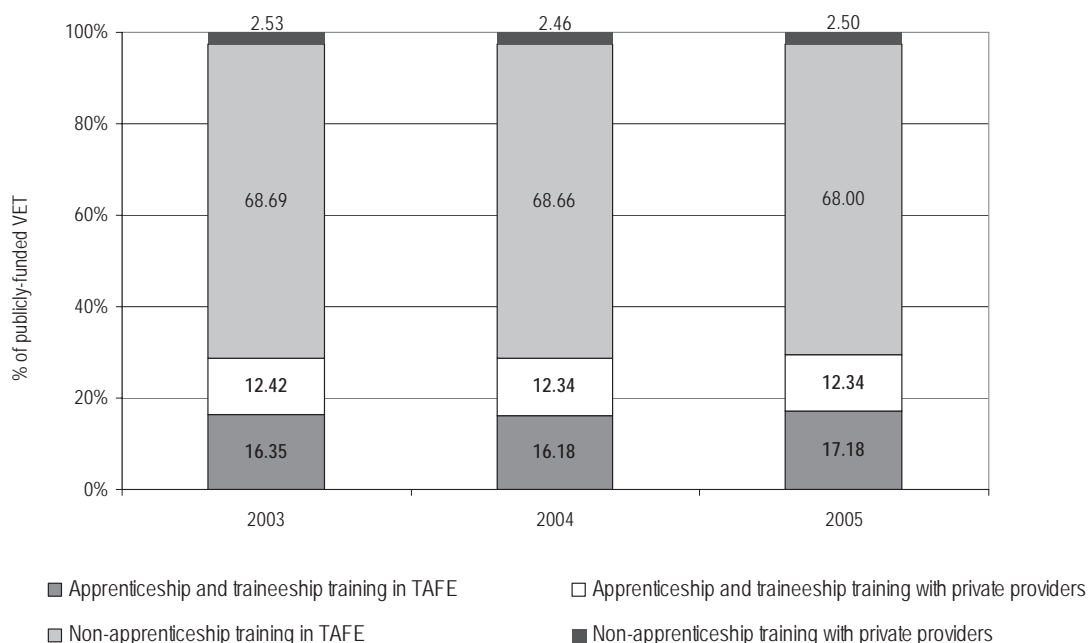
VET programs are contracted in SCHs and the actual cost varies with the type of courses that are delivered which, in turn, are dependent on student enrolments.

Publicly-funded training makes up about 70 per cent of all TAFE institution training, with the remaining 30 per cent of their revenue gained from fee-for-service training, including national and international delivery. Apprenticeship and traineeship training is around 20 per cent of training in TAFE institutions.

In 2004 and 2005, VLESC contracted a further \$73.5 million with private providers, of which \$61 million was in apprenticeship and traineeship training. This brings training of apprentices and trainees to about 27 per cent of all publicly-funded training in Victoria, with private providers delivering 41 per cent of that.

Figure 4B shows the distribution of delivery across TAFE institutions and private providers for 2003-2005.

FIGURE 4B: PERCENTAGE OF ANNUAL VET BY TAFE AND PRIVATE PROVIDERS



Source: Victorian Auditor-General's Office, from information provided by OTTE.

4.3.2 Purchasing from TAFE institutions

OTTE negotiates annually with TAFE institutions over several months (June - November) around triennium funding agreements for their publicly-funded training profiles. OTTE negotiators use, as their base-line, previous years' delivery information and material prepared by their planning unit on the VLESC endorsed industry priorities.

OTTE also prepares impact statements for each TAFE institution, which identify the targets for realignment of training from areas of low priority to areas of high priority, and the institution's tolerance for such shifts. The extent to which planned realignments occur also takes account of staffing profiles and infrastructure capacity.

OTTE then undertakes an analysis of shifts in delivery to track the extent of implementation of VLESC priorities at an institution, study area and statewide level. Information is fed back to the TAFE institutions and any realignment to priorities put into effect through purchasing arrangements that are reflected in performance and funding agreements⁹.

⁹ These include SCH targets for TAFE institutes, in addition to age-related and other targets, to achieve over the 3 years of the agreement.

The agreements are specified through SCHs in industry sectors and there are funding implications if institutions do not achieve the agreed shifts or targets. The agreements also include funds to support infrastructure costs, staff development, enterprise-based agreement (EBA) negotiated salary increases, capital works, innovation projects and specialist centres.

The agreements are underpinned by several policy positions, constraints and defining parameters to identify the support government will give to VET. For example, that priority is given to young people, particularly those aged between 15 and 19 years and workers over 45 years; and that firms (and individuals) and not taxpayers, should pay for training that confers a private benefit¹⁰.

As could be expected, the negotiation approach is not without tensions between OTTE – which is managing negotiations from a centralised state-based planning and purchasing platform, which includes a complex array of state and Commonwealth government policy agreements – and the TAFE institutions.

In some cases, the targets subject to negotiation can be complex when applied in reality. For example, targets can specify apprenticeships or traineeships in particular priority industry sectors and also for specified age groups. The end result for TAFE institutions is a potential “gridlock” of administration, data collection and process, limiting the scope or capacity for flexibility or responsiveness to the needs of industry.

The focus on the quantum and kind of student contact hours in “profile” funding dominates the agreements. Failure of TAFE institutions to meet negotiated targets can have financial implications. Initiatives and special projects designed to achieving the government's objectives to support industry's skill needs and the economy may not be part of the agreements.

Although TAFE institutions are generally supportive of the overall process of negotiating this publicly-funded training, they point out their lack of capacity to respond to industry demands for flexibility and responsiveness given the practical application of the constraints in the agreement and the requirement to meet such a large number of targets or indicators.

4.3.3 Refining priorities for publicly-funded VET

In 2005, the industry shares model developed by OTTE estimated that, potentially, as much as 18.6 per cent of publicly-funded delivery (or 12.68 million SCHs) was available for redistribution from areas of low priority to high priority training need¹¹.

¹⁰ Office of Training and Tertiary Education 2005, *Determining Priorities for Publicly Funded VET 2006-08: Report to the Victorian Learning and Employment Skills Commission*, April 2005.

¹¹ This was based on 2004 delivery data.

From this base line, OTTE determined that, realistically, around 12.5 per cent of non-apprenticeship training (or 8.5 million SCHs) could be realigned without additional costs to the system¹². VLESC then endorsed a shift of up to 6 per cent of non-apprenticeship funding over the 3-year period 2006-2008; that is, up to 2 per cent per annum – a level set to enable the system to deliver.

The results of negotiations for 2006 and 2007 performance and funding agreements show a contracted shift of 2.8 per cent over this 2-year period, or an average of 1.4 per cent per annum. At this rate of redistribution, the 6 per cent shift could take until 2009-10 to be achieved.

Further, as Figure 4C shows, at the current rate, the redistribution of the (realistic) amount of non-apprenticeship training in low priority areas could take until 2017 to be achieved. This would be 15 years from the ministerial statement of 2002.

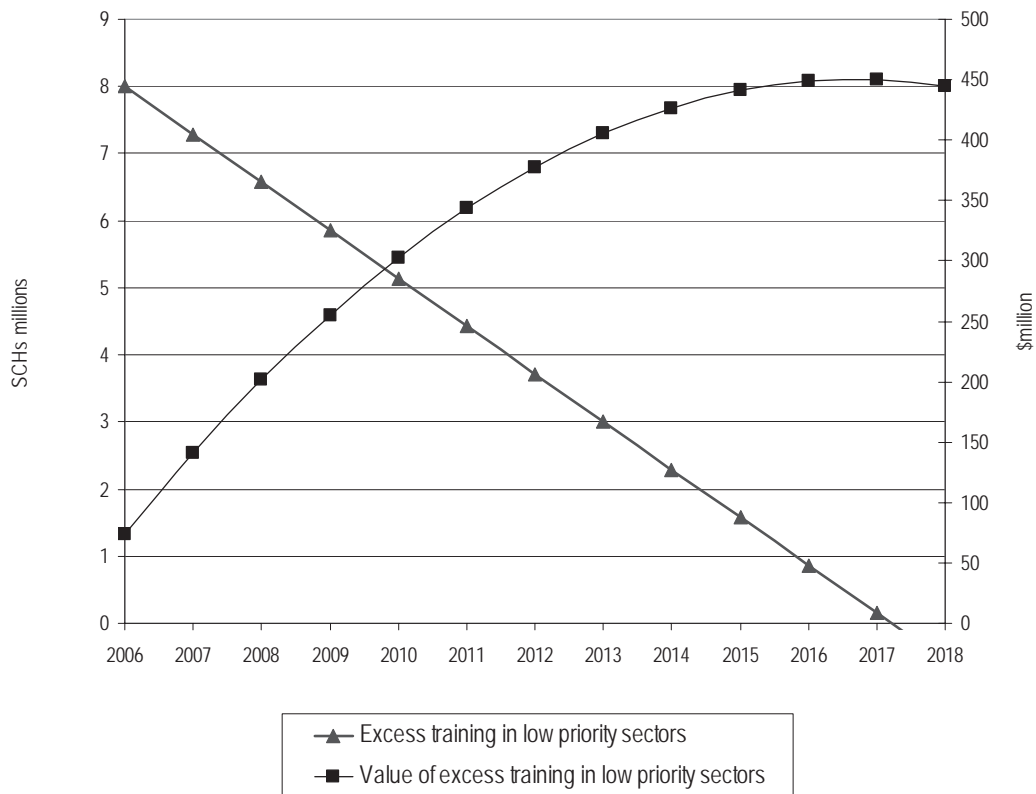
Figure 4C also shows the cumulative cost of the over-supply of training in low priority industries from the 2005 VLESC decision, at the current rate of change. In 2006, the over-supply in low priority industries is valued at more than \$73 million¹³. By 2017, allowing for the same rate of reduction in low priority training, the cumulative amount could be as high as \$450 million.

Any variation in the delivery of non-apprenticeship training will impact on the time and cumulative cost. That is, if more high priority training is delivered by TAFE institutions in a given year as a result of the shift from non-apprenticeship training, the time to make the shift and the cumulative cost will be reduced. Conversely, a slowing of the rate of the shift will lead to more time and increased cumulative cost to the state.

¹² Additional costs would include the costs of hiring staff for areas of high priority need and the costs of redundancies for staff teaching in areas of low priority need.

¹³ The cost per SCH varies according to course and types of provision. The above value is based on the most conservative average cost of \$9.21 based on programs only, and does not include delivery infrastructure and other on-costs. The actual average cost of a SCH in Victorian TAFE institutions is more likely to be about one-third higher.

FIGURE 4C: TIME AND COST IMPLICATIONS OF VLESC'S CURRENT SHIFT IN INDUSTRY TRAINING NEED



Source: Victorian Auditor-General's Office, from information provided by OTTE.

In March 2006, the government announced an additional \$241 million over 4 years to Victorian VET. This additional government support for VET will address the need for higher level qualifications in priority industry sectors and also target school leavers and mature age people. There are specific initiatives targeting skills in manufacturing to be implemented in conjunction with DIIRD.

Impact on TAFE institutions of shift in priority training

The shift in priority training from areas of low priority to high priority is important in VLESC's strategy to address skills shortages. Nevertheless, the shift to high priority areas is relatively small as a percentage of the total amount of publicly-funded training that is contracted each year.

Figure 4D shows the percentage amount of the shift to high priority areas and away from low priority areas, statewide and by TAFE institution. For 2006 and 2007, Box Hill, Northern Melbourne and William Angliss Institutes of TAFE are expected to make the largest increases in high priority training as a percentage of their total delivery (between 4 and 6 per cent).

Further examination shows that it is metropolitan TAFE institutions which are carrying responsibility for large shifts. Overall, these shifts are in line with VLESC's aim to ensure that the shifts are manageable at institution level.

However, as Figure 4D also shows, the impact on the affected program areas in the institution can be quite significant, especially in terms of the capability and capacity of providers to deliver these changes at course level.

For example, a 48 per cent increase in high priority training at William Angliss in hospitality and business services could have a significant impact on the institution. In Box Hill and Northern Metropolitan Institutes of TAFE, there is an increase of 16 and 25 per cent, respectively, in areas of high priority. Simultaneously, there is a decrease of 14 and 23 per cent, respectively, in areas of low priority.

In organisational terms, these shifts are quite large changes for an institution to carry out, significant for the course areas affected and may include redundancies and the hiring of new staff.

FIGURE 4D: CHANGES IN THE DELIVERY OF VET FROM 2004 TO 2007

	Increase in high priority training as percentage of 2004 total profile	Anticipated increase in high priority training by 2007	Increase in high priority delivery by 2007	Anticipated decrease in low priority training by 2007	Anticipated decrease in low priority delivery by 2007
	(%)	(no. of SCHs)	(%)	(no. of SCHs)	(%)
Bendigo	0.98	17 000	4.1	21 000	-14.0
Box Hill	4.35	186 000	16.0	140 000	-14.3
Central Gippsland	1.00	15 000	4.0	15 000	-6.1
Chisholm	3.28	188 700	15.9	190 000	-28.6
East Gippsland	1.02	9 000	5.7	9 000	-8.0
Gordon	1.51	39 200	5.4	25 300	-7.1
Goulburn Ovens	1.00	19 900	4.8	19 900	-7.9
Holmesglen	3.83	235 420	13.4	108 500	-10.5
Kangan Batman	2.00	80 400	5.3	80 400	-28.7
Northern Melbourne	4.65	243 600	25.3	271 300	-22.9
RMIT	3.12	179 300	14.0	179 300	-19.5
South West	1.00	13 000	5.4	13 000	-5.8
Sunraysia	1.00	10 500	5.5	10 500	-9.5
Swinburne	2.77	172 000	18.9	180 000	-21.5
University of Ballarat	2.01	45 000	9.4	42 600	-13.4
Victoria University	2.50	156 800	10.1	78 200	-10.1
William Angliss	5.99	103 700	48.8	31 700	-3.7
Wodonga	1.00	12 200	4.0	12 200	-6.4
Statewide shift	2.84	1 726 720	12.473	1 427 900	-15.025

Note: These targets were established on a case by case basis following negotiations with each of the TAFE institutions. Variations reflect differences in the extent to which individual institutions are delivering low priority training and their capacity to move into high priority training in light of infrastructure and human resource requirements.

Source: Victorian Auditor-General's Office, from information provided by OTTE.

4.3.4 Purchasing VET from private training providers

VLESC/OTTE purchase training from private RTOs through 2 programs:

- Apprenticeship and traineeship training program
- (Non-apprenticeship) priority education training program.

VLESC uses the non-apprenticeship program to purchase training from private providers in industries and regions that it has identified as government priorities. It targets:

- people aged over 25 not previously employed in the priority sector
- potential and new employees in selected industries
- particular workforces
- people returning to work in priority sectors who require upgrading of qualifications
- outworkers in particular workforces.

The VLESC also purchases apprenticeship and traineeship training from selected private providers, who are invited to tender annually.

In 2005, private providers delivered \$61 million of apprenticeship training and \$12.5 million of non-apprenticeship training, at an approximate average cost of \$6.60 per SCH.

By comparison, TAFE institutions delivered close to 62 million SCHs for \$569 million, at an approximate average cost of \$9.21 per SCH¹⁴.

Some of the differences in cost result from a requirement that private providers contribute to the cost of training. There also are certain efficiencies and fewer constraints associated with private providers delivering training.

For example, many private providers include companies that deliver training in-house to their own workforces, including some large manufacturing companies. This type of provision contributes to the fact that private providers deliver 41 per cent of apprenticeship and traineeship training in Victoria.

¹⁴ The cost per SCH varies according to course and types of provision. The above costs are ballpark estimates based on programs only, and do not include delivery infrastructure and other on-costs. The actual average cost of a SCH in Victorian TAFE institutions is more likely to be about one-third higher.

4.3.5 Trends in publicly-funded VET

Government-funded purchasing of training is generally of 2 types:

- Training of apprentices and trainees. This type of training requires apprentices or trainees to be employed and is covered by a formally registered contract of training. It is referred to in the VET system as L-type training.
- Non-apprenticeship education and training relates to all other VET courses, at every level, which are not covered by contracts of training. It is referred to as P-type training in the VET system. People undertake these courses either part-time or full-time, sometimes as whole courses or in separate modules or competencies.

All apprenticeship and traineeship training has a higher priority in OTTE's industry shares model.

We noted earlier that by the end of 2004, shifts to high priority industry sectors had not been achieved. The results from 2005, and the contracted training for 2006 and 2007, indicate that the targeted shifts to high priority industry sectors are not being achieved.

However, there have been significant shifts in apprenticeship and traineeship training. Maintenance of these shifts is dependent on industry support for apprentices and trainees. This industry support is discussed further in Part 5 of this report.

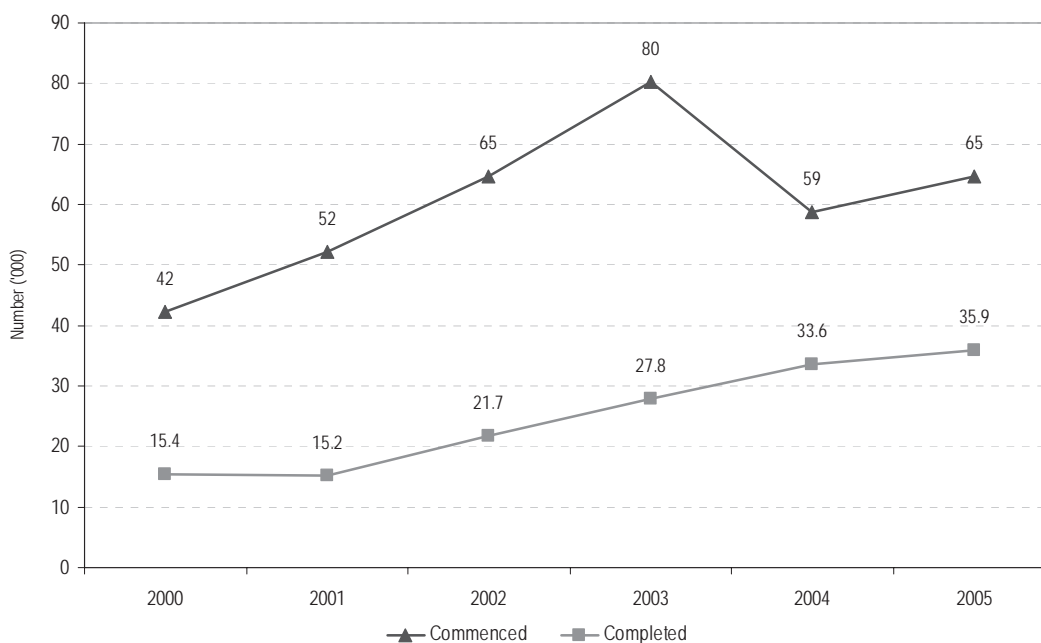
Apprenticeships and traineeships

There has been a gradual increase in apprentice and trainee training. In 2005, there was a 11.5 per cent increase in SCHs delivered from 2002. In addition to employment opportunities arising from skill shortages, demand from students seeking apprenticeships and traineeships has also increased, perhaps as a result of increased marketing by TAFE institutions and government.

Successful apprentice and trainee training (that is, numbers finishing) also has increased in Victoria. However, the cost implications of the number commencing but not completing apprenticeships continues to be of concern.

Figure 4E shows a growth in commencements and completions in Victoria over the period 2000 to 2005, as well as the total of those in training. A sharp increase in commencements to 2003 has now been adjusted to a more realistic level, as a result of concentrated efforts to limit access to Commonwealth Government subsidies for certain traineeships especially where training was not directly related to employment or career paths.

FIGURE 4E: NUMBERS OF APPRENTICES AND TRAINEES COMMENCING AND COMPLETING AT AUSTRALIAN QUALIFICATIONS FRAMEWORK LEVEL III, IN VICTORIA



Source: Victorian Auditor-General's Office, based on information from NCVER¹⁵.

For the manufacturing sectors we examined, both vehicle manufacturing and engineering increased training of apprentices and trainees between 2002 and 2005 by 18 per cent and 10 per cent, respectively. Pharmaceutical manufacturing does not have training for apprentices.

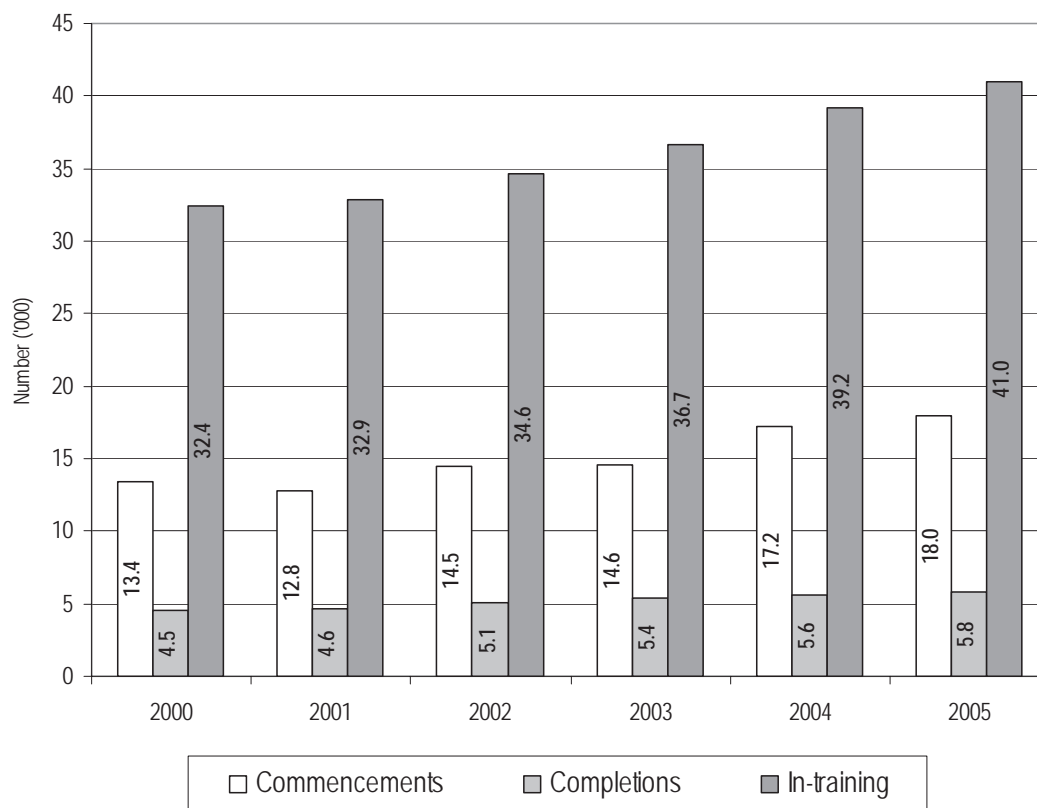
The most recent completion rates for these industry sectors show that apprentices are more likely to complete training than trainees, but all completion rates are low, as is their ongoing employment in the sector.¹⁶

Figure 4F, shows the commencement, completion and in-training numbers of apprentices in the traditional trades, such as those more likely to be employed in manufacturing industry.

¹⁵ National Centre for Vocational Education Research (NCVER) 2006, *Australian Vocational Education and Training Statistics: Apprentices and trainees - September Quarter 2005*, National Centre for Vocational Education Research, Adelaide.

¹⁶ Department of Education and Training 2005. *Skill Shortages paper for DET Executive*. Unpublished.

FIGURE 4F: NUMBERS OF APPRENTICES COMMENCING, COMPLETING AND IN-TRAINING IN TRADITIONAL TRADES IN VICTORIA



Source: Victorian Auditor-General's Office, based on information from NCVER¹⁷.

Shifts from non-apprenticeship training

From 2002 to 2004, despite an overall reduction in training delivery in high priority industry areas, TAFE institutions shifted about one million SCHs of non-apprenticeship funding within these industry areas to courses and occupational groups of higher priority.

In 2005, a further shift of 300 000 SCH of non-apprenticeship training was achieved, along with increased apprenticeship training.

In 2006 and 2007, a further shift of 1.428 million SCHs in non-apprenticeship training has been contracted, with metropolitan institutions making up 88 per cent of this shift. Smaller shifts by regional institutions have been negotiated because they serve broad community needs in narrower markets. (See Figure 4D.)

¹⁷ National Centre for Vocational Education Research (NCVER) 2006, *Australian Vocational Education and Training Statistics: Apprentices and trainees - September Quarter 2005*, National Centre for Vocational Education Research, Adelaide.

Shifts in manufacturing sectors

We examined past delivery and future contract data from TAFE institutions to assess how much movement has occurred in the 3 sectors we selected for the audit.

Vehicle manufacturing

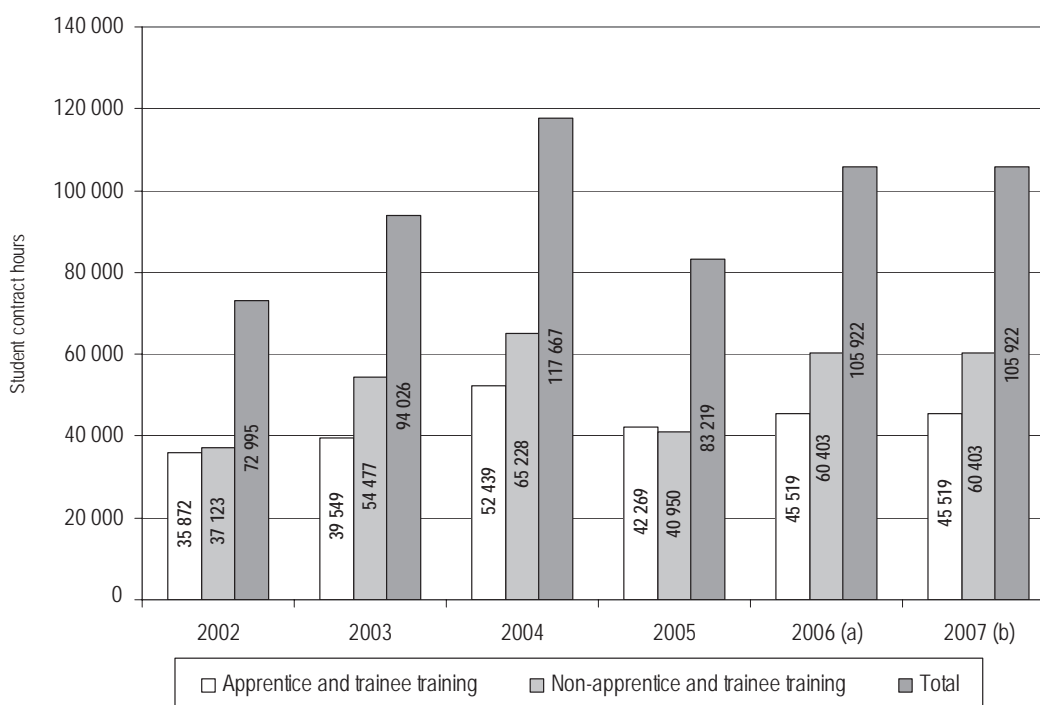
For vehicle manufacture, training doubled between 2002 and 2004 (an increase of 820 000 SCHs) with trade training increasing by about 50 per cent.

Going forward, the 2004 increase has not been sustained. There was a decline of 20 per cent in 2005, one third of which is expected to be recovered in 2006 and 2007. However, this is dependent on the employment of apprentices and trainees in vehicle manufacturing companies that use TAFE institutions for their training.

Despite the increase in share of publicly-funded training since 2002, this level is about one-fifth of what OTTE identified in its industry shares model as the targeted level.

Figure 4G shows the change in statewide publicly-funded training in vehicle manufacturing from 2002 forward to 2007.

FIGURE 4G: DELIVERY OF AUTOMOTIVE MANUFACTURE TRAINING, BY TYPE



(a) 2006 contracted SCH.

(b) 2007 contracted SCH.

Source: Victorian Auditor-General's Office, from information provided by OTTE.

The shift has been away from Certificate IV level towards entry level Certificates II and III, especially at Kangan Batman Institute of TAFE. There has been a rationalising of offerings. RMIT, Swinburne, Victoria University, Box Hill and Wodonga no longer provide vehicle manufacturing training from government funds.

There is significant fee-for-service training at Certificate II level, much of this is provided to large manufacturing companies.

Engineering

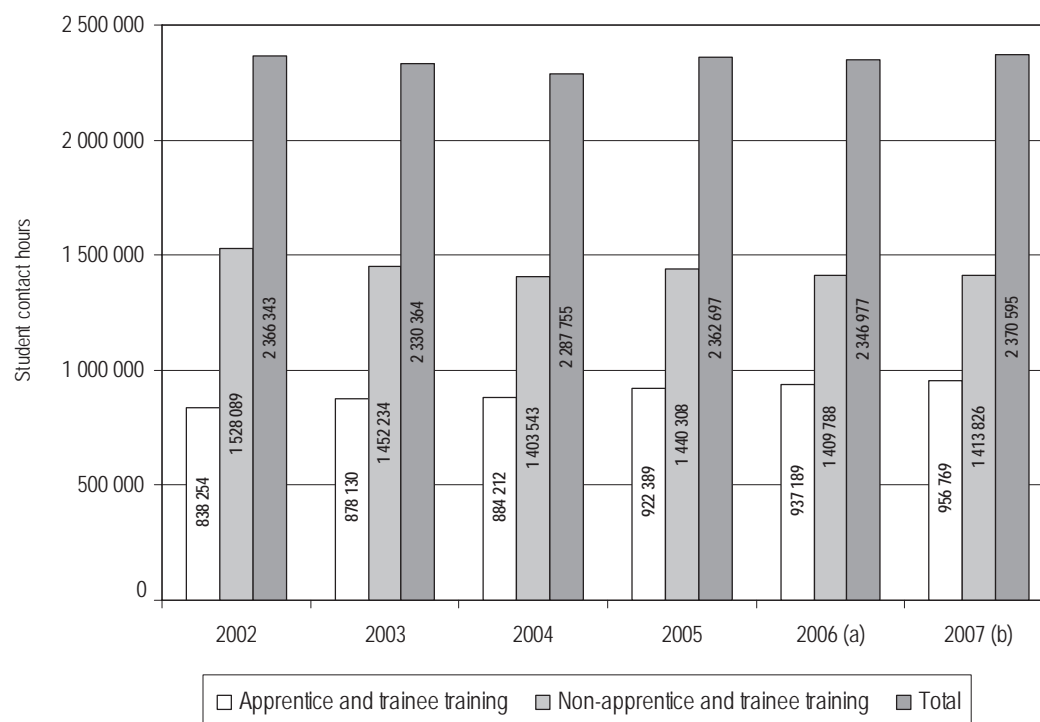
As Figure 4H shows, between 2002 and 2005, there was a 10 per cent increase in engineering trade training. However, this increase is offset by an equivalent decrease in non-apprenticeship training in the sector.

Going forward, apprenticeship and traineeship training continues to increase by about 2 per cent per annum to 2007 and a concurrent drop in non-apprenticeship training. Overall, total training in 2006 in the engineering sector of the metals and engineering industry will have declined by 7 per cent from 2002 levels.

According to OTTE's industry shares model, engineering will have to double from 2006 levels.

Figure 4H shows the change in statewide publicly-funded training in the engineering sector of manufacturing from 2002 forward to 2007.

FIGURE 4H: DELIVERY OF ENGINEERING TRAINING, BY TYPE



(a) 2006 Contracted SCH.

(b) 2007 Contracted SCH.

Source: Victorian Auditor-General's Office, from information provided by OTTE.

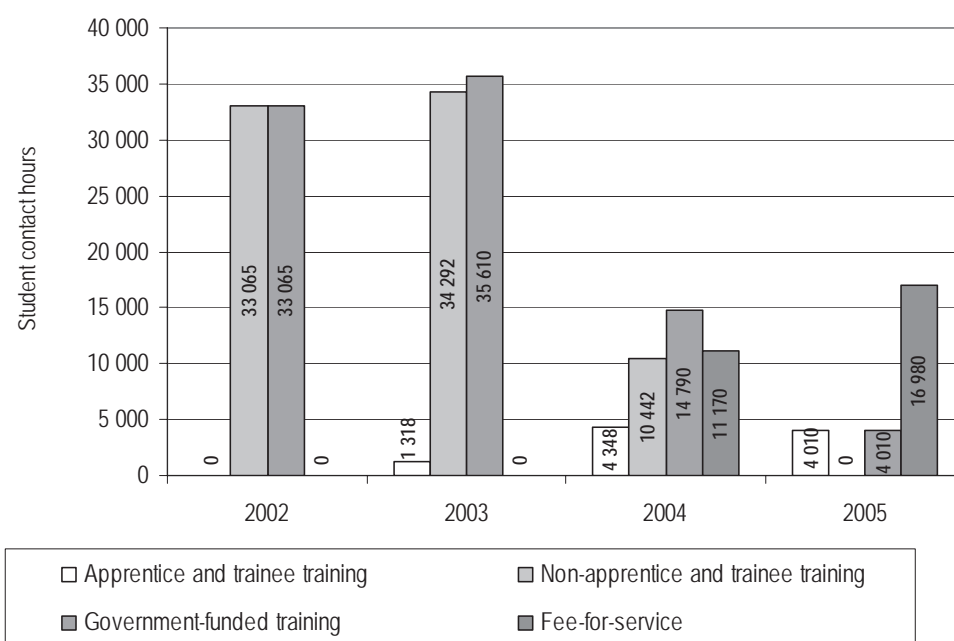
In summary, for the vehicle manufacturing and engineering sectors together, there has been almost no change in total government-funded training, as reflected in SCHs, from 2002 to 2006. What has increased in vehicle manufacturing has been lost in engineering. However, both the sectors have had a shift to apprenticeship training, and also to non-apprenticeship training in vehicle manufacturing, as needed.

Pharmaceutical manufacture

For pharmaceutical manufacturing training, there has been an overall reduction in training of about one-third between 2002 and 2005, with publicly-funded training declining by almost 90 per cent and the remaining training fee-for-service. These changes are shown in Figure 4I.

This is in line with the industry shares model but draws into question the sense of reducing government support for emerging industries with competitive advantages based on new technologies.

FIGURE 4I: DELIVERY OF PHARMACEUTICAL TRAINING, BY TYPE, INCLUDING FEE-FOR-SERVICE



Source: Victorian Auditor-General's Office, from information provided by OTTE.

Because pharmaceutical manufacturing is part of the “other sectors” of OTTE's Food Processing industry, it falls below the radar in allocating training share of SCHs. As a result, progress towards achieving the government's objective of ensuring that Victoria grows strategically important industries such as biotechnology, which includes pharmaceutical manufacturing, is limited.

DIIRD's *Biotechnology strategic development plan for Victoria 2004* acknowledges the importance of building the VET sector's capacity to supply the skills required for growth in the biotechnology industry in Victoria. It also recognises the importance of developing and delivering programs to build the educated and creative workforce required by the biotechnology sector in Victoria. However, the allocation of SCHs through the OTTE funding model does not reflect the above policy objective.

4.3.6 Conclusion

From our discussions with TAFE institutions and enterprises, it seems that the current approach to purchasing publicly-funded VET is at odds with the need for TAFE institutions to respond quickly to industry's immediate and fluctuating need for skills.

The focus on the number and kind of student contact hours in publicly-funded “profile” funding dominates the purchasing negotiations with OTTE and the delivery activities of TAFE institutions. Failure to meet negotiated targets by TAFE institutions may have financial implications and reduction in future contracts.

One consequence of the current approach is that other strategically important initiatives that TAFE institutions could be expected to carry out are given lesser priority in the purchasing agreements, even though these initiatives may show the way for a more responsive system of government support. This is important when those initiatives are central to achieving the government's objectives for training outcomes that support industry's skill needs and the Victorian economy.

We are not convinced that the current industry shares model that underpins OTTE's purchasing decisions is sufficiently cognisant of recent and planned activities and directions of industries and enterprises to bring about the timely identification of changes needed to an industry's or enterprise's skills base.

Overall, the shift in training provision to high priority industry sectors, as proposed in the industry shares model, is very slow, achieved largely through increases in apprenticeships and traineeships, and reductions – about 9 per cent – in non-apprenticeship training since 2002.

For the sectors we examined, vehicle manufacture training has doubled and apprenticeship training has increased in both vehicle manufacture training and engineering. Overall, training in engineering has decreased by about the same amount as vehicle manufacture has increased. The total contracted training in both sectors remains well below what OTTE has estimated as its "share" of publicly-funded training. Training in pharmaceutical manufacture has declined by about half, most of that moving to fee-for-service provision.

Going forward, there may be limited capacity to move training provision from low to high priority areas, especially as such a shift is dependent on demand from students and on enterprises employing graduates. Recent downsizing in some manufacturing enterprises is unlikely to encourage students to regard employment in the industry as a long-term secure option.

Many TAFE institutions have demonstrated that they are capable of responding directly and flexibly to the needs of enterprises through their fee-for-service activity. This capability needs to be fostered in the publicly-funded area and supported by more enabling agreements and targets.

It would seem that better results for government, individuals and for industry could be achieved if the current approach of purchasing from TAFE institutions – based on numerous centrally designed performance targets – was replaced with an approach based on TAFE institutions being expected to develop and achieve an agreed, rolling 3-year business plan.

Such a rolling 3-year business plan would be expected to relate to the total business of the institution, and acknowledge and incorporate strategic objectives and planning data provided by OTTE, as well as TAFE institution research and analysis.

Recent contributions to the national reform agenda, including those by the Premier, highlight the importance of a clear focus on outcomes. In addition, they suggest that diversity is a key catalyst for innovation. If TAFE institutions are to ensure that their training services are responsive to rapid changes in industry skill needs, it is necessary to underpin this with a more flexible outcomes-focused approach to funding. For this reason, we consider that greater flexibility in the purchase of training from TAFE institutions would enhance innovation and responsiveness.

Recommendations

3. That VLESC develop a new approach to publicly-funded VET in TAFE institutions, away from the current annualised purchasing model and performance agreements based on student contact hour targets, to one centred on an agreed, rolling 3-year business plan with each institution.

Such business plans, developed by TAFE institutions, would include performance requirements that reflect the range of accountabilities that TAFE institutions have as statutory public sector agencies in receipt of state and Commonwealth funds and operating in competitive markets.

4. That the Department of Education and Training (OTTE) work alongside TAFE institutions in planning and strategic development so that their respective business plans enable them to meet both Commonwealth and state targets and policy objectives, as well as the skill needs identified by local enterprises.

RESPONSE provided by the Chair of the Victorian Learning and Employment Skills Commission

Recommendation 3

The VLESC does not accept this recommendation.

The report has failed to acknowledge that, following the release of the 2002 Ministerial Statement on Knowledge and Skills, the VLESC replaced annualised purchasing arrangements with three-year performance agreements. The period of operation of these agreements, and the student contact hour targets contained therein, reflect the output requirements established by the Commonwealth in its triennial contract with the Victorian Government and are subject to annual variations in response to annual state budgets.

The targets contained in the current three year Performance Agreement reflect the government's policy requirement, outlined in the 2002 Ministerial Statement, that the VLESC make strategic, evidenced-based funding decisions that target priority training areas. These targets in the 2006-2008 Performance Agreements with TAFE institutions are the means by which the VLESC ensures government investment in training responds to the labour market requirements.

RESPONSE provided by the Chair of the Victorian Learning and Employment Skills Commission - continued

This approach is consistent with the Public Administration Act 2004 and the Vocational Education and Training (VET) Act 1991 which make TAFE institutions accountable to the Minister for Education and Training in relation to:

- any economic and social objectives established by the government;*
- providing programs and services in accordance with the VET Act; and*
- compliance with the performance agreement entered into with the VLESC.*

RESPONSE provided by Secretary, Department of Education and Training

Recommendation 4

The Department notes this recommendation.

A requirement of three-year performance agreements is that institutions develop strategic plans that deliver the outcomes for which they are accountable.

The Department will continue to work in partnership with TAFE institutions to enhance their capacity to develop strategic plans that adequately respond to Commonwealth and state priorities and accountabilities in the context of the skill needs of their clients and the workforce planning and development issues identified.

RESPONSE provided by the Secretary, Department of Innovation, Industry & Regional Development

Recommendation 3 and 4

DIIRD understands that VLESC already undertakes 3-year planning with TAFE institutes. DIIRD supports any approach that will enable TAFE institutes to respond more flexibly to the changing requirements of the manufacturing industry.

80 Does Victoria's purchase of publicly-funded vocational education and training meet the skill needs of the manufacturing industry?

***RESPONSE provided by the Chief Executive Officer, Goulburn
Ovens Institute of TAFE***

Recommendation 3 and 4

Agree.

As you will be aware from discussions with my staff as part of the audit process, this Institute has been working over a number years on the enhancement of our strategic business planning processes, your recommendation that VLESC develop a new approach to publicly funded VET in TAFE institutions, based on a negotiated rolling 3.-year business plan (Recommendations 3 and 4), is therefore entirely consistent with our current thinking.

***RESPONSE provided by the Chief Executive Officer, Kangan
Batman TAFE***

Recommendation 3

Strongly agree.

Recommendation 4

Agree.

Note that the commercial activity of TAFE plays an important role in the overall picture of industry skilling and should be subject of research and development as well as profile delivery.

***RESPONSE provided by the Deputy Vice Chancellor, Swinburne
University of Technology (TAFE division)***

Recommendation 3

Broadly agree.

Recommendation 4

Broadly agree.

***RESPONSE provided by the Chief Executive Officer, Northern
Melbourne Institute of TAFE***

Recommendation 3

Agree.

Recommendation 4

Agree.

Further comment by the Auditor-General on VLESC's response to recommendation 3

We have considered the comments from VLESC and remain of the view that the recommendation is appropriate. While VLESC negotiates 3-year performance agreements, in practice, these agreements continue to be subject to lengthy renegotiations annually. For the period 2006-2008, copies of these agreements provided to us by OTTE contain SCHs for 2006, with forward estimates for 2007 and 2008 that are indicative and on an unchanged policy basis, and based on the 2005 budget allocation.

Our recommendation is directed at encouraging the VLESC and the state's network of TAFE institutions to achieve the best possible outcomes from the expenditure of public funds. We believe that an agreed rolling 3-year business plan based on a clearer understanding of the overall business strategy of each TAFE institution is the context in which this will best be achieved. This approach does not prevent the inclusion of specific performance targets required to meet Commonwealth or state policy objectives and legislative requirements.

4.4 Are the outcomes of publicly-funded industry training measured and reported?

4.4.1 Measuring success

It is difficult to find information on whether the training purchased by VLESC is successful in meeting the skills needs for either the participants in courses or for industry or employing enterprises.

For the specific manufacturing sectors we examined, the amount, type and cost of training in SCHs is available by training provider. Module completion information also is available as well as graduate outcomes. This information is available largely though OTTE's annual industry reports.

However, this information is not systematically linked to performance of the VET system or of individual RTOs, including TAFE institutions.

This is not to say that performance information is not collected and performance monitored. Rather, there is a plethora of inputs, regulated controls and conditions by which the system is controlled and publicly-funded expenditure on VET directed to areas of economic and social need.

These various measures appear to have been built up over the years as various government agencies have developed strategies to address increasingly complex economic, industrial and social conditions and training delivery arrangements to deal with these.

4.4.2 Performance indicators

OTTE uses 13 key performance indicators for measuring and reporting on TAFE institutions¹⁸. These are developed and reviewed in consultation with TAFE institutions so that they can monitor, benchmark and identify areas for improvement. Figure 4J lists the current indicators.

FIGURE 4J: KEY PERFORMANCE INDICATORS FOR MEASURING TAFE INSTITUTION PERFORMANCE

Scorecard dimension	Key performance indicators
Constituents	Module completion rates Student satisfaction ratings Employment outcome ratios Community participation by age, gender, country of birth, disability and Aboriginality
Resource management	Funding source ratios, for example, Commonwealth/state contributions, fee-for-service, and student fees and charges Expenditure ratios, for example, cost of delivery per SCH Financial operations, for example, net operating margin Liquidity, for example, working capital Asset utilisation, for example, SCH per m ² of training space
Internal process	Reporting of student information, for example, rates of invalid enrolments Training supply and need, measured by change in SCH by industry
People and the work environment	Skill sets, for example, professional development per EFT staff member, or percentage of total salary and wages Staffing statistics, for example, ratios of permanent, fixed-term, sessional and non-teaching staff

Source: Victorian Auditor-General's Office, based on Selected TAFE Institute Measures for the Victorian State Training Network 2004.

This balanced scorecard approach to monitoring TAFE performance is being revised, with the current indicators said to be replaced by a new set of 21 for inclusion in the 2006 report.

This new set may include more outcome-focused indicators related to employer and student skill needs, and may include:

- SCHs delivered compared with performance agreements
- SCHs delivered in priority industries
- participation rates of indigenous Australians
- participation rates of people with disabilities.

¹⁸ Office of Training and Tertiary Education 2004, *Selected TAFE Institute Measures for the Victorian State Training Network*, Victorian Office of Training and Tertiary Education, Melbourne.

OTTE publishes these results annually, comparing the performances of individual TAFE institutions and Victoria's performance with national average performances. However, this information is not reported publicly, but circulated to the heads of TAFE institutions.

Similarly, the data collection in performance agreements and required by the Commonwealth is not publicly reported. This information includes a number of targets under the categories of activity and continuous improvement:

- Activity, in terms of:
 - SCHs delivered each year, in TAFE institutions and Adult and Community providers
 - additional commencements, places and participation by various targeted groups.
- Continuous improvement, in terms of:
 - employer and student satisfaction
 - completion rates and outcomes for mature age workers
 - strategies to improve outcomes for people with disabilities and for Aboriginal and Torres Strait Islander peoples.

Public reporting

The Department of Education and Training (DET), of which OTTE is a part, also reports outcomes in its annual report on:

- the rates of TAFE graduates in employment 6 months after completion of training
- successful training completions as measured by module load pass rate.

Other measures for VET, arising from the state budget and *Growing Victoria Together* are reported publicly, including in the DET annual report. These cover quantity and quality of training and include a range of age-related targets and participation and completion measures.

These reports and statistical information published by the NCVET provide extensive coverage of publicly-funded VET. However, there is limited reporting on the performance of individual TAFE providers.

TAFE institutions' annual reports are limited in performance reporting, generally selecting graduate labour market participation rates and the distribution of publicly-funded SCHs (profile) by program area and whether students were part-time or full-time. Some TAFE institutions now publish information on their fee-for-service activity as a proportion of total delivery.

However, there is little to inform the public of each institution's success in meeting industry skills needs or students' employment in areas of skills shortages or Victoria's economic priorities.

OTTE relies on NCVER surveys of students to determine graduate destinations such as unemployed or employed, and if employed whether the employment is related to skills or qualifications obtained. Often, sample sizes and the aggregation of qualifications prevent reaching meaningful conclusions.

For example, the extent to which young people undertaking higher level (for example, Advanced Diploma) qualifications gain employment in the industry area related to their studies is not clear. Nor is the extent to which people completing lower, entry level (for example, Certificate II) qualifications continue into employment or on to higher qualifications.

Similarly, OTTE does not have any systematic measures that relate to the impact that increased skill levels of workers have on production capacity of enterprises, or their capacity to manage and cope with new production processes or technologies.

Nor does it measure or recognise TAFE institutions' responsiveness to, or level of engagement with, industry and enterprises that they service – significant amounts of this through the institutions' fee-for-service work.

4.4.3 Conclusion

OTTE collects and reports on a plethora of performance measures, several of which allow comparability between states and individual training providers. However, the majority of these measures are input or process measures. Much of this performance information does not appear to be used, and where it is used it is difficult to understand in any meaningful way. By this concentration on micro-level data, there is a risk that the success of the bigger picture – whether for publicly-funded training or support for the government's social and economic objectives – is not captured.

OTTE is not able to determine adequately whether training has been successful in meeting the skills needs for the participants in courses or for industry enterprises. Further, while OTTE has spent considerable time and energy developing a planning model to assist in the determination of what it should purchase, it has not simultaneously developed and implemented measures to test the efficacy or impact of the model in more targeted training, beyond measuring the shift in training effort to high priority areas.

Consequently, from the information available, the public cannot know if the Victorian Government:

- has policies and practices, including the purchase of training, to ensure that skill gaps in the workforce do not impede the growth or the competitiveness of the manufacturing industry and the Victorian economy
- knows how well the training that it purchases is being delivered.
- knows the impact of its purchases on skills shortages and skills gaps in the Victorian manufacturing workforce.

Recommendation

- 5. That the Department of Education and Training(OTTE) rationalise and redevelop the current collection of performance information so that TAFE institutions and other RTOs can determine whether training has been successful in meeting the skill needs of individuals in courses and of industry and employing enterprises.**

RESPONSE provided by the Secretary, Department of Education and Training (OTTE)

Recommendation 5

The Department notes this recommendation which aligns with the findings of the VET Inquiry and Maintaining the Advantage: Skilled Victorians.

In accordance with these findings, work has commenced whereby TAFE institutions will be required to publicly provide comparable information on completion rates; employment and education outcomes and student, employer satisfaction rates as success indicators.

The Department will continue to support and ensure it meets the nationally recognised Australian Vocational Education and Training Statistical Standards, which has been recognised by the Productivity Commission as a reliable collection to support accountability requirements.

RESPONSE provided by the Secretary, Department of Innovation, Industry and Regional Development

Recommendation 5

The challenge is in specifying what constitutes successfully meeting skill needs, as these needs are likely to be different for individuals, industry and employers, and governments.

***RESPONSE provided by the Chief Executive Officer, Goulburn
Ovens Institute of TAFE***

Recommendation 5

Agree.

***RESPONSE provided by the Chief Executive Officer, Kangan
Batman TAFE***

Recommendation 5

Agree.

Kangan Batman TAFE is currently working on the creation of a return on investment model.

***RESPONSE provided by the Deputy Vice-Chancellor, Swinburne
University of Technology (TAFE division)***

Recommendation 5

Broadly agree.

***RESPONSE provided by the Chief Executive Officer, Northern
Melbourne Institute of TAFE***

Recommendation 5

Agree.



5. Do Victorian TAFE institutions have sufficient capacity and capability to provide for the skill needs of the manufacturing industry?



5.1 Introduction

Technical and further education (TAFE) institutions train and educate their students for workforce participation either as entry level staff or as those with higher level skills. If they are to effectively meet the skills needs of these students and of enterprises, they need to have the capacity and capability to understand and to respond to the complexity and dynamics of the industries they are servicing.

They need to understand the skill profiles of their industries, the drivers that are determining business growth and where, why and what type of skill development is needed to support enterprises in this growth.

To do this at the level required by enterprises means that vocational education and training (VET) providers need to have skilled teachers as front-line workers and have organisational management and governance structures that encourage and enable innovation, entrepreneurship and responsiveness to the business needs of industry and enterprises.

In assessing whether Victorian training providers have sufficient capacity and capability to provide for the skill needs of enterprises in the manufacturing industry, we examined:

- whether TAFE institutions were sufficiently knowledgeable of the business environment in which manufacturing enterprises operate
- how well TAFE institutions identify current and emerging skill needs and translate these into training programs
- whether TAFE institutions had sufficiently skilled and adaptable staff and the necessary infrastructure to meet the skills needs of enterprises.

5.2 Are TAFE institutions knowledgeable of the business environment in which manufacturing enterprises operate?

TAFE institutions have traditionally played a strong role in delivering training for the manufacturing industry. Manufacturing, particularly metal fabrication and motor vehicle manufacturing, is a significant industry with established technologies and standards. It has a large workforce with a tradition of gaining formal skills and qualifications from VET providers.

A key finding of this audit is that there is a high level of agreement by manufacturing enterprises that building and maintaining their skill base is critical to their success. Victorian employers use a variety of strategies to increase their skills base, including:

- retraining their existing staff
- hiring apprentices and other skilled labour
- recruiting domestically and from overseas
- working to retain and redeploy the current workforce.

In a recently released report from the Australian Industry Group (AiGroup)¹, employers surveyed indicated that they intend to invest substantially more in employee learning in the next 5 years².

Therefore, it is of increasing importance for VET providers to be knowledgeable of the business environment in which manufacturing enterprises operate. VET providers will need to be able to demonstrate to manufacturing enterprises that they understand their business, know how to assist in making that business more competitive in a global environment and can deliver the training arising from those circumstances.

If training providers do not have sufficient knowledge of the enterprises for which they provide training, then there is a real risk that the training they provide will be of little use to industry and, equally importantly, those being trained.

Lack of knowledge by VET providers of the business imperatives for skill development may impact on the willingness of employers to engage with the formal VET system and on their perception of the skills and qualifications.

¹ Allen Consulting Group, *World Class Skills for World Class Industries, Victorian Report*, Australian Industry Group, Melbourne, 2006.

² Although employers indicate their intention to invest more in training, research by the National Institute of Labour Studies in 2002 suggests the amount of such structured training has fallen in the last decade. Mark Cully, *Employers' contribution to training: how does Australia compare with overseas?* Flinders University, Adelaide.

5.2.1 Employer satisfaction with TAFE institutions

A recent survey of employers by the National Centre for Vocational Education and Research (NCVER) shows that Victorian employers are largely satisfied with the VET system. Eighty-four per cent were satisfied with nationally recognised training provided to apprentices and trainees, and 78 per cent were satisfied with that provided to non-apprentices or trainees³.

This is consistent with the findings of the AiGroup survey of 500 enterprises which believed that the Victorian training system was the best and most flexible system nationally. However, there also is a unanimous message that there is considerable room for improvement. This improvement is needed in the type of skills training offered, the level of responsiveness to industry needs, and in the degree of flexibility and proactivity at both a system level and in delivery.

Enterprises and industry associations we spoke to told us that the level to which TAFE institutions understand business requirements appears to vary according to the experience, skills and interests of senior staff and teachers, as well as the strategic approach adopted by the particular institution or program unit.

TAFE institutions and industry associations told us that at times institutions are hampered in their ability to better understand the business environment in which manufacturing enterprises operate by the degree to which their teaching departments focus on “academic education” rather than “industry competence”.

Other issues they identified include the ageing profile of TAFE staff associated with the manufacturing industry and the time since a number of these staff members were exposed to, or had experience of manufacturing workplaces and associated technologies.

We found that while some enterprises are complimentary towards individual teachers or TAFE institution units, several of the larger international companies reported a consistent lack of capacity and willingness of TAFE managers and teachers to understand the business perspective.

³ National Centre for Vocational Education and Research 2006, *Australian Vocational Education and Training statistics: Employers' use and views of the VET system 2005*, National Centre for Vocational Education and Research, Adelaide.

For example, one employer reported that he was dissatisfied with the lack of responsiveness of a TAFE institution and its teaching staff to the needs of the company's apprentices. He organised for his apprentices to be taken on by another provider, despite the inconvenience of travelling a distance. He is pleased with the new arrangements.

A different example is where a multinational company approached its local TAFE institution to organise a training program for employees. The perception of the enterprise was that the institution's management had filled their SCH quota and demonstrated little interest in cultivating a relationship. The company decided to bypass the TAFE and became a registered training organisation (RTO) in its own right.

A number of the enterprises, particularly those in niche areas that we interviewed, believed that private providers were more agile and responsive to their needs than TAFE institutions. We also spoke to private providers offering training in manufacturing. They believed that their business survival depended on being responsive, on understanding the needs of the business and providing training and resources that were relevant to the enterprise, while at the same time equipping the participants with nationally recognised competencies. They claimed that they were operating in a business environment where time is precious and the employer must be very satisfied that there is a return on investment for the training, particularly when wage increments are tied to increased skills.

A director of an employer association suggested that even TAFE institutions that are regarded as among the best in Victoria can be "sluggish and flat-footed" when it came to working on projects with industry. He was of the opinion that TAFE institutions are inclined to wait for enterprises to approach them, rather than the other way around.

Other problems cited include a general lack of understanding of:

- regular business constraints (e.g. shift work)
- best practice business processes (e.g. lean manufacturing)
- international standards (e.g. global quality requirements)
- implications or purpose of skills development.

Similarly, we were told that the training programs offered by TAFE institutions are not sufficiently customised to the workplace and nor do they meet stringent international standards.

Some enterprises engage in their own enterprise training delivery arrangements. A number of the large multinational vehicle manufacturing companies have established their own training academies in order to ensure compliance with the standards of their international parent companies.

One employer spoke of the need for employees at all levels of the workforce to be highly “proficient” if they are to operate at a world class level. Enterprises in highly regulated manufacturing sectors, and multinationals where the standards are set in Tokyo, Detroit or Germany as much as in Australia, reaffirmed this message.

5.2.2 Industry support for training packages

The majority of delivery by TAFE institutions is in the form of nationally recognised training; i.e. training package qualifications, state accredited courses and units of competency which are found on the national register⁴.

In general, industry is supportive of the concept of nationally recognised training and qualifications. Some large enterprises that we spoke to were critical of the content of training packages, even though these are developed through national industry bodies. For example, one multinational company believed that there were too many obsolete skills in training packages.

Competitive Manufacturing Industry training package

A consortium of national industry training advisory bodies has developed a Competitive Manufacturing Industry (CMI) training package, which is designed to give employees competencies in operating in a competitive lean manufacturing environment. The competencies in the package include ability to analyse the needs of the organisation and lead it through a change process and down the competitive manufacturing path.

Victorian enterprises and VET providers were generally highly supportive of this new nationally recognised CMI training package. Enterprises support its whole-of-business approach, focused on improving company performance, and its inclusion of lean manufacturing principles, reflecting current business best practice. Some TAFE institutions have invested in professional development of their teaching staff so that they are equipped to offer a training program, based on the package.

⁴ It is a requirement of the Commonwealth–state agreement that government-funded training be nationally recognised training.

However, in response to an audit question, the Office of Training and Tertiary Education (OTTE) stated that the CMI had not yet featured in its planning discussions with TAFE institutions. Moreover, OTTE did not expect that it would feature in any large way because it expects this to be primarily fee-for-service activity and it would not figure directly in priorities around government-funded delivery. In this case, it would seem that training providers and enterprises have identified an important new initiative for the manufacturing industry that is not mirrored in profile support from OTTE.

However, OTTE has separately funded 3 CMI pilot projects involving 22 enterprises and 6 RTOs, focused on enhancing the competitiveness of small and medium sized enterprises (SMEs) in manufacturing. The projects aimed to build high level consultancy skills and deliver training to improve business and production processes in the participating enterprises.

5.2.3 Industry support for apprenticeship training

The NCVER 2006 survey of employers established that 94 per cent of Victorian employers rate having apprentices as important. This has not always translated in the recent past into enterprises employing apprentices. Some research⁵ points to a fundamental tension between employers' need to respond to more immediate productivity pressures with the broader need for sustained investment in training.

However, recently there has been an increase in the number of apprenticeships in Victoria. We found that there has been an increase of about 11.5 per cent in apprenticeship and traineeship training between 2002 and 2005. We estimate this to be an average of about 2 000 additional apprentices and trainees in training annually, half of these in higher priority sectors. As well, early results from the Victorian Employers' Chamber of Commerce and Industry (VECCI) 2006 survey of 419 enterprises indicate that apprentices or trainees are easier for employers to recruit than skilled workers.

Apprenticeships and traineeships are now the highest priority for TAFE institution enrolment and delivery. Some TAFE institutions have had difficulty in accommodating the increase in the number of apprentices and there are some waiting lists for apprenticeships in some TAFE institutions.

⁵ P. Toner, *Getting it Right: what employers and apprentices have to say about apprenticeships*. Dusseldorp Skills Forum, Sydney, 2005.

Commencements in apprenticeships and traineeships across a range of industries have experienced a significant growth through the late 1990s to the present day. This growth has been dominated by commencements in traineeships, up from 5 568 students to a peak of 81 456 in 2003, and not in traditional trades.

These traineeships have generally been at a lower qualification level than apprenticeships and much more in areas of business, hospitality, information technology and retail than in manufacturing.

Commencements in apprenticeships was at a more moderate rate over the same period, rising from 13 027 in 1995 to a peak of 19 553 in 2003.

Completion rates of apprenticeships and traineeships are poor. Recent research by OTTE shows that 43.9 per cent drop out⁶. Information on their motivation for dropping-out is not available, although employment conditions, pay rates and a lack of understanding of what an apprenticeship or a traineeship is really about are likely contributing causes of apprentices and trainees not completing their courses.

Industry associations told us that the Commonwealth incentives for new apprenticeships are distorting the market by encouraging some enterprises to train their staff without it appreciably adding to the skills of their exiting workers or to provide them with wage increases or improved career paths.

We found that Victorian enterprises see apprenticeships, for the most part, as an appropriate form of training for the traditional trades. This is especially the case for manufacturing sectors where there has been a strong tradition of apprenticeships, for example metal machinists, sheet metal workers and motor mechanics. They explain difficulty of recruiting apprentices in terms of competition from other more attractive, or better paid industries and the poor image of manufacturing rather than there being insufficient public funding for apprenticeships. One industry association and some of the multinational enterprises interviewed believe that current apprenticeship arrangements are not well suited to modern manufacturing workplaces.

⁶ Department of Education and Training 2005. *Skill Shortages paper for DET Executive*. Unpublished.

In turn, TAFE institutions told us that numerous manufacturing industry enterprises do not appreciate or understand the constraints and targets required in their delivery of apprenticeship and other profile courses. This is especially in regard to training of existing workers, usually not as high a priority for publicly-funded training. For example “Industry is generally not prepared to pay for training. Enterprises seek cost neutral training offset by New Apprenticeship incentives” and “It is a challenge to meet enterprise needs within the public infrastructure rules” and “They [enterprises] do not want to pay for their training and are increasingly trying to play off the various TAFEs”.

FIGURE 5A: ENTERPRISE SUPPORT FOR APPRENTICESHIP

J. Furphy and Sons Pty Ltd is a Shepparton company that has been in existence for 140 years. It is a small/medium company with 80 employees producing fabricated metal tanks and vessels. Furphy's has 27 apprentices at various stages of completion of their 4 year program, although recruitment of apprentices is now a problem. The company takes great pride in its commitment to skills development, “The best thing produced here are our tradesmen”.

Good work is rewarded. Each year, the company runs a competition for its third and fourth year apprentices, based loosely on the World Skills model, and the winner receives an international trip/study tour as the prize.

The company told us of their satisfaction with their partnership with Wodonga Institute of TAFE. According to Adam Furphy, the institute staff are enthusiastic, know their trade and provide weekly reports to Furphy's on each of their apprentices. Staff of the institute act as if they are part of a business operation.

Source: Victorian Auditor-General's Office, from information provided by J. Furphy and Sons Pty Ltd.

5.2.4 Response of TAFE institutions to industry demands

TAFE institutions juggle a range of challenges involving national and state policies, initiatives, targets, regional priorities, and the needs and demands of the local community and businesses.

The biggest challenge in responding to the manufacturing industry is for TAFE institutions to respond to small companies. These companies want customised training (usually in the workplace) and access to profile (publicly-funded) training. However, the numbers requiring training may not allow for viable workplace training.

TAFE institutions that we spoke to claimed that the demands of some enterprises and industry groups far outweigh their commitment to the institution and are often beyond the financial capacity of their institution to be able to respond to at all, let alone in a flexible and innovative way.

Nevertheless, a number of TAFE institutions are engaging with industry in an increasingly strategic way. For example, through developing partnerships with enterprises, or consultancy services to industry, or through the development of specialist centres.

In 2005, the school of manufacturing and engineering at Chisholm Institute of TAFE had 9 staff members spending 3 248 hours working on-site with manufacturing companies. They were engaged in workplace delivery and joint development of resources, while having the opportunity to observe and shadow people in the workplace.

Goulburn Ovens Institute of TAFE hosted a course in VZ Holden Engine Management, with a representative from Holden College in Melbourne running the course at the institution's Shepparton campus.

Swinburne University provides a consultancy service for industry and has adopted sophisticated business management practices, such as keeping client databases and tracking return on investment, customer retention and repeat business.

Increasing numbers of TAFE managers across all the TAFE institutions we audited now have post-graduate qualifications in Business Administration or Change Management. Goulburn Ovens Institute of TAFE is supporting its departmental managers to undertake Masters in Education at RMIT.

Most TAFE institutions now have their staff working in teams and have organisational structures that mirror large private companies employing several hundred people. Nearly all TAFE institutions evaluate, in some way, industry satisfaction with their performance.

However, much of this work is focused on supporting the growth of commercial, or fee-for-service, delivery rather than that of publicly-funded delivery.

Many TAFE institutions say that their focus on the delivery of entry level training inhibits staff from working with enterprises to understand better their training needs and to persuade them to lift their training effort.

They also claimed that there is little reward or benefit to institutions for innovative behaviour, or over delivery in publicly-funded training, but there may be cost recovery for not achieving targets.

The Innovation Fund

In 2003, as a result of the 2002 ministerial statement, OTTE established an Innovation Fund to enable TAFE institutions to develop innovative and flexible training initiatives designed to increase responsiveness in TAFE institutions and to promote new approaches to skills acquisition.

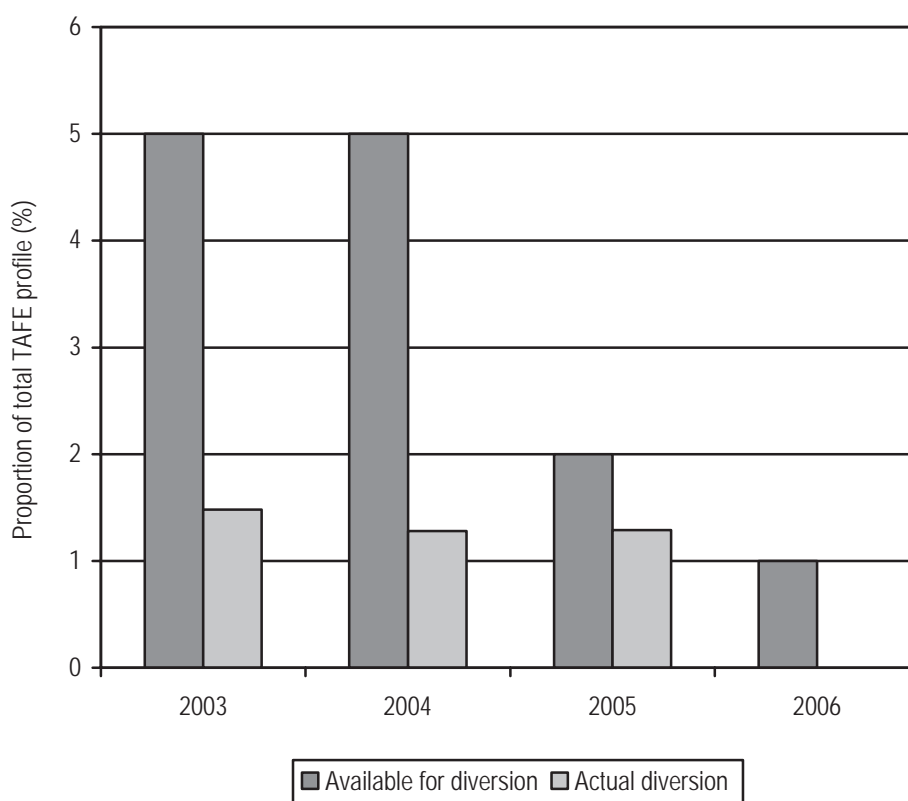
The Innovation Fund allowed TAFE institutions to make local decisions by diverting up to 5 per cent of their profile to support such innovative approaches to products, programs and services.

The amount of 5 per cent of profile has been reduced, progressively, to 2 per cent and now one per cent, as a result of the poor take-up by some institutions.

The audit found that a number of TAFE institutions choose not to divert SCH because they were facing high levels of student demand and, consequently, concerned about not meeting their delivery targets if they diverted some SCH.

Figure 5B shows the decline in diverted profile funding since the beginning of the program.

FIGURE 5B: TAFE INSTITUTIONS' TAKE UP OF INNOVATION FUND



Source: Victorian Auditor-General's Office, from data provided by OTTE.

OTTE advised us that an independent evaluation of the Innovation Fund (2003-2005) has been carried out and that TAFE institutions had leveraged an additional \$3 million of revenue and generated substantial new programs and learning resources from the fund.

It remains unclear why TAFE institutions are not accessing a fund that could allow institution staff to identify strategies for working with manufacturing enterprises and to understand better the environment in which manufacturing enterprises are operating.

Specialist centres

Nineteen specialist centres of excellence, including the Centre for New Manufacturing at Swinburne University, received start-up funding from OTTE and have had to forge strong relationships with enterprises in order to survive.

Goulburn Ovens Institute established Innoven, a food industry specialist centre, working to identify and improve the business outcomes for local food industry companies in the region, and supporting these with targeted competency-based training, some leveraged with profile funds.

The operation of specialist centres is largely funded by fee-for-service activities although some leveraging occurs. While the institutions have identified the potential of these centres, as yet there has been no formal evaluation by OTTE of their effectiveness in understanding or meeting industry demands.

FIGURE 5C: GOULBURN OVENS INSTITUTE OF TAFE INNOVEN SPECIALIST CENTRE

In 2002, Goulburn Ovens Institute of TAFE established the Innoven Food Industry Centre, a specialist centre providing leadership and innovation in the delivery of VET for the food processing sector. Working in partnership with some of Australia's major food industry companies, such as Nestle, Kraft, SPC Ardmona and Tatura Milk Industries, Innoven has developed a highly enterprise-centric and learner-centric approach to meeting the specific organisational learning needs of each participating enterprise. For example, Innoven:

- researches the industry and each individual enterprise
- establishes and maintains relationships with enterprise managers
- determines each enterprise's needs and issues
- identifies individual learner's needs within each enterprise
- provides teaching and assessment in the workplace
- assists individual workers to obtain relevant accredited qualifications
- delivers a business improvement for the enterprise.

Tatura Milk Industries has achieved excellent productivity improvements after implementing Innoven's customised fee-for-service training model, including reduced waste in the cream cheese production and providing a best practice model for staff regarding consistency of output and quality.

In 2004, Innoven developed further capability in providing credible and effective training in management and manufacturing leadership. Innoven focuses on developing skills and resources for better business, better organisation efficiency and improved individual or group performance. Training needs arise out of this approach to improving the organisation, rather than a more traditional approach of providing training and assuming that this will lead to better business.

As business solutions are highly customised focusing on specific client performance, generally the work undertaken by Innoven occurs on a fee-for-service basis.

Leveraging

There was no substantial evidence available to the audit that TAFE institutions have entered into leveraging arrangements to any great extent, especially in the manufacturing industry, although some more innovative approaches, such as those of specialist centres, do so.

Leveraging arrangements are available to TAFE institutions to use some profile funds for enterprise training, provided that the enterprises make a contribution at least equivalent to that from profile funds and that the training aligns with government priorities.

TAFE institutions told us that many enterprises are reluctant to contribute anything to offset the cost of delivery by the TAFE institution. Enterprises operating within the global supply chain, and with consequentially tight cost/price and response pressures, do not wish to contribute additionally to the cost/price of customised government-funded training.

On the other hand, TAFE institutions, operating within a target-oriented government regulatory policy and purchasing environment, do not believe that they necessarily have the business and management tools to be able to respond well to leveraging opportunities.

5.2.5 Conclusion

TAFE institutions need to have a good understanding and appreciation of the business environment and business requirements of the enterprises with which they are dealing if they are to meet the demands of industry and operate successfully with manufacturing industries.

Currently, this understanding is variable, dependent, for example, on the skills, age and interests of staff, the currency of their industry experience, the strategic approach of TAFE institutions and the degree to which teaching focuses on academic rather than industry competence.

Industry is generally supportive of the concept of nationally recognised, training package qualifications and of the apprenticeships system. Employment of apprentices is growing and the Victorian Learning and Employment Skills Commission's (VLESC's) decision to shift profile funding to apprenticeship and traineeship training supports this growth, especially in manufacturing.

However, the high drop-out rate of apprentices⁷ (44 per cent and 38 per cent in the automotive and engineering industries, respectively, for apprentices commencing in 1999) is costly both for employers and the training system. It is an area where further research by industry, OTTE and TAFE institutions would be beneficial.

Both enterprises and VET providers express support for the Competitive Manufacturing Training Package. In most instances, OTTE has not included the Competitive Manufacturing Training Package in its profile negotiations as it expects this to be primarily fee-for-service activity and not to impact directly on publicly-funded delivery.

Criticism by some enterprises of the currency of nationally recognised training and the capability of staff in some TAFE institutions to make the training relevant to the needs of specific enterprises continues.

Enterprises have an uneven understanding of the constraints of government regulatory, policy and accountability environment in which such large TAFE institutions operate. In some cases, they are unaware of the constraints on publicly-funded training, especially those which restrict the capacity of TAFE institutions to provide customised and flexible training programs.

Several of the TAFE institutions that we audited demonstrated a good understanding of the business environment of enterprises in their fee-for-service delivery. In this respect, there are a number of innovative programs and partnerships established between enterprise and institutions, some with support from OTTE and leveraged profile funds. These could be given greater standing in terms of meeting the needs of industry and local enterprises. For example, specialist centres have introduced some innovative approaches to meeting enterprise-specific needs. Evaluation of these types of programs would assist the broader VET system in identifying other successful approaches to working with local enterprises.

The current purchasing arrangements focus predominantly on entry level training and do not take account of the commercial and most responsive parts of institutions. This constrains the ability of the institutions to develop their business fully and meet the needs of industry and enterprises.

⁷ Department of Education and Training 2005, *Skill Shortages paper for DET Executive*, unpublished.

As we have recommended in Part 4 of this report, we are of the view that VLESC's performance agreements with TAFE institutions need to reflect the whole of the business of each TAFE institution and provide greater autonomy in how their resources are applied. This would enable VLESC and OTTE (as well as the governing councils of TAFE institutions) to monitor and support the diversity of the Victorian VET system as it meets the training needs of enterprises and the Victorian workforce.

In this context, greater understanding of the business environment is paramount and requires leadership at all levels of TAFE institutions and the broader VET system. Leadership is a major key to transforming the culture and performance of organisations. TAFE institutions and their governing councils need leaders who are strategic in their thinking and have the skills to operate what are now very sophisticated business operations. These skills need to be embedded in the organisational culture and dynamics of institutions.

Recommendation

- 6. That VLESC and the governing councils of TAFE institutions investigate ways of enabling TAFE institutions to develop their understanding of business and to reinforce engagement with industry and enterprises to build more effective partnerships in identifying and meeting training needs.**

RESPONSE provided by the Chair of the Victorian Learning and Employment and Skills Commission

Recommendation 6

The VLESC notes this recommendation which is consistent with current directions.

The VLESC will continue to provide funding to support the Innovation Fund, designed to reinforce engagement with industry and enterprises to build more effective partnerships, identifying and meeting training needs and improving the TAFE system's responsiveness to new and emerging skills needs.

"Maintaining the Advantage: Skilled Victorians" provides a further \$2 million (2007-2008) to support Industry Skills Advisors and \$10.7 million (2007-2010) to support the Business Skills for the Future initiative.

The VLESC notes the recommendation is also directed to governing councils of TAFE institutions, in their capacity as independent statutory authorities.

RESPONSE provided by the Secretary, Department of Innovation, Industry and Regional Development

Recommendation 6

Supported.

RESPONSE provided by the Chief Executive Officer, Goulburn Ovens Institute of TAFE

Recommendation 6

Agree

This institute also fully supports the need for TAFE institutions to develop a better understanding of business to build better partnerships in identifying and meeting industry training needs (Recommendation 6). Regardless of the outcome of your report, we will be working towards a greater integration of the Innoven Food Industry Centre Performance Improvement model (as detailed in your Figure 5C) into our mainstream business. This model focuses specifically on the needs of the business, from a business perspective, and leads to training that is specifically aimed at improving the business rather than simply providing accredited qualifications.

RESPONSE provided by the Chief Executive Officer, Kangan Batman TAFE

Recommendation 6

Partly Agree.

Note: industry is not homogenous. Industry perceptions of TAFE are sometimes given without reference to external constraints on TAFE. For example, TAFE cannot expend government funds outside the training packages. Training packages, by virtue of the lengthy industry consultation process, are often significantly behind the needs of leading edge enterprises.

RESPONSE provided by the Deputy Vice Chancellor, Swinburne University of Technology (TAFE division)

Recommendation 6

Broadly agree.

RESPONSE provided by the Chief Executive Officer, Northern Melbourne Institute of TAFE

Recommendation 6

Agree.

5.3 How well do TAFE institutions identify current and emerging skill needs and translate these into training programs?

5.3.1 Employers' perception of industry skills and training requirements

National training packages allow a range of options to customise training for specific needs. The ability of TAFE institutions to do this is a measure of how effective both publicly-funded training and commercial activity in VET will be.

Enterprises and employer associations we spoke with highlighted the changing nature of skill demands and the highly competitive environment in which they operate. Manufacturing enterprises now require higher order skills at all levels of the workforce and training that meets that need. There is a perception that too much of the focus of current government purchasing is on entry level, rather than on re-skilling existing workers who are already involved in the industry and, therefore, addressing the issue of skill gaps.

Some employers want more rigorous and relevant training of apprentices. They also want a more diverse and segmented range of offerings for their existing workers, who need to renew their skills, as technology is updated and work practices change.

Our interviews with enterprises, confirmed in a 2005 survey of 45 manufacturing companies conducted by Kangan Batman Institute of TAFE⁸, indicated that employers want their existing workers to have access to an increased range of skill sets, including short courses, particularly at the post-trade level and to some extent at the higher Diploma levels. In some instances, the actual skills they require are generic, if high-end; for example, analytical skills, problem solving skills and IT/computer skills applied in context.

In addition, employers told us that they would like increased training, including workplace-based training and assessment for their existing workers. Overall, employers are seeking training opportunities that meet their needs cost-effectively and with minimum disruption to their businesses. As such, TAFE providers need to facilitate genuine input from and engagement with employers in identifying training needs.

⁸ Kangan Batman Institute of TAFE, 2005, *Nominated Company Survey - Manufacturing*, Melbourne.

5.3.2 Strategies TAFE institutions use to identify current and emerging needs

We examined strategies by which TAFE institutions identified current and emerging needs of manufacturing enterprises and translated these into training programs that are either publicly-funded or part of the institution's commercial activities.

TAFE institution staff draw on a range of external and internal sources to keep abreast of the needs of enterprises, and to identify new technologies and associated training methods. The most important external sources include leading edge users, producers or suppliers of equipment, industry associations, learners and the actual manufacturing plants.

All the TAFE institutions that we audited indicated that the regular statewide meetings of all metals and engineering departments ("engineering senate") were an important forum for information sharing with other Victorian institutions about current and emerging needs of the manufacturing industry.

Most have some form of regular information exchange with local enterprises and the broader manufacturing community. TAFE institutions, often through specialist units, conduct research into local, state, national and international trends in manufacturing.

However, the majority of TAFE institutions audited said that the research into the issues affecting local manufacturing enterprises was at an early stage. In the case of the pharmaceutical industry, it had not really begun.

Professional development, particularly where there was a component of working in industry, also was regarded by all the institutions as an important source of intelligence about industry trends and needs.

Both Kangan Batman Institute of TAFE and Chisholm Institute of TAFE have surveyed local manufacturing enterprises in order to identify the skill requirements for new and emerging technologies.

Generally, staff research the relevant parts of the manufacturing industry and feed the local intelligence they gain into the institution's training plan. In addition to their training responsibilities, most departmental heads and teaching staff are expected to maintain strong links with their industries, especially in areas of rapid technological change, such as engineering and motor vehicle manufacturing.

Regular meetings with local employers provide a way of promoting two-way communication between TAFE institutions and local enterprises. Examples of common interest groups or participation in local industry networks include South East Melbourne Manufacturers Alliance (SEMMA) and the Northern Industry and Education Training Link (NIETL).

FIGURE 5D: SEMMA AND CHISHOLM INSTITUTE OF TAFE

SEMMA is an incorporated body with 120 members from second and third tier manufacturing enterprises in south-east Melbourne, an area that is home to 40 per cent of the total manufacturing effort for the state.

Formed in 2002, its purpose is to give these enterprises a voice by lobbying government and sharing information and expertise. Skill development is a significant issue for these enterprises. We were told that SEMMA enterprises are happy to pay for formal training of their employees if what they can see is an appropriate model of delivery.

SEMMA works closely with Chisholm Institute of TAFE on various programs, including secondary school liaison. SEMMA members have provided advice on the kind of training that is relevant to their members and the institute has reviewed and repositioned its manufacturing training programs.

Source: Victorian Auditor-General's Office from information provided by SEMMA.

Other strategies used by TAFE institutions to identify current and emerging need include advisory groups of enterprises which meet regularly to advise on projects. Examples include the establishment of the Automotive Centre of Excellence at Docklands, the Food Industry Centre at Goulburn Ovens Institute of TAFE, the Centre for Integrated Engineering and Science at Chisholm Institute of TAFE and the Stainless Steel training programs at Northern Melbourne Institute of TAFE. These institutions rely heavily on the industry involvement in ensuring the relevance of their training programs.

TAFE institutions and private RTOs have membership of some state industry training advisory bodies (ITABs) either as observers or full participating members of the board and are represented on Local Learning and Employment Networks (LLENs).

TAFE institutions appreciate the benefits that flow from productive relationships with enterprises. These include sponsorship, access to leading edge equipment and a shared understanding of the potential return on investment of the right training for enterprises.

Barriers to engagement with enterprises identified by TAFE staff included lack of time under current funding arrangements to investigate new industry developments and lack of appropriately qualified staff to offer some advanced level training.

FIGURE 5E: NORTHERN MELBOURNE INSTITUTE OF TAFE STAINLESS STEEL PROGRAM

The Stainless Steel program at the Northern Metropolitan Institute of TAFE (NMIT) came about as the result of a request from local industries within the northern region.

A small cluster of companies that used and manufactured products out of stainless steel were finding it very difficult to attract skilled tradesmen. Together with NMIT, they identified that the skill level required to work with stainless steel is greater than that of the more common metals used within the fabrication industry. As a result, up-skilling was also an issue. This resulted in some companies poaching other's employees, with an associated increase in wages.

NMIT utilised the Northern Industry Education and Training Link (NIETL) to investigate ways of assisting in the training of new and existing workforce. NMIT also had to change the mindset of its own staff who had traditional views on training delivery.

The initial program started in 1997 with 19 students and, today, there are consistently more than 25. However, progress has not been easy and, in the early stages, the initiative struggled as many companies closed down.

Two of the bigger companies that initially headed up the program are no longer involved to the extent that they were, but many smaller companies have come on board with some of these now owned by people who were original employees of the larger companies.

Although NMIT continues to promote training within the secondary system and the steering committee still exists, there are more jobs than applicants, and the committee struggles to attract representatives from industry and new members.

The program which has been essential to the survival of fabrication course at NMIT requires constant support and focus as it could easily fold without the commitment of the industry based committee.

Source: Victorian Auditor-General's Office from information provided by NMIT.

5.3.3 Commercial activities

Fee-for-service activity provides significant opportunities for TAFE institutions to meet the current and emerging skills training needs of enterprises. The level of fee-for service activity in the Victorian VET system - including TAFE institutions, private RTOs and Adult and Community Education (ACE) providers - has increased from 25 per cent in 2002 to 29 per cent in 2003 and 2004. Nationally, the Victorian VET system is known to have a strong commercial orientation.

The governing councils of some TAFE institutions have set a target of over 40 per cent of their revenue being derived from commercial activities by 2007. The audit found that, in some cases, TAFE institutions relied on their fee-for-service income to sustain their delivery of publicly-funded training.

Fee-for-service activities are wide-ranging, including short hobby and industry courses, industry consultancy, conference centres, restaurants, off-shore delivery, on-shore international students or contracts with other Commonwealth and state government departments.

We found a high level of responsiveness and adaptability among some TAFE institution staff in this fee-for-service sphere of activity and a desire to retain and expand their relationships with enterprise partners. On the other hand, views among employers we spoke to, concerning the quality of communication by TAFE institutions and their overall responsiveness to their training need, varied from very satisfied to extremely dissatisfied.

Several of the larger companies reported that TAFE institutions had not been interested in pursuing the relationship or responding to their needs. An employer association expressed the view that the TAFE system is too imbued with an educational perspective and lacking in capability to communicate with industry about what TAFE institutions can offer in relation to the needs of industry.

There appears to be a gap between the strategic approach at the management level of the TAFE institutions and the capacity and knowledge of those delivering training programs. This variability and inconsistency is magnified in the customising and delivery of national training packages to meet the specific skills training that enterprises want developed for their existing workers.

FIGURE 5F: CISCO ACADEMY AND BOX HIL INSTITUTE OF TAFE

Box Hill Institute (BHI) enjoys a significant relationship with Cisco Systems and is highly respected in Asia-Pacific region for the work it has done and is continuing to do for the Cisco Academy Program in that region.

BHI has been a key figure in the Cisco Academy Program since 1999 when BHI signed on as a Cisco Academy Training Centre (CATC). The Academy Program began in 1998 and experienced massive growth in the first 4 years. Today, it is referred to as the largest and most successful e-learning tool used today with over 500 000 students enrolled in many countries throughout the world.

From January 1999, BHI played a key role in deploying the program in Australia and New Zealand as well as in greater Asia-Pacific region. That role included delivering academy courses to students as well as training academy instructors. To date, BHI has trained many hundreds of instructors both at BHI's campus and at overseas sites all over the Asia-Pacific region.

BHI has been appointed a Super Cisco Academy Training Centre, of which there are only four in the world. This is a prestigious role in the Academy program. The role includes providing Cisco with strategic advice on academy policies and practices. In addition, BHI services Cisco with a number of special projects for the development of the academy program in Asia Pacific.

BHI is one of very few academies worldwide that has Cisco endorsed instructors. This means that they can instruct as virtual Cisco staff.

Source: Victorian Auditor-General's Office, from information provided by Box Hill Institute of TAFE.

5.3.4 Conclusion

TAFE institutions engage in a range of activities to identify current and emerging needs of local enterprises and to translate these into training programs. They do this largely by engaging directly with local enterprises and by seeking to maintain currency in both their industry skills and in up-to-date teaching and learning methods.

Frequently, their success is dependent on the relationship which TAFE institution staff have with local enterprises, and the degree to which information is shared between various enterprises and staff in institutions, so that needs are clarified and training can be customised.

Overall, the responsiveness of TAFE institutions is perceived as variable and inconsistent. There is a gap between how management responds and operates and the knowledge and capability of those delivering training programs, which needs to be addressed in order to extend and enhance the ability of the teaching workforce. This is especially so in developing innovative ways of using government funds to deliver economically viable training to small groups in the workplace.

The well-established modes of delivery by TAFE institutions (and the purchasing approaches by OTTE), which are based on student contact hour targets and the delivery of qualifications, continue to drive institution-based, high volume delivery and provide little room for more customised workplace training and the development of these skill sets among staff – the latter being addressed in part by fee-for-service programs.

There is a need for a renewed focus on assisting enterprises to know what skills they need, and how they might gain access to these skills through government-supported training and fee-for-service programs, delivered by government-owned TAFE institutions. This demand has been identified by the recent Skills Statement⁹.

Recommendation

- 7. That VLESC support TAFE institutions to give priority to extending the skills of teaching staff with the express purpose of enhancing, developing and maintaining a workforce that is abreast of current and emerging industry needs and whole-of-business activities.**

⁹ Department of Education and Training 2006, *Maintaining the Advantage: Skilled Victorians*, Victorian Government, Melbourne.

RESPONSE provided by the Chair of the Victorian Learning and Employment and Skills Commission

Recommendation 7

The VLESC accepts this recommendation.

The VLESC will continue to provide funding to TAFE institutions to support professional development strategies and will encourage institutions to use these funds for the express purpose of enhancing, developing and maintaining a workforce that is abreast of current and emerging industry needs and whole-of-business activities. It is anticipated that initiatives to enhance, develop and maintain the workforces will feature in three year strategic plans developed by TAFE institutions.

The VLESC notes that the core role of the TAFE Development Centre is to raise the professional standing of people working in Victorian TAFE Institutions through development opportunities, Industry Skills Schemes and Leadership Programs.

RESPONSE provided by the Secretary, Department of Innovation, Industry and Regional Development

Recommendation 7

Supported.

RESPONSE provided by the Chief Executive Officer, Goulburn Ovens Institute of TAFE

Recommendation 7

Agree

This institute's recent work on strategic workforce planning, to align the emerging skills needs of staff with developments in industry is also consistent with your recommendations to develop and integrate workforce planning in the broader VET system (Recommendations 7, 8 and 9).

RESPONSE provided by the Chief Executive Officer, Kangan Batman TAFE

Recommendation 7

Strongly Agree.

Note: the TAFE Development Centre has been created to address this. Additionally, in Kangan Batman TAFE's view, the terms and conditions of the TAFE Teachers' Award require modernisation to ensure salary competitiveness and more contemporary working conditions.

RESPONSE provided by the Deputy Vice Chancellor, Swinburne University of Technology (TAFE division)

Recommendation 7

Broadly agree

RESPONSE provided by the Chief Executive Officer, Northern Melbourne Institute of TAFE

Recommendation 7

Agree.

5.4 Do TAFE institutions have skilled and adaptable staff and the infrastructure to meet the skill needs of enterprises?

The skills of the people working in training providers are paramount if TAFE institutions are to provide the high quality training services and responsiveness necessary to meet the skills needs of industry.

TAFE institutions have responsibility for employing staff and for their employment profiles. The institutions maintain a high degree of flexibility in their staffing in recognition of the changing nature of demand for training and the need to maintain budget viability.

5.4.1 Workforce initiatives

The 2002 Ministerial Statement acknowledges the importance of “professional workers in TAFE, where knowledge products and service are core business” and identifies strategies for renewal of the workforce which include:

- initiatives to build the skill profile of TAFE institutions
- the recruitment and retention of people with most current industry skills and experience
- targeted professional development programs
- access to ongoing industry exchange and recruitment
- development of leaders and
- the establishment of the TAFE Development Centre.

OTTE has sponsored several research projects into workforce planning to inform the strategic management of TAFE institutions, including:

- trends in TAFE workforce (2000)
- profile of HR development practices (2004)

- workforce planning for TAFE institutes (2004)
- TAFE qualifications profile (2005).

Along with all other public sector organisations, it is imperative that TAFE institutions integrate workforce planning with business strategy and operations. The workforce planning for TAFE institutes project surveyed 18 Victorian TAFE institutions and found that most had explored and identified their future business directions and were likely to use this business analysis to identify future workforce needs.

However, the project found that most institutions are still in the early stages of setting-up systems that would allow them to implement workforce planning. Two of the institutions that were part of this audit were identified by the OTTE project as “better practice institutes”: Kangan Batman and Goulburn Ovens.

TAFE institutions have begun to address some workforce capability issues. For example, Chisholm Institute has recently developed a workforce development strategy and a number of TAFE staff have enrolled in MBA’s and other masters degrees and frontline management programs. These programs are generally funded, in part, out of TAFE profile and/or fee-for-service funds, but in at least one TAFE institution staff upgrade their skills in their own time and at their own expense.

The VLESC shift of publicly-funded training from low priority to high priority industries has had implications for the staffing profiles of TAFE institutions. OTTE recognises this by allowing institutions to apply for targeted separation packages if they can demonstrate that the redundancy is part of the realignment process. All the TAFE institutions interviewed have made staff redundant under these arrangements, with OTTE funding.

The TAFE Development Centre currently has recognised the need to build the consulting skills of TAFE staff to support enterprises working in competitive markets. This training need emerged from the OTTE-initiated Specialist Centres and their associated enterprise networks.

5.4.2 Profile of the VET workforce

The characteristics of the VET workforce are not well understood, despite salaries and wages making up the largest proportion of expenditure for TAFE institutions.

VET itself is a strategically important industry and the absence of reliable workforce planning data creates a risk of skill gaps in the future, particularly in the broader context of an ageing and shrinking Australian labour market

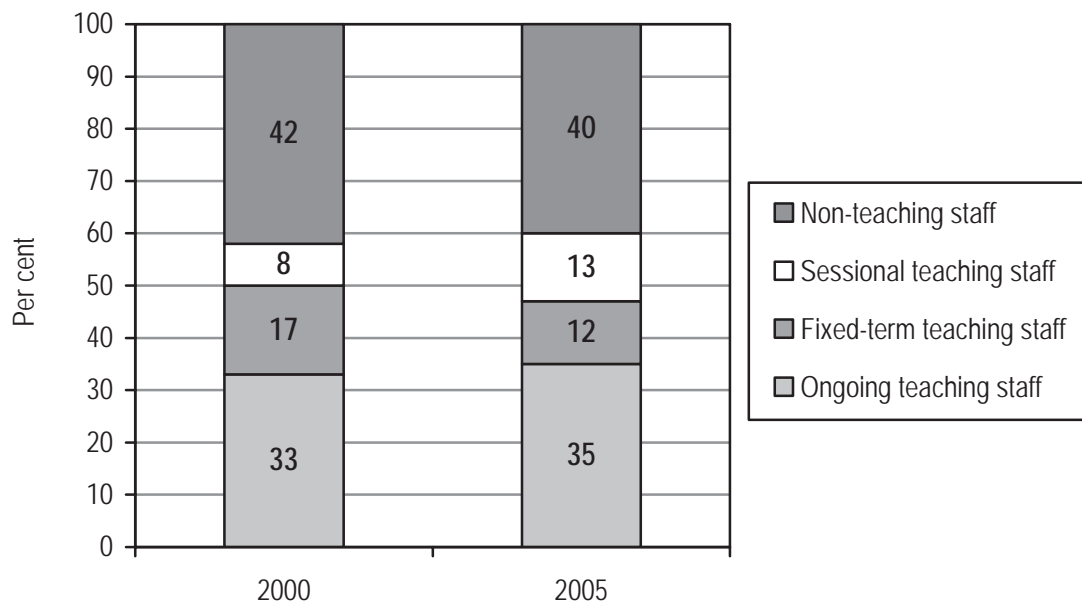
Although NCVER has argued for VET workforce data to be collected nationally, there is minimal data available. However, general characteristics of the TAFE teaching workforce, sourced from NCVER, show that they are:

- ageing at a higher proportion than the general Australian workforce population
- increasingly unable to match salaries and conditions for skilled people in industry
- have educational qualifications, significantly more than the Australian workforce as a whole
- engaged on a part-time basis at a rate which is considerably higher than the proportion of part-time workers in the Australian workforce.

In the TAFE workforce overall, there are slightly more males than females although proportionately more women are part-time employees. There are also a large number of casual/sessional staff¹⁰.

Victorian TAFE institutions and OTTE collect some VET workforce data. Figure 5G shows the breakdown of permanent, fixed-term and sessional teaching staff, as well as non-teaching staff in Victorian TAFE institutions.

FIGURE 5G: EMPLOYMENT STATUS OF VICTORIAN VET STAFF



Source: Victorian Auditor-General's Office, from data provided by OTTE.

¹⁰ National Centre for Vocational Education Research 2004, *Profiling the National Vocational Education and Training Workforce*, National Centre for Vocational Education and Research, Canberra.

Ageing of the workforce

A major immediate issue confronting Australian workforce planners in the future is the ageing of the workforce. A recent study of the Victorian TAFE teacher workforce found 63 per cent were aged between 41 and 60 years with 4 per cent 61 years and over. This has implications in terms of the need to replace these staff as they retire, in the broader context of a diminishing labour market.

Few TAFE institutions have strategies in place to deal with these issues arising from an ageing workforce¹¹. In our sample, however, at least one of the institutions is putting in place incentives for retiring staff members to return to work in a variety of capacities, including as mentors.

Comparable salaries and conditions

Increasingly, TAFE institutions are unable to match the salaries and conditions of skilled people in industry. TAFE teaching staff are employed under the Multi Employer Certified Agreement (MECA). We were told that a teacher's salary is capped at \$62 000, while a similarly capable person may be able to earn \$120 000 in an industry setting. This is a major constraint on the ability of TAFE institutions to attract and retain staff with current industry skills and experience.

As a result, TAFE institutions may be unable to attract or retain sufficiently skilled sessional or ongoing teachers with suitable industry experience to provide other than basic entry level skills training. This is inconsistent with the demand from industry for higher order skills.

The challenge for TAFE institutions in sustaining their skill base is to find ways to renew the skills and experience of their workforce through maintaining industry currency or through ensuring that those employed with industry experience acquire competence in training and assessment.

Currency of teachers skills

TAFE institution staff have educational qualifications significantly more than the Australian workforce as a whole. The progressive implementation of competency-based training over the past 15 to 20 years has required TAFE institutions to deliver nationally recognised training packages, allied with customisation to meet enterprise needs.

This reform has put further pressures on institution staff to have the capability, gained through professional development, to develop and implement competency-based training programs and related assessment.

¹¹ National Centre for Vocational Education Research 2004, *Profiling the National Vocational Education and Training Workforce*, National Centre for Vocational Education and Research, Adelaide.

TAFE institutions that we audited have some form of professional development in place for teachers to improve the currency and relevance of their skills, including:

- industry release for staff to gain industry currency
- shadowing
- attendance at seminars and vendor conferences
- joint project work with enterprises,
- involvement with other TAFE institutions, despite the highly competitive nature of the Victorian TAFE system.

FIGURE 5H: THE ADVANCED TECHNOLOGIES TRAINING CAPABILITY ALLIANCE, AUSPICED BY SWINBURNE UNIVERSITY OF TECHNOLOGY

Teachers in TAFE institutions that we interviewed believe that competition between TAFE institutions can provide a stimulus to innovation and improved service delivery. However, competition can also inhibit collaboration and can lead to wasteful duplication of equipment and program development skills.

The Victorian TAFE Advanced Technologies Training Capability Alliance (ATTCA) is a cooperative venture between a group of 7 TAFE institutions, all of whom have a significant profile in engineering delivery, and 4 of whom were interviewed by the audit team.

ATTCA recognises that "training for manufacturing and engineering requires access to state-of-the art equipment and facilities that are prohibitively costly to duplicate across the provider network. As well, teaching expertise is specialised, scarce and difficult to identify, access and share".

OTTE has provided some establishment funding and protocols are being developed to test the potential of such collaboration.

Source: Victorian Auditor-General's Office, based on information provided by Swinburne University of Technology.

5.4.3 Professional development of TAFE institution staff

Since 2000, \$2 million per annum has been allocated on a pro rata basis, through TAFE performance agreements for professional development of institution staff. In addition, TAFE institutions allocate funds for staff development and OTTE allocates additional funds targeted to workforce development.

In 2004, an average of \$595 was spent by TAFE institutions on professional development, per equivalent full-time staff member¹². The range extended from \$350 per person to \$1 100 per person. This is a marginal increase in this expenditure since 2000. It is 1.04 per cent of total salary and wages.

¹² Office of Training and Tertiary Education 2004, *Selected TAFE Institute Measures for the Victorian State Training Network*, Victorian Office of Training and Tertiary Education, Melbourne. These figures do not take account of other amounts spent on professional development by in-house training by TAFE institutions and special purpose grants from OTTE.

The benchmark used by in a report prepared as an input to the Ministerial Statement (2002) estimated investment in human resource development in Victorian TAFE institutions at 1.9 per cent of gross wages and salaries compared with a best practice benchmark of 3 to 4 per cent, although that may be idealistic.

\$1.278 million was allocated for 2006 through the TAFE Development Centre (TDC), which was launched in 2005 to raise the professional standing of people working in Victorian TAFE institutions through development opportunities.

The aims of the TDC are to stimulate professional development activity across TAFE institutions, particularly through renewing industry skills, improving teaching, and learning, and leadership capacity.

The impact of this initiative and the extent of buy-in by TAFE institutions is not yet known.

5.4.4 Do training providers have the necessary infrastructure to meet the skill needs of enterprises?

Industries that are heavily reliant on equipment and changing technology, such as the manufacturing industry, have always created a dilemma for VET systems in determining how to ensure that equipment is current and leading edge. This situation has been exacerbated with the rapid rate of technological change and the demand for training customised around enterprise processes and equipment.

Where training can be delivered at the workplace, this problem is somewhat reduced provided the company has sufficient range of equipment to meet the requirements of the units of competency and the equipment can be made available for training purposes.

Most TAFE institutions reported sourcing equipment through a combination of industry donations and Commonwealth and state government funding. However many reported difficulty in keeping equipment up-to-date and cutting edge. Funds of \$12 million are distributed annually towards keeping equipment to industry standard.

However, many of the larger enterprises did not think that TAFE institutions were able to upgrade equipment quickly enough to keep pace with the changes occurring in industry.

On the other hand, many of the smaller companies often have a much more limited range of equipment than the TAFE institutions. In this case students often gain greater exposure to equipment in the TAFE institution than they do in their workplaces.

OTTE told us it is now moving to align the TAFE institution submission process for equipment grants to the OTTE identified industry priorities. In a further move to upgrade TAFE equipment more quickly, OTTE is currently investigating the option of TAFE institutions leasing equipment.

5.4.5 Conclusion

TAFE institutions and the broader VET system face the same workforce planning issues that other large organisations and systems in Australia are facing. The challenges of maintaining highly capable staff in a diminishing labour market and a competitive global economy are daunting. This is particularly so in the public sector, where remuneration is traditionally lower than the private sector.

These challenges are compounded for the VET system as it moves to meet the changing needs of industry and enterprises by ensuring that both management and teaching staff are fully knowledgeable of the business environment in which enterprises operate. There will need to be a stronger strategic focus and a higher priority allocated to upgrading and maintaining the skills of the TAFE institution teaching workforce.

While the current total expenditure on raising the skill level of staff in TAFE institutions has increased with the operation of the TAFE Development Centre, it remains below conservative benchmarks that estimate that TAFE institutions should be contributing 2 to 3 per cent of their budgets to skills development initiatives.

Current workforce data in VET is poor, with insufficient information available to be able to plan for the future. This has implications for being able to satisfy future demand arising from skills shortages in the VET system itself, let alone meeting the skills needs of industry.

In recent years, plant and equipment has become increasingly sophisticated and costly. In such circumstances, employers and training providers need to pursue practical forms of collaboration in the acquisition and use of equipment, continuing to explore opportunities for collaboration or for accessing equipment in the workplace and linking this to the move towards the high priority manufacturing industries.

The absence of comprehensive and reliable workforce data at either a system or institution level makes it difficult to identify and address future workforce requirements in specific skills areas. For this reason, OTTE should consider developing a state data collection.

Recommendations

- 8. That, as a matter of urgency, VLESC support the governing councils of TAFE institutions to develop and integrate workforce planning into the business of TAFE institutions and the broader VET system.**
- 9. As a first step in workforce planning for the VET system, VLESC request the Department of Education and Training (OTTE) to coordinate the development of a VET workforce data collection to provide reliable, disaggregated, statewide workforce data so that workforce planning can be integrated into the business (and business plans) of each TAFE institution.**

RESPONSE provided by the Chair of the Victorian Learning and Employment and Skills Commission

Recommendation 8

The VLESC notes this recommendation.

The VLESC notes the recommendation to governing councils of TAFE institutions.

The Department, on behalf of the VLESC, will continue to support the work undertaken by the Victorian TAFE Association to address the workforce planning across the TAFE system.

Recommendation 9

The VLESC notes this recommendation which is consistent with current directions.

To further strengthen Victoria's national leadership in the compilation of TAFE workforce statistics, the Office of Training and Tertiary Education recently approved a strategy whereby the State Services Authority will be responsible for the TAFE staffing data collection using an online reporting platform. This facility will provide standard reports as an information service for all TAFE institutions in order to facilitate workforce planning, including more comprehensive workforce benchmarking.

The State Services Authority data collection process provides the standards for the measurement of workforces in all public employment agencies in Victoria, including TAFE institutions. This collection will enhance the reliability of state-wide TAFE staffing data, add additional measures, and provide accessible and disaggregated data to managers and planners in all TAFE institutions.

***RESPONSE provided by the Secretary, Department of Innovation,
Industry and Regional Development***

Recommendation 8

Supported.

Recommendation 9

*DIIRD is not in a position to comment on the most appropriate approach to
the collection and management of workforce data for the VET system.*

***RESPONSE provided by the Chief Executive Officer, Goulburn
Ovens Institute of TAFE***

Recommendations 8 and 9

Agree

See comment under Recommendation 7

***RESPONSE provided by the Chief Executive Officer, Kangan
Batman TAFE***

Recommendation 8

Agree.

Recommendation 9

Agree.

*Note for recommendations 8 and 9, we agree within the context that we do not
want to see any centralisation of any aspect of the employment function from
Councils.*

***RESPONSE provided by the Deputy Vice Chancellor, Swinburne
University of Technology (TAFE division)***

Recommendations 8 and 9

Broadly agree

***RESPONSE provided by the Chief Executive Officer, Northern
Melbourne Institute of TAFE***

Recommendations 8 and 9

Agree.



Appendix A.

About this audit



About this audit

Audit objectives

The audit examined how well Victoria's publicly-funded vocational education and training is meeting the skills needs of the manufacturing industry. Three sectors in manufacturing industry – vehicle manufacture, engineering and pharmaceutical manufacture – were selected for particular attention. Specifically, the audit examined:

- To what extent does Victoria's publicly-funded VET meet the skill needs of the manufacturing industry?
- Do Victorian TAFE institutions have sufficient capacity and capability to provide for the skill needs of the manufacturing industry?

Audit criteria

To assess the extent to which OTTE and VLESC activities contribute to meeting the skill needs of enterprises in the manufacturing industry, we asked the following 3 questions:

- Is VLESC's purchase of industry training based on robust advice?
- How well does OTTE purchase industry training, on behalf of VLESC?
- Are the outcomes of publicly-funded industry training measured and reported?

To assess the capacity and capability of Victorian training providers to meet the skill needs of enterprises in the manufacturing industry, we asked the following 3 questions:

- Are TAFE institutions sufficiently knowledgeable of the business environment in which manufacturing enterprises operate?
- How well do TAFE institutions identify current and emerging skill needs and translate these into training programs?
- Do TAFE institutions have sufficiently skilled and adaptable staff and the necessary infrastructure to meet the skill needs of enterprises?

Manufacturing industry sectors selected for audit

Three industry sectors were chosen as the sample of the manufacturing industry to be the focus of the audit¹. The choice of the 3 industry areas was based primarily on changes in the value of exports to Victoria.

- Medicinal and pharmaceutical product manufacturing (ANZSIC 2543)² and motor vehicle manufacturing (ANZSIC 2811) have seen consistent growth in the value of exports from Victoria above the level of national growth; that is, Victoria has gained market share of exports, with an average annual growth of 13.5 per cent and 10.1 per cent, respectively, over the past 10 years.
- Manufacturing of fabricated metal products (ANZSIC 2769) has had strong growth in exports at the national level over the past 3 years, but in Victoria there had been consistent decline in the value of exports, at an average annual loss of 5.5 per cent over the past 10 years; that is, Victoria had lost market share of exports.

Victorian manufacturing enterprises in these 3 areas range from global corporations employing thousands of people across international sites with state-of-the-art equipment to small family businesses often in traditional trades and everything in between. All have to face up to the challenges of maintaining and enhancing the skill levels of their workforces.

Motor vehicle manufacturing and metal fabrication manufacturing have large segments of their workforce in the traditional trades. It is in these areas where there are the most pronounced skill shortages and where the workforce is ageing³.

Agencies and statutory bodies/authorities selected for audit

The agencies examined for this audit were:

- the Victorian Learning and Employment Skills Commission
- the Department of Education and Training's Office of Training and Tertiary Education
- Chisholm Institute of TAFE
- Goulburn Ovens Institute of TAFE

¹ Manufacturing represents a diverse array of industries, including aerospace manufacturing; automotive; chemicals and plastics; electronics and allied industries; environmental industries; machinery and equipment; metal product manufacturing (including metal fabrication); precision engineering; printing, publishing and recorded media; processed food; pharmaceuticals; textiles, clothing, footwear and leather; and wood and paper products.

² The Australian New Zealand Standard Industrial Classification.

³ Office of Training and Tertiary Education 2005, *Victorian Metals & Engineering Industry Report*, Department of Education and Training, Melbourne, June 2005.

- Kangan Batman Institute of TAFE
- Northern Melbourne Institute of TAFE
- Swinburne University of Technology(TAFE division).

Methodology

The audit was performed in accordance with the Australian auditing standards applicable to performance audits and, accordingly, included such tests and procedures considered necessary.

The audit methodology included preliminary consultation with industry associations, TAFE institution staff and officers in the Victorian Department of Education and Training, combined with desktop and literature research.

In carrying out the audit, we conducted structured interviews, using a common interview schedule, with a range of large and medium to small enterprises involved in fabricated metal manufacturing, motor vehicle manufacturing, and medicinal and pharmaceutical manufacturing. Similarly, we conducted structured interviews, using a common interview schedule, with industry training advisory bodies(ITABs) in the manufacturing sectors selected for particular attention,

We used formal interview schedules, provided to interviewees prior to the interview, with the audited agencies – the Victorian Learning and Employment Skills Commission, officers in the Department of Education and Training, senior staff in the 5 TAFE institutions selected for audit, and CEOs of 3 ITABs.

All interviews conducted were with CEOs or senior staff representing their organisation.

Other information was sourced from industry associations (employer and union), private providers of training, the Department of Innovation, Industry and Regional Development.

Throughout the period of the audit we examined and analysed files and data from the audited agencies, and reviewed and validated audit findings.

Specialist assistance to the audit team

Specialist assistance was provided to the audit team by:

- Pam Caven, of Pam Caven and Associates
- Wendy Katz of Workplace Agenda
- Peter Noonan of Peter Noonan Consulting Pty Ltd
- Nigel Smart of Smart Consulting and Research.

We are grateful for the time given by the following manufacturing companies and ITABs that we interviewed as part of the audit:

- J. Furphy & Sons Pty Ltd
- Davies and Baird
- GlaxoSmithKline Australia
- Ego Pharmaceuticals Pty Ltd
- Toyota Motor Corp
- Robert Bosch (Australia) Pty Ltd
- The Caterpillar Institute
- Vawdrey Australia Pty Ltd
- International Chemicals Engineering Pty Ltd
- Engineering Skills (Vic) Inc
- Automotive Training Victoria
- Victorian Food Industry Training Board.

The following organisations also provided assistance to the audit team.

- Victorian Department of Innovation, Industry and Regional Development
- Box Hill Institute of TAFE
- Business Council of Australia
- Australian Industry Group
- Victorian Employers' Chamber of Commerce and Industry
- Australian Manufacturing Workers' Union
- TAFE Development Centre
- Group Training Association of Victoria
- Australian Council Private Education and Training
- Australian Combined Resources
- Educational Living.

Cost of the audit

The cost of this audit was \$538 000. This cost includes staff time, overheads, expert advice and printing.

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