VICTORIA

Auditor General
Victoria

Teaching equipment in the Technical and Further Education sector

The President
The Speaker
Parliament House
Melbourne Vic. 3002

Sir

Under the provisions of section 16 of the *Audit Act* 1994, I transmit my performance audit

Report on *Teaching equipment in the Technical and Further Education sector.*

Yours faithfully

J.W. CAMERON
Auditor-General

Contents

Foreword

The capacity of the Government to provide services to the community in line with its policy objectives is dependent in many areas on maintaining the service potential of the State's asset base.

This Report provides an assessment of how well the assets used by TAFE institutes in delivering vocational education and training have been planned and managed; issues directly linked to the Government's policy objective of developing a strong skills base within Victoria. It relates to an area where institutes face significant challenges in terms of ensuring the students undertaking courses acquire skills relevant to the workplace in an environment where technology is often changing rapidly.

While the Report deals with teaching equipment assets in particular, a number of the issues raised have broader implications across the public sector in terms of ensuring that there is an adequate level of investment in assets and that the funding approaches adopted by the Government promote the sound strategic planning for, and management of assets.

J.W. CAMERON
Auditor-General

Part 1

Executive summary

INTRODUCTION

1.1   Vocational education and training is aimed at developing skills needed to work within industry. Both the State and Commonwealth Governments play a role in its delivery. National policy, goals and objectives are developed at a Commonwealth level. The State is responsible for the delivery of training through Technical and Further Education (TAFE) institutes and a range of other registered training organisations. The Victorian Learning and Employment Skills Commission and the Office of Post Compulsory Education, Training and Employment (PETE) play key overview roles at a State level.

1.2   In 1999, 92 million student contact hours of vocational education and training were delivered in Victoria. TAFE institutes provided 80 per cent of those hours through certificate, diploma, apprenticeship and traineeship courses, with the remainder delivered by other registered training organisations.

1.3   The effective delivery of training is directly linked to achieving the State Government's policy objectives of developing a strong skills base within Victoria. In terms of setting training priorities, both the Commonwealth and State Governments have indicated that particular attention needs to be given to courses in information and communications technology (ICT).

1.4   The delivery of high quality teaching outcomes for students is dependent to a large extent on the skills of the teaching staff delivering the courses. However, the availability of teaching equipment which is aligned to industry standards is also a key element of ensuring students are well prepared for the workplace. At 31 December 1999, the plant and equipment of TAFE institutes (at cost or valuation) totalled $218 million.

AUDIT OBJECTIVES AND SCOPE

1.5   Our audit was aimed at assessing whether the funding model and practices adopted in managing equipment used in the delivery of vocational education and training were conducive to achieving desired short-term and long-term outcomes. It also assessed whether the equipment currently used to deliver ICT courses, in particular, was appropriate in terms of meeting the expectations of students, graduates and teachers.

1.6   The key areas covered in the audit were the arrangements for funding equipment and the practices adopted at a government and institute level for managing equipment assets. To assess the suitability of equipment from a stakeholder perspective, a survey of students, recent graduates and teachers of ICT courses was also undertaken as part of the audit.

AUDIT CONCLUSION

1.7   For the TAFE sector to effectively deliver education and training in line with course accreditation requirements and the State Government's policy directions, it is important that the service potential of its assets, including equipment, is maintained.

1.8   We concluded that the funds provided to institutes for equipment purchases in recent years and the method used to allocate the available funds has not supported efficient and effective management by institutes of their asset bases. It has also prevented institutes implementing structured replacement and upgrade programs and, as a result, the Government will face increased funding demands in coming years.

1.9   The current equipment management practices at a central and institute level should have a more strategic focus. More robust management practices will be essential if any increases in funding or changes in the funding model suggested in this Report are to be effectively implemented.

1.10   From a student and graduate perspective, our survey results suggested that equipment used in ICT courses is currently considered satisfactory. This is a positive sign in terms of the sector meeting the needs of key stakeholders. However, this contrasts with the dissatisfaction expressed by teachers with many aspects of equipment provision. We have no comprehensive information regarding the satisfaction of Victorian employers with the equipment provided in course delivery.

AUDIT FINDINGS

Funding

1.11   Prior to 2000-2001, the State Government did not provide any capital funds specifically for equipment purchases, but allocated a proportion of Commonwealth capital funding to this purpose. Although the State Government announced in May 2000 that annual funding of $5 million will be provided over the next 4 years for equipment, this represents around one-third of the annual amount allocated from Commonwealth funds. *(para. 4.11)*

1.12   The application of accrual accounting, where depreciation is charged against the annual revenue of institutes, recognises that an investment in assets, including equipment, is a necessary cost associated with delivering services. However, the formula used by the State Government as a basis for allocating recurrent funds to institutes does not include a component for depreciation and, therefore, funding does not meet the full cost of course delivery by institutes. *(para. 4.20)*

1.13   A comparison over the last 3 years of the total unfunded depreciation charges of institutes relating to plant and equipment with the level of funds provided to institutes through specific equipment grants highlighted a gap which increased in recent years to $17 million in 1999. The gap provides an approximation of the extent to which total equipment costs associated with delivering vocational education and training has not been met by the State Government in its funding model. *(paras 4.21 to 4.22)*

1.14   Based on information from 3 institutes, we found that ICT equipment assets had a lower average age than other types of equipment, partly reflecting their shorter expected useful life and rapid technological change. The information showed, however, that many ICT equipment assets are over 3 years old and are likely to require replacement or upgrade in the near future. The position differs for each of the institutes, suggesting that different funding levels and strategies may be needed to address specific institute requirements. *(para. 4.29)*

1.15   A large proportion of equipment assets, other than ICT items, at the 3 institutes were more than 6 years old. While this situation partly reflects the nature and longer useful life of the items, it also suggests that the priority given to funding ICT equipment in recent years has, to some extent, been at the expense of replacing or upgrading these other equipment items. *(para. 4.30)*

1.16   In our discussions with institutes and examinations of their asset management practices, we found that the current funding model, coupled with funding on an annual basis, has created uncertainty for institutes and provided them with limited flexibility in terms of forward planning and making purchasing decisions. *(para. 4.37)*

Asset management practices

1.17   For the TAFE sector to respond effectively to the expected growth in the sector and rapidly changing technology, there is a need for sound strategic planning and management of the equipment asset base. Such an approach has not been evident in recent years at either a central government or institute level. *(para. 5.2)*

1.18   While acknowledging the steps taken by PETE to develop an overarching strategy for asset management, we consider it does not yet provide an adequate framework for strategically managing equipment within the TAFE sector. In particular, the data used in developing the strategy did not relate specifically to equipment but focused primarily on buildings. In addition, it was not based on information regarding the asset profile of individual institutes. *(paras 5.4 to 5.5)*

1.19   We saw only limited emphasis on equipment provision in the agreements for funding course delivery between the Victorian Learning and Employment Skills Commission and each institute. While the agreements define course accreditation requirements, they do not include any requirements, as a condition of funding, for institutes to ensure the equipment used in all course delivery is suitable and is upgraded or replaced to maintain curriculum currency. *(paras 5.8 to 5.9)*

1.20　　With the exception of the development by most institutes of an Information Technology Strategic Plan, there was little evidence of strategic planning for equipment by institutes. The priorities, funds availability, timing of funding allocations and government funding processes were found to be the primary factors affecting the timing and method of acquiring equipment. A more sound approach would involve the development of systematic replacement or upgrade programs and the conduct of detailed cost/benefit analyses of various equipment purchasing options. This situation, to a large extent, reflected the absence of a link between any strategic planning and the funding available for renewals. *(paras 5.11 to 5.14)*

1.21　　In general, institutes expressed a preference to purchase rather than lease assets where funds were available, particularly in the case of high cost, large individual items of equipment such as construction and agricultural plant and machinery. This preference was partly driven by the current funding model which distinguishes between capital and recurrent funds, with Commonwealth funds not able to be used for leasing, rather than choosing the most economic option. While capital grants were not seen by institutes as having an ongoing cash-flow impact for the institute, leasing costs would impact on their recurrent costs. *(paras 5.18 to 5.22)*

1.22　　Significant weaknesses were evident within institutes in the information systems and accountability frameworks relating to equipment. Systems primarily comprised asset registers which only record information used for year-end financial reporting and, as such, did not support strategic asset management. Similarly, sound internal reporting and accountability frameworks had not been established in relation to equipment assets. *(paras 5.28 to 5.29)*

1.23　　Given the current weaknesses in information systems within institutes, it was not possible as part of the audit to determine the extent of any preventative maintenance backlog or the funding which would be required to enable preventative maintenance approaches to be adopted. Feedback from institutes, however, did indicate that the lack of routine maintenance was a concern in some areas. *(paras 5.30 to 5.32)*

Meeting the needs of stakeholders

1.24　　Surveys of stakeholders are periodically undertaken by PETE, although employer surveys are limited. For example, employer surveys have been directed at apprenticeships and traineeships which receive only around 25 per cent of funding allocated to vocational education and training. The views of employers of other students, such as those completing certificate or diploma courses, have not been sought on a Statewide basis. *(paras 6.3 to 6.5)*

1.25　　At individual institutes, the views of employers regarding the learning outcomes of students, including the suitability of teaching equipment, are not periodically canvassed. *(paras 6.3 to 6.5)*

1.26   Students and graduates surveyed as part of the audit assessed most aspects of equipment provision to be at least satisfactory. The main areas of dissatisfaction related to the level of access to computers for use outside of class time and remote access to computers at the institute. These facilities are of key importance to the effective implementation of the State Government's policy objective of providing flexible learning facilities. *(paras 6.24 to 6.45)*

1.27   The surveys found that teachers had different perceptions from students and graduates about the importance of various ICT capabilities and their satisfaction with the equipment currently provided at their institute. Teachers placed greater importance on most aspects of the equipment required to effectively teach students and rated the current provision of hardware, software and peripherals as less than satisfactory in terms of almost all aspects canvassed. *(paras 6.27 to 6.45)*

RECOMMENDATIONS

1.28   A summary of the recommendations arising from the audit are set out below.

Report reference	Paragraph number	Recommendation
Funding	4.24	The full cost of training delivery needs to be recognised through the incorporation in the recurrent funding model of a component which reflects the cost of capital investment, including investment in equipment.
	4.38	Given that over 20 per cent of training delivery is undertaken on a fee-for-service basis, revenue from this source and from industry direct should be applied to equipment.
	4.38	Both Statewide and individual institute's current equipment needs and priorities should be given greater consideration in the allocation of available funds.
	4.38	Institutes should be provided with increased flexibility and incentives to make equipment investment decisions which address their particular environment, while at the same time achieving Statewide objectives and outcomes.
	4.38	Purchasing decisions need to be made in appropriate timeframes.
	4.38	As with higher education bodies, a triennial, rather than an annual funding approach, needs to be negotiated with the Commonwealth.
Asset management practices	5.10	Funding to institutes for course delivery should be conditional on the provision of equipment of a type suitable to the delivery of courses and the upgrading or replacement of equipment to maintain its relevance to the curriculum.
	5.2 and 5.6	PETE and institutes need to take a more strategic approach to equipment planning and management. In particular, forward planning for future equipment requirements, including the upgrade or replacement of existing items, needs to be based on more comprehensive information regarding the equipment asset base of individual institutes and the sector as a whole.
	5.34	Institutes should acquire assets in a manner which is demonstrated to be the most cost-effective for the State.
	5.30	A whole-of-life approach to managing equipment needs to be taken

		by institutes, including the adoption of improved preventative maintenance strategies.
	5.35	PETE, as part of its central overview function, should provide guidance to institutes in the sound management of equipment assets and provide a focus for strategic planning for equipment within the TAFE sector.
Meeting the needs of stakeholders	6.45	Greater attention should be given at a central and institute level to periodically monitoring the adequacy of the equipment provided to support all vocational education and training courses, from an employer, student and teacher perspective.
	6.41	The level of access to computers for use outside of class time and remote access to computers at institutes warrants attention in developing future strategies and making funding decisions within the sector.
	6.42	Issues raised in the audit survey by teachers and the differences in perceptions between teachers, and students and graduates require further investigation by PETE.

RESPONSE *provided by Secretary, Department of Education, Employment and Training*

The Department welcomes the Report into teaching and learning equipment in the TAFE sector. It has provided a comprehensive review of the provision of teaching and learning equipment as well as the asset management practices of the Department as they relate to teaching equipment.

The Report correctly highlights the critical importance of having up-to-date equipment within TAFE institutes to meet the needs of stakeholders, particularly students. The Department is particularly pleased with the outcome of audit's survey of students which indicated that they assessed most aspects of equipment provision to be satisfactory.

The recommendations contained in the Report will provide an appropriate framework for the Department to develop future strategies, particularly related to funding models, and for TAFE institutes to develop appropriate asset management practices related to teaching equipment.

The Department is currently developing an Asset Management System for TAFE institutes, which will provide asset data at central and individual institute levels. An equipment register can be established as a module to this system. This will assist both the institutes in managing equipment assets and the Department in examining models of future funding.

The Department agrees that it is desirable for the cost of training delivery to be recognised and that the recurrent funding model should include a component which reflects the cost of capital, including investment in equipment. In recognition of this, the Victorian Government provided in its 2000-01 budget an additional $5 million a year for the replacement of plant and equipment in institutes. It must be recognised, however, that while the State Government funds the majority of recurrent expenditure in TAFEs, the inter-governmental agreement has been that the Commonwealth Government funds most of the capital expenditure. The Department will, therefore, continue discussions with the Commonwealth Government in relation to the level of funding paid by way of Commonwealth Equipment Grants and will draw this audit to the attention of the Commonwealth Government.

The Department accepts the enhanced role that it can play in relation to giving guidance to institutes concerning sound management of equipment and providing a stimulus for strategic planning of equipment within the TAFE sector. These issues are being pursued with institutes in the context of professional development for ICT strategic planning and the Asset Management Strategy and its application within individual institutes.

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

The Institute welcomes the performance audit that has been undertaken by your Office as we have had concerns for long periods over both the levels of funding made available to TAFE institutes for equipment replacement together with the timing and methodology used in allocation of that funding which is made available. In summary, I would like to support the recommendations made.

RESPONSE *provided by Acting Divisional Deputy Vice-Chancellor, Swinburne University of Technology TAFE Division*

Thank you for the opportunity of responding to the performance audit - Teaching equipment in the TAFE sector. As a multi-sector TAFE institute and one of the 3 TAFE institutes whose asset management practices were examined during the audit, we believe the audit and its recommendations are a fair reflection on the key issues the TAFE sector is facing in regard to teaching equipment.

Swinburne TAFE Division believes the recommendations of the audit should be supported, for without a new approach to equipment planning, funding and management, the TAFE sector will always be playing a catch-up game if it is to prepare its graduates for the future, rather than the past.

Part 2

Background

VOCATIONAL EDUCATION AND TRAINING

2.1   Vocational education and training refers to post-secondary education which is directly linked to the development of skills needed to work within various industry sectors. An overview of the vocational education and training system at both a Commonwealth and State level is provided in Chart 2A.

CHART 2A
VOCATIONAL EDUCATION AND TRAINING SYSTEM

COMMONWEALTH GOVERNMENT

ANTA Ministerial Council ↔ ANTA

ANTA Agreement → Other States

VICTORIAN GOVERNMENT

Minister

DEET

Victorian Learning and Employment Skills Commission ← Industry Training Boards

PETE

Performance Agreements

TAFE institutes and other registered training organisations
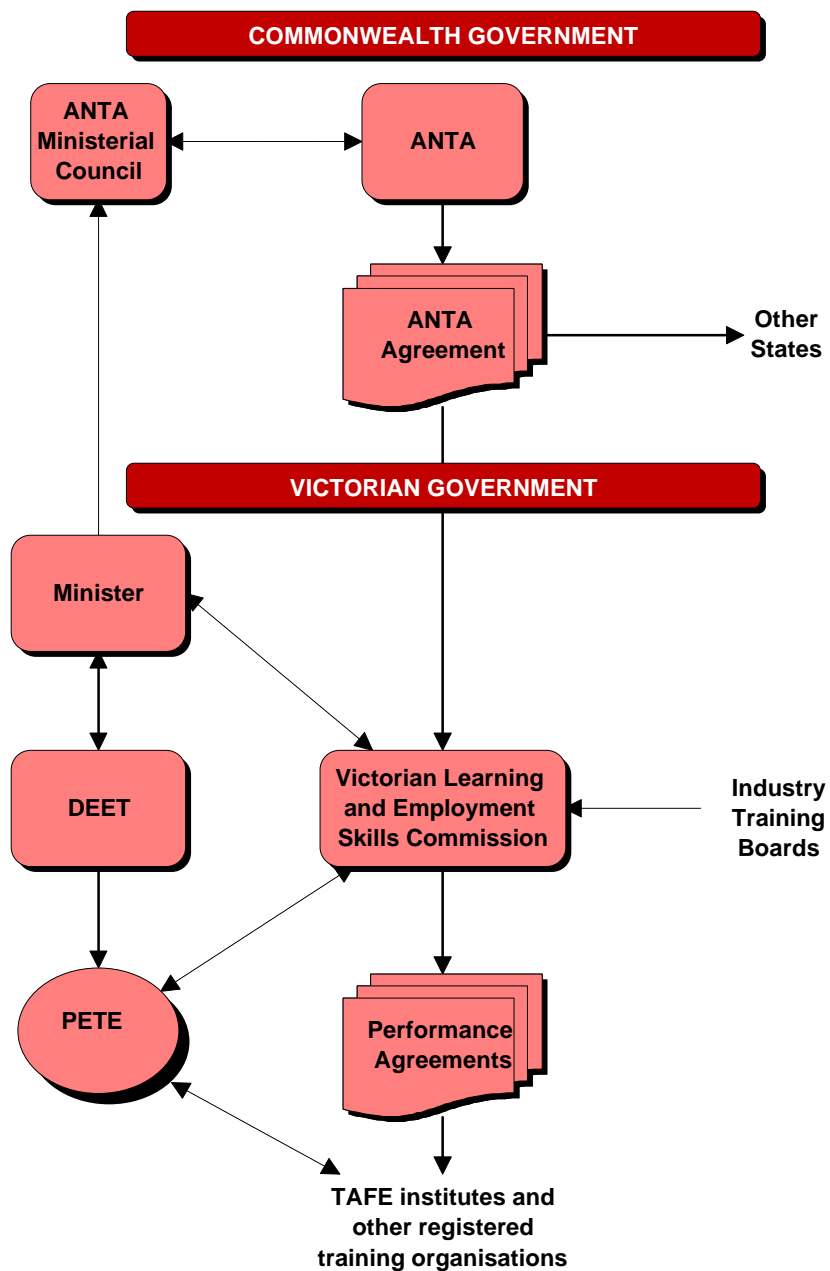
Note:
ANTA – Australian National Training Authority.
DEET – Department of Education, Employment and Training.
PETE – Office of Post Compulsory Education, Training and Employment.

STATE TRAINING SERVICE

2.2   At a State level, the key parties involved include:

- The Victorian Learning and Employment Skills Commission, formerly the State Training Board of Victoria, which has overall responsibility for vocational education and training in Victoria. Performance Agreements between the Commission and individual registered training organisations set out the terms and conditions under which funds will be provided for the delivery of courses;

- The Office of Post Compulsory Education, Training and Employment (PETE) within the Department of Education, Employment and Training (DEET). The Office advises and supports the Minister for Post Compulsory Education, Training and Employment in the implementation of government policy. It also services the Commission on matters relating to the State Training Service;

- A range of industry training boards and advisory bodies which provide advice to the Commission on the training needs of specific industry sectors. This advice is primarily provided through the development by the boards of industry training plans which detail forecast training requirements over a 3 year period for the industry sectors they represent;

- Fourteen Technical and Further Education (TAFE) institutes and 5 TAFE divisions of universities. The responsibility for the management of each TAFE institute rests with its council; and

- Around 950 other registered training organisations including community, industry and commercial providers.

NATIONAL LINKAGES

2.3   The Australian National Training Authority (ANTA) was established out of a 1992 agreement (known as the ANTA Agreement) between Heads of Government to develop a national system of vocational education and training in co-operation with State and Territory Governments, the Commonwealth Government and industry. ANTA became operational on 1 January 1994. The Board of ANTA is appointed by the Governor-General on nomination by the Ministerial Council which comprises the Commonwealth, State and Territory Ministers responsible for vocational education and training. The Victorian Learning and Employment Skills Commission is the responsible State agency for the purposes of the ANTA Agreement.

2.4   ANTA is responsible for:

- the development of, and advice on, national policy, goals and objectives, and national strategies and priorities;
- providing advice to the Ministerial Council on State/Territory Annual Vocational Educational and Training Plans;
- the administration of national programs; and
- Commonwealth funding of vocational education and training.

2.5   In November 1997, Commonwealth, State and Territory Ministers endorsed a revised ANTA Agreement. The Agreement, for the 3 years 1998-2000, specified the purpose, principles and objectives of the national system, identified the respective State and national roles, and provided a focus on outputs and outcomes. The Agreement was subsequently extended and negotiations are currently underway regarding the establishment of new arrangements.

POLICY DIRECTIONS

2.6   The Growing Victoria Together Summit held in March 2000 brought together over 100 people from business, employer organisations, unions, community groups, and State and local governments. In convening the Summit, the Victorian Government emphasised:

- the importance of a strong skills base and the direct link between economic performance and overall levels of education and training; and
- the need for a greater focus on the inter-relationship between higher education, vocational education and training, and school education as an important driver of government policies in education and training.

2.7   The Summit recommended that the Victorian Government should set training priorities and direct further effort to those industries and skills that will have the greatest economic and social impact.

2.8   The Government's response to the Summit has been to:

- commence a strategic audit of Victorian industry in order to identify and describe those industries of critical economic and social importance to Victoria;
- augment traditional advisory mechanisms such as the advice provided through industry training boards, with a range of cross-sectoral mechanisms;
- monitor the quality of training through a process of auditing a sample of training providers in different industry sectors; and
- commission an independent review of the quality of training in Victoria's apprenticeship and traineeship system.

2.9   Both State and Commonwealth Governments have indicated that they consider particular attention needs to be given to information and communications technology (ICT) training delivery in setting training priorities. This is reflected in the following 3 key strategies of the Victorian Government relating to ICT.

Connecting Victoria

2.10   The *Connecting Victoria* statement issued in November 1999 by the Minister for State and Regional Development is aimed at:

- building a learning society through increased attention to lifelong learning;
- developing growing and emerging industries;
- boosting e-commerce;
- connecting communities through building online skills, and providing better infrastructure access;
- improving infrastructure and access for regional and rural Victoria; and
- using information and communications technologies to provide new and enhanced services to people throughout Victoria.

Skilling Victoria for the Information Age

2.11   *Skilling Victoria for the Information Age,* issued in November 2000, outlines strategies for post-compulsory ICT education, training and employment. It comprises strategies directed at:

- developing a sustainable and competitive ICT skill base to support the continued growth of Victorian industry and the Victorian community;
- foster creativity and innovation in the development and application of ICT across industry and the community;
- enhance the use of ICT as key tools for learning; and
- provide the necessary infrastructure and resources.

Flexible Learning Strategy for TAFE in Victoria

2.12   The *Flexible Learning Strategy: Towards a Learning Society* strategy, launched in October 2000, has 3 broad goals:

- to develop widespread technological literacy and encourage lifelong learning;
- to provide effective, relevant and accessible vocational learning options to all Victorians; and
- to ensure Victorian TAFE personnel are in the best position to realise the potential of online learning.

Information technology utilised for online learning.
(Photo courtesy of Goulburn Ovens Institute of TAFE.)

TRAINING DELIVERY

2.13 In Victoria, 92 million student contact hours of vocational education and training were delivered in 1999, providing skills development in all major industry sectors and personal development programs. Programs ranged from short courses delivered over one or 2 days to programs of several years duration. TAFE institutes provided 74 million (80 per cent) of those student contact hours through certificate, diploma, apprenticeship and traineeship courses, with the remainder delivered by other registered training organisations.

2.14 The courses offered by TAFE institutes and other registered training organisations cover a diverse range of industries, including tourism and hospitality, building and construction, textiles, transport and storage, and manufacturing. Courses in information and communication technology are offered across a range of institutes within a number of industry sectors, particularly the business and clerical, information technology and engineering sectors where they comprised 29 per cent of the student contact hours delivered in those sectors in 1999. Courses include:

- skills training for the information industry;
- computer and internet skills training for small and medium business owners and employers; and
- introduction of adult learners to computers and the internet.

EQUIPMENT ASSETS

2.15 The delivery of high quality teaching outcomes for students is dependent to a large extent on the skills of the teaching staff delivering the courses. However, the availability of teaching equipment which is aligned to industry standards is also a key element of ensuring students are well prepared for the workplace.

2.16 Flexible delivery, in particular the successful integration of ICT into training delivery, is of key importance to institutes if they are to remain relevant in the emerging *information age.* The sector faces a growing demand for education and training delivery to places other than the classroom including workplaces, community settings or the home. A key common goal of the Government's Flexible Learning and Skilling Victoria for the Information Age strategies is also the attainment of ICT literacy and fluency by all TAFE graduates irrespective of their chosen course or vocation. These directions require a significant investment in the ICT infrastructure.

2.17 An analysis of the annual financial statements of TAFE institutes showed that, at 31 December 1999, plant and equipment (at cost and valuation) totalled $218 million. Its written-down value was $83 million. The types and quantities of equipment utilised at each institute vary depending on the range of courses delivered. For example, some ICT courses require large numbers of laptop computers, while construction, transport and agriculture courses require relatively few but very expensive machinery and equipment items.

Part 3

Conduct
of the
audit

AUDIT OBJECTIVES

3.1   The objectives of the audit were to determine whether:

- mechanisms are in place to ensure that the equipment needs of TAFE institutes are well planned in both the short-term and long-term, and that the framework for funding equipment procurement, maintenance and replacement is conducive to the achievement of desired outcomes;

- equipment management systems and procedures employed by TAFE institutes are sound in terms of achieving the economic and efficient acquisition, utilisation and disposal of equipment used in course delivery; and

- equipment used to deliver information and communications technology (ICT) courses, in particular, is appropriate to the desired student learning outcomes.

SCOPE OF THE AUDIT

3.2   The primary focus of the audit was on the management of equipment used by TAFE institutes. The audit did not cover equipment used by other registered training organisations in the private or community sectors. Similarly, it did not examine the appropriateness and management of institute equipment required for program delivery beyond the classroom such as in the workplace, community settings or homes.

Equipment asset management

3.3   The asset management practices of the following 3 TAFE institutes were examined in detail during the audit:

- Northern Melbourne Institute of TAFE;
- Swinburne University of Technology (TAFE Division); and
- Goulburn Ovens Institute of TAFE.

3.4   These institutes were selected as case studies on the basis that they provided a view from both a metropolitan and rural perspective and coverage across the TAFE and university sectors. Within each institute, a detailed audit of the asset management systems and reporting frameworks was undertaken to identify strengths and weaknesses. The results of these examinations formed the basis of a short survey of all other Victorian TAFE institutes seeking key information about their asset management practices.

Funding

3.5   The audit examined the overall structure in place for funding equipment within the TAFE sector. This included examinations within PETE and feedback from individual institutes in relation to funding issues.

Feedback from stakeholders

3.6   The TAFE sector is particularly diverse, providing courses relating to around 50 different industry sectors. Courses in some industry sectors tend to be concentrated in one or a small number of TAFE institutes rather than each institute catering for courses across the broad spectrum of industry sectors. It was, therefore, considered not cost-effective to achieve audit coverage or reach conclusions regarding whether the teaching equipment used in all areas of course delivery was suitable to achieve the desired learning outcomes of students. ICT courses were therefore selected as specific examples for examining this issue. The following factors influenced the selection of ICT courses:

- thirty-nine per cent of the annual plant and equipment depreciation charges of institutes in 1999 related to computers and communication equipment (this includes computer equipment used for administrative purposes, however, indications are that this is only a minor component);

- the courses comprise a significant component of the student contact hours and student enrolments in TAFE institutes;

- the courses involve technology which is changing rapidly;

- the courses are generally certificate or diploma courses which consume a large proportion of funding provided to TAFE institutes; and

- the State Government has indicated that particular emphasis is to be given to these areas in terms of setting training priorities.

3.7   A survey of current students and recent graduates was undertaken to identify their views on the relevance of equipment to their training needs. A survey of teachers delivering ICT courses was also undertaken to obtain their views.

3.8   An employer survey was to form a component of the audit. However, due to the absence of information within institutes regarding the employment of their students and graduates and a reticence on the part of students and graduates to provide employment details during our survey, this component of the audit could not be completed.

Period covered

3.9   The audit primarily covered the 3 year period to 30 June 2000 and any significant events since that time.

Compliance with auditing standards

3.10   The audit was performed in accordance with Australian Auditing Standards applicable to performance audits and, accordingly, included such tests and other procedures considered necessary in the circumstances.

ASSISTANCE TO THE AUDIT TEAM

Specialist assistance

3.11   Roy Morgan Research was engaged to undertake surveys of students, graduates and teachers of ICT courses. An outline of the survey methodology adopted is included in Part 6 of this Report.

Assistance provided by agencies

3.12   Significant assistance and co-operation was provided to my officers during the course of the audit by management and staff of PETE and the individual institutes contacted. I wish to express my appreciation to these entities for this assistance.

Part 4

Funding

SOURCE OF FUNDING

4.1   The operations of institutes are funded substantially from Commonwealth and State Government contributions, with the remaining funds generated by institutes through fee-for-service or other revenue raising activities. Table 4A summarises the source of operating revenue of all institutes for the 1999 calendar year, the latest available audited information at the time of the audit.

TABLE 4A
OPERATING REVENUE OF TAFE INSTITUTES, 1999

Source of revenue	$m	%
Government contributions	521	70
Non-government fee-for-service, student fees and charges	159	21
Ancillary trading, investment and other income	64	9
Total	**744**	**100**

Source: 1999 TAFE institutes' audited financial statements.

4.2   The extent to which each institute depends on government contributions varies. Government funding, as a proportion of the total operating revenue of each institute, ranged from 57 to 76 per cent in 1999.

STATE AND COMMONWEALTH CONTRIBUTIONS

4.3   Recurrent and capital funds from the Commonwealth are provided to each State in accordance with the terms of the Australian National Training Authority (ANTA) Agreement. Commonwealth funding is appropriated under the *Vocational Education and Training Funding Act* 1992. Funds are released on the advice of Ministerial Council following its consideration of, and agreement to, State/Territory Annual Vocational Education and Training Plans.

4.4   In Victoria, the total funds from both Commonwealth and State sources are distributed by the Victorian Learning and Employment Skills Commission following approval by the State Minister.

4.5   As indicated in Table 4B, the State is the major contributor to the operating costs associated with vocational education and training in Victoria with State contributions amounting to 69 per cent of total government funding in the 2000-01 financial year.

TABLE 4B
RECURRENT FUNDING BUDGET, 2000-01

Source of recurrent funds	$m	%
State Appropriation	489	69
Australian National Training Authority payments	218	31
Total	**707**	**100**

Source: Office of Post Compulsory Education, Training and Employment.
Note: Includes rollover of unspent funds.

4.6   The Commonwealth Government, on the other hand, has traditionally been the major provider of capital funds for vocational educational and training. For many years, the funds were primarily provided for new building works aimed at establishing a network of TAFE institutes across Australia. In more recent years the funds have also been utilised for the refurbishment or upgrade of existing facilities. The costs of smaller building projects, minor works and maintenance have been the responsibility of the State.

4.7   Table 4C details the amount of capital funds contributed to vocational education and training in Victoria by the State and Commonwealth Governments in the 2000-01 financial year.

TABLE 4C
CAPITAL FUNDING BUDGET, 2000-01

Source of capital funding	$m	Per cent
State Budget Works Program (estimated budget excluding asset sales)	25	31
Australian National Training Authority Works Program	55	69
Total	**80**	**100**

Source: Office of Post Compulsory Education, Training and Employment.
Note: Includes rollover of unspent funds.

4.8   Although institutes are increasingly pursuing other sources of revenue, it is expected that in the foreseeable future they will continue to be dependent on government contributions to meet a large proportion of their operational and capital requirements.

4.9   The total amount of funding to be contributed by the Commonwealth over the next few years is currently the subject of negotiation as part of the process of developing a new ANTA Agreement to cover the next 3 years. Base funding under the Agreement which expired in December 2000 has been rolled over until June 2001 and negotiations continue over the level of growth funding to be provided.

EQUIPMENT FUNDING

4.10   Major equipment items are funded from capital amounts provided by the Commonwealth either as part of new building projects or through specific equipment grants. Of the $138 million capital funds provided to the State over the last 3 years, $45 million has been allocated by the Department of Education, Employment and Training (DEET) to equipment.

4.11   Prior to 2000-01, the State Government did not provide any capital funds specifically for equipment purchases other than equipment items included in its capital construction or refurbishment program. Although, it announced in May 2000 that annual funding of $5 million will be provided over the next 4 years for equipment, this represents only around one-third of the annual amount of funds provided by the Commonwealth for this purpose in recent years.

4.12   Table 4D sets out details of the source of capital funds allocated to equipment purchases over the last 3 years.

TABLE 4D
SOURCE OF FUNDS ALLOCATED TO EQUIPMENT, 1998-2000
($million)

Source of funds	*1998*	*1999*	*2000*	*Total*
State funding	-	-	*(a)*2.5	**2.5**
Commonwealth funding	15.2	15.2	14.3	**44.7**
Total	**15.2**	**15.2**	**16.8**	**47.2**

(a) Represents 6 months funding relating to the $5 million to be provided annually for 4 years.
Source: Office of Post Compulsory Education, Training and Employment.

4.13   Our examination of the level of funds provided to institutes for equipment purchases in recent years and the method used to allocate the available funds identified a number of issues which we consider have worked against the efficient and effective management by institutes of their asset bases, particularly from a long-term perspective.

4.14   We also identified that additional funding will be needed in the future if institutes are to keep pace with the expected growth and rapid technological changes, and achieve the State Government's policy objectives of strengthening the State's skill base through education and training. Specific details of the deficiencies we identified are discussed in the following paragraphs.

LEVEL OF INVESTMENT IN EQUIPMENT

4.15   The funds distributed to institutes are subject to an annual Performance Agreement between the Victorian Learning and Employment Skills Commission and each institute. The Agreement sets out the terms and conditions under which payments will be made. The funding conditions include a funding budget and a student contact hour target disclosing separately 2 components: a General Profile and an Apprenticeship/Traineeship Profile. The Agreement also sets out:

- minimum delivery requirements to be achieved through the program profile funding; and

- priority training targets which the institutes are to endeavour to achieve across their total training activity.

4.16   Institutes are required to give priority to apprentices and trainees and, if necessary, shift resources into those areas if demand exceeds the target for that profile. While total student contact hours relating to the General Profile may be varied, there are a number of specific program delivery areas defined as priorities and for which minimum levels of delivery are prescribed or where desirable participation or outcome goals are identified.

4.17   The Agreement includes a requirement that institutes provide services *"… in a safe and proper manner and, where relevant, according to the requirements of the accredited course or endorsed national training package consistent with implementation guides issued by the Office of Post Compulsory Education, Training and Employment"*.

4.18   For institutes to retain the capacity to effectively deliver education and training in line with accreditation requirements, it is important that the service potential of their assets, including equipment, is maintained through regular replacement or upgrade. We sought to examine whether the funding provided for equipment in recent years has enabled this to occur.

4.19   As discussed in later Parts of this Report, any detailed analysis was inhibited by the absence of information within institutes and the Office of Post Compulsory Education, Training and Employment (PETE) regarding the profile of the equipment asset base. However, the amount of capital grants provided and the age profile of equipment assets in some individual institutes indicate that the investment in equipment assets has been inadequate.

Amount of capital grants

4.20   The application of accrual accounting in terms of charging annual depreciation against the revenue of institutes recognises that an investment in assets, including equipment, is a necessary cost associated with delivering services. However, the formulae used by the Government as a basis for allocating recurrent funds to institutes does not include a component for depreciation and, to that extent, funding does not meet the full cost of course delivery by institutes. Rather than funding the purchase or replacement of equipment as part of the recurrent formulae, any funding of equipment is provided by the Government through annual equipment grants.

4.21   A comparison of the total unfunded depreciation charges of institutes over the last 3 years relating to plant and equipment with the level of funds provided to institutes through equipment grants highlighted a gap which has increased significantly in recent years. As Table 4E shows, while the level of capital grants remained relatively constant over the 3 years to December 1999, depreciation charges increased by 23 per cent. Changes in the asset profile, in particular an increase in the value of assets and an increasing number of assets, especially information and communications technology (ICT) equipment, with relatively short useful lives, are likely explanations of the increase in depreciation charges.

TABLE 4E
GAP IN PLANT AND EQUIPMENT FUNDING
($'000)

	1997	1998	1999
Depreciation charges	26 000	29 000	32 000
Equipment grants *(a)*	14 700	14 900	14 800
Funding gap	**11 300**	**14 100**	**17 200**

(a) Excludes funds retained by PETE for the development of central information systems.

4.22   Depreciation does not in itself reflect the amount of investment needed to maintain the service potential of assets. However, the gap between the depreciation charges and the grants allocated for equipment purchases provides an approximation of the extent to which total equipment costs associated with delivering vocational education and training is currently not met by the Government in its funding model.

4.23   The issue of unfunded depreciation across all types of institute assets was previously raised in my *Report on Ministerial Portfolios*, June 2000, which identified that:

- institutes do not receive government funding for depreciation but are still required, in accordance with applicable Ministerial Directions, not to have an operating deficit at the end of any year;

- although the Government adopted "accrual-based" appropriations for the year ended 30 June 1999, agreement had not been reached on the flow-on effects of particular aspects, such as providing funding to TAFE institutes equivalent to the level of depreciation; and

- given that the delivery of TAFE programs involves a non-current asset investment in excess of $1.3 billion, it is important to recognise that depreciation approximates the investment required in replacements (or upgrades in the case of buildings), in order to maintain the service potential of the non-current asset base.

4.24   My June 2000 Report recognised that only when depreciation is fully funded will there be sufficient financial capacity for the service potential of the assets to be maintained.

> ***RESPONSE*** *provided by Secretary, Department of Education, Employment and Training*
>
> *The matters raised in the Report are acknowledged. The 2000-01 State Budget provided an annual allocation of $5 million a year for the replacement of plant and equipment in institutes. The Department will continue discussions with the Commonwealth Government in relation to the level of funding paid by way of Commonwealth Equipment Grants.*

Age profile of equipment

4.25   An analysis of the age profile of equipment provides a picture of the extent to which systematic replacement programs have been adopted by institutes in recent years. It also provides some information on the magnitude of equipment replacements or upgrades which may be required in future years.

4.26   We explored the age profile of equipment in 2 areas: ICT equipment and other plant and equipment items. This approach was adopted due to the differing characteristics and management issues associated with each of these categories of equipment. In the case of ICT, equipment characteristically has a short life span due to rapidly changing technology. For example, desktop computers are typically depreciated over 3 years. In comparison, many other items of plant and equipment, such as catering equipment or building machinery are not subject to the same degree of rapid technological change and may have a useful life of up to 10 years.

Equipment in use by hospitality students.
(Photo courtesy of Goulburn Ovens Institute of Technology TAFE.)

4.27   Institutes have significant funds invested in ICT and the management of these assets has become a key priority for them in making funding submissions to government, as illustrated by the following:

- The value of computer equipment as a proportion of all plant and equipment assets ranged from 31 to 43 per cent for the 5 institutes who reported these values separately in 1999;

- Thirty-nine per cent of plant and equipment depreciation charges across all institutes in 1999 related to ICT equipment; and

- A large proportion of funds allocated to the purchase of equipment in recent years has been for ICT equipment. For example, in the case of 2 institutes visited, the proportion for one was 95 per cent for 1998 and 1999, and for the other was 82 per cent in 2000.

4.28   Given the different characteristics and emphasis, it was not surprising to find differences in the age profile of the 2 categories of equipment assets. While sector-wide information was not available, data was available for 3 selected institutes and is provided in Tables 4F and 4G. The tables show separately the proportion of the ICT and plant and equipment other than ICT held by the institutes (at cost/valuation) which was purchased in each of the years 1995 to 2000. The ICT equipment of these 3 institutes comprised between 49 and 64 per cent of the total cost/valuation of their equipment assets.

TABLE 4F
AGE PROFILE
INFORMATION AND COMMUNICATIONS TECHNOLOGY EQUIPMENT
(Percentage of equipment at cost/valuation)
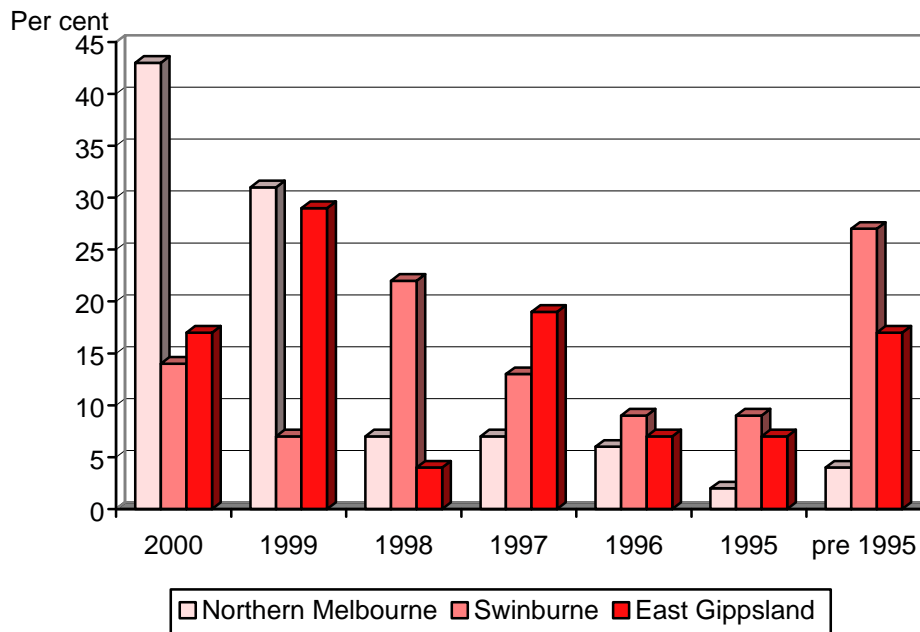
4.29   In the case of ICT equipment, the average age of assets partly reflects their relatively short useful life. The profile indicates, however, that there is still a significant proportion of assets which is likely to require replacement or upgrade in the near future given that many ICT items of equipment have a useful life of only 3 years. It also shows that the position differs for individual institutes, suggesting that different funding levels and strategies may be needed to address specific institute requirements. For example, the proportion of ICT equipment assets of the 3 institutes which are more than 3 years old ranges from 19 to 58 per cent.

TABLE 4G
AGE PROFILE
PLANT AND EQUIPMENT OTHER THAN ICT ASSETS
(Percentage of equipment at cost/valuation)
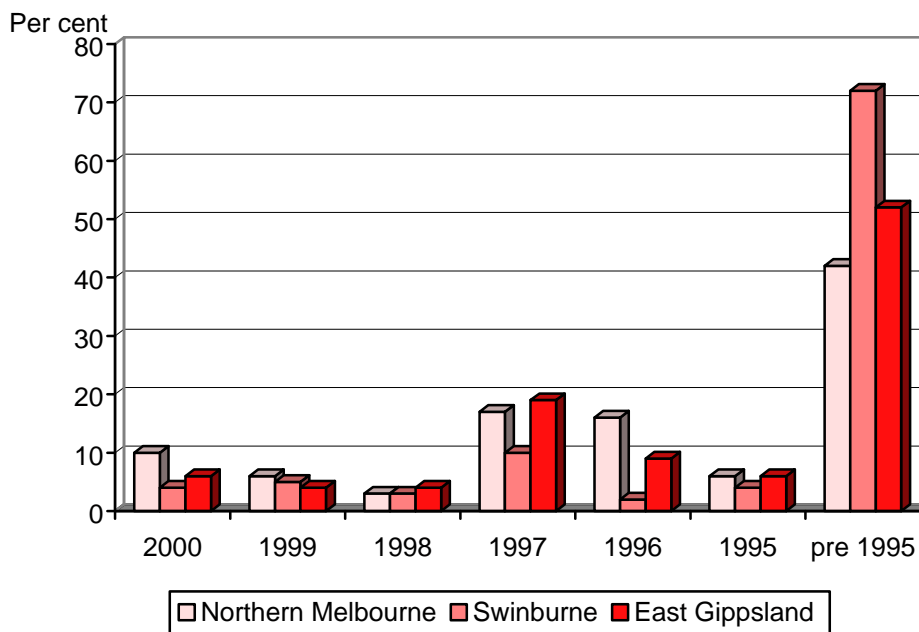
4.30 The age profile of other types of plant and equipment assets shows consistently across the 3 institutes that a large proportion of equipment was purchased more than 6 years ago. The proportion ranges from 42 to 72 per cent. While this situation partly reflects the nature of the items, it is also suggests that the allocation of funds to ICT equipment in recent years has been at the expense of replacing or upgrading other equipment assets.

4.31 If the situation at these 3 institutes exists at all institutes across the State, it would highlight that significant funding is likely to be required in the near future to enable the asset base to be maintained or upgraded.

BASIS AND TIMING OF ALLOCATIONS

4.32 Funds allocated to equipment purchases in the last 3 years have been distributed by PETE as follows:

- A proportion of Commonwealth funds has been allocated to institutes on the basis of a formula which takes into account the number of student contact hours they have agreed to deliver. The Commonwealth funds are to be used to acquire equipment which enables the delivery of training equivalent to those in industry or best suited for teaching purposes, to provide communications and computer equipment required to support flexible learning, or to purchase administrative equipment which supports the development of improved management;

- A proportion of the Commonwealth funds has been set aside by PETE for sector-wide projects such as the purchase of notebook computers for institute teachers or the establishment of a *TAFE Virtual Campus* which is aimed at providing a range of online facilities including the management of enrolments, communication between students and teachers, and course delivery. The funding has been provided on the basis of submissions received from institutes;

- A proportion of the Commonwealth funds has been retained by PETE and ultilised for the establishment of information systems such as a student management information system to be utilised by institutes or information systems utilised within PETE; and

- The $2.5 million of State funding provided for equipment purchases in 2000 was allocated on the basis of a minimum of $15 000 to each institute with the remainder allocated on the basis of formulae which took into account information regarding the institutes' equipment asset profiles.

4.33   The proportion of funds allocated on this basis in the last 3 years is illustrated in Chart 4H.

CHART 4H
ALLOCATION OF EQUIPMENT FUNDS FOR THE 3 YEARS TO 2000
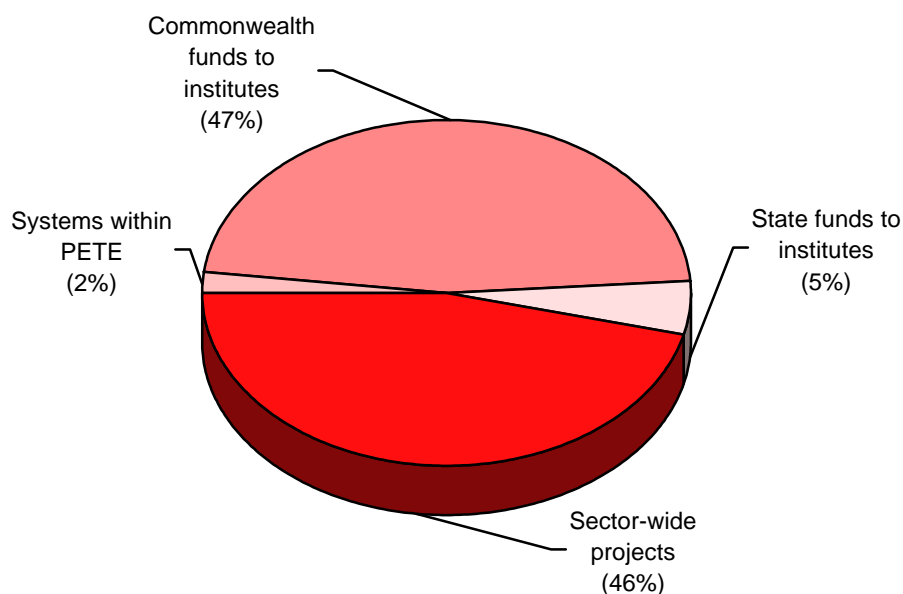
Source: Office of Post Compulsory Education, Training and Employment.

4.34   As Chart 4H shows, 52 per cent of available funds have been allocated to institutes on a formula basis. While institutes have had considerable discretion regarding items to be purchased with these funds, decisions regarding the remaining 48 per cent of equipment funding have been made centrally by PETE. These funds have been mainly allocated to specified programs which have defined funding criteria. While the allocation of funds to specific programs has been informed by strategic directions for the sector as a whole, it has not necessarily been based on information regarding the specific needs and priorities of individual institutes.

4.35   We observed that the approach to allocating funds in the last 3 years has fostered a practice within institutes of tailoring their funding submissions to reflect the specific criteria of programs made available rather than making funding submissions and purchasing decisions on the basis of their specific equipment requirements and priorities. As previously discussed, the age profile of equipment assets of several individual institutes examined suggests that equipment purchasing requirements differ between institutes and between various categories of equipment and we consider that these factors need to be given greater consideration in the allocation of available funds.

4.36   In terms of the timing of equipment funding, the following processes apply:

- Institutes are advised by PETE in April each year of the amount of funds to be provided on the basis of the student contact hour formula. Under Commonwealth funding terms and conditions, the funds are to be expended or committed by 31 December each year and no provision is made to carry funds forward to subsequent years; and

- Funds allocated through a submission process are also to be expended within the year they are provided. In some cases, very short timeframes have applied as was the case with $5 million recently allocated, primarily from Commonwealth funds, for the purchase of notebook computers for teachers. During November 2000, the program was announced by the Minister, submissions were sought from institutes and letters forwarded to institutes advising of funding allocations. Funds were to be expended by institutes by the end of December 2000.

4.37   In our discussions with institutes and examinations of their asset management practices, we found that the approach of allocating funds to specific programs, coupled with funding on an annual basis and associated spending conditions, created uncertainty for institutes and provided them with limited flexibility in terms of forward planning. As discussed further in Part 5 of this Report, we consider this situation has contributed to the absence of a strategic approach by institutes to the management of their assets.

NEED TO REVIEW FUNDING MODEL

4.38   In view of the issues outlined previously in this Report, we consider there is a need to revisit the current model used to allocate funds to the purchase of equipment by TAFE institutes. In such a review, consideration should be given to ensuring:

- That there is a level of investment which enables the asset base across the sector to be maintained in a manner which facilitates the long-term achievement of desired teaching outcomes and Statewide policy objectives. Given that over 20 per cent of training delivery is undertaken on a fee-for-service basis, revenue from this source and from industry direct should contribute to the required investment in equipment;

- Both Statewide and individual institute needs and priorities are considered in the allocation of available funds. This may be possible through providing agreed allocations, linked to the annual recurrent funding process, rather than the approach adopted in recent years of providing specific equipment grants or funding specified programs on the basis of submissions received. It would also require an analysis of the current state of equipment assets at individual institutes;

- Institutes are provided with increased flexibility and incentives in terms of making investment decisions which meet the strategies applicable to their particular environment while at the same time achieving Statewide-determined objectives and outcomes for the sector. In terms of providing incentives, consideration could be given to linking a proportion of funding to the assessed quality of the asset management practices of individual institutes; and

- Purchasing decisions are made which are the most cost-effective from the State's perspective and are made in appropriate timeframes. The adoption of contemporary appropriation management practices which allow the carryover of funds may need to be negotiated with the Commonwealth in terms of achieving a triennial rather than annual funding approach, as is the case with higher education bodies.

RESPONSE *provided by Secretary, Department of Education, Employment and Training*

Funding allocations now reflect an increase in funding from the State Government as a result of the provision of the amount of $5 million annually toward the replacement of plant and equipment within institutes.

In relation to the balance between Statewide and individual institute needs and priorities, the Department agrees that there is a need to re-examine this balance of priorities from time-to-time and, in fact, the allocations between Statewide priorities and institute needs do vary from year-to-year. In 2001 for example, all of the Commonwealth equipment grants funding provided to Victoria has been distributed to individual institutes. On the other hand, there has been at times a need to adopt a more systemic view in relation to the expenditure of funds in areas, for example, as the implementation of the Virtual Campus or the Statewide TAFE institute management information system, both of which have been developed for the benefit of the individual institutes.

The suggestion of linking a proportion of funding to the assessed quality of the asset management practices of individual institutes will be examined as part of the implementation of the Asset Management Strategy.

RESPONSE *provided by Director, East Gippsland Institute of TAFE*

We agree with your recommendations.

Current capital grants for teaching equipment do not recognise the full cost of delivery. The triennial funding approach has merit and would assist us with our Equipment Plan which is on a triennial basis - particularly when it comes to purchasing large items of equipment such as bulldozers etc.

The existing Commonwealth Equipment Grants do not allow for the purchase of motor vehicles. It is critical for this Institute to have 4-wheel drive vehicles to undertake training in Forests and Forest Products. Similarly, the Institute has to have at least 2 small 20 seater buses for training in Natural Resource Management - the buses are used to transport students to forest locations.

We note the need for information technology, computer equipment and software to be regularly updated as exponential developments occur in industry.

Generally, the Institute's equipment is ageing at a rate faster than equipment grants and the l funding resources allow for replacement.

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

The Institute agrees that present funding levels are inadequate to address all equipment requirements, not only in the ICT (information and communications technology) field, but across all delivery and administrative areas. Our Institute has made considerable expenditures on ICT equipment, both from grant funds and from Institute-generated funds in an attempt to maintain a current and efficient equipment base. This expenditure has come at the expense of equipment upgrades in other fields of study which has meant that our overall equipment stock is below required levels.

The allocation of funding on an annual basis by PETE does not allow for strategic purchasing decisions. This situation is made more difficult when notification of grant allocations are received in the same month that expenditure is required to be committed.

Our Council has previously stated its belief that institutes should be funded for all depreciation costs, and as a minimum for equipment items, so that it can maintain delivery standards.

RESPONSE *provided by Acting Divisional Deputy Vice-Chancellor, Swinburne University of Technology TAFE Division*

In general, Swinburne University of Technology TAFE Division (Swinburne TAFE) supports the substance, intent and direction of the audit. We share the andit's view of the importance of maintaining the service potential of our teaching equipment, in developing our responsiveness to the education and training needs of our stakeholders, including the performance expectations of government for an effective and efficient TAFE institute.

We have long held the view that the current funding model does not reflect the true cost of delivering training and provides little incentive for the development of strategic approaches to asset management where teaching equipment is concerned.

We also acknowledge the tremendous budgetary pressures the current approach to equipment funding places upon the TAFE Division, as we attempt to ensure our students are exposed to industry standard equipment in ICT and other areas of training activity.

Swinburne TAFE Division endorses the recommendations relating to funding and strongly supports recommendations regarding recognition of the full cost of training delivery, relating to realistic timelines and shifting to triennial funding and relating to provision of flexibility in meeting local training requirements.

Part 5

Equipment management practices

STRATEGIC PLANNING AND MANAGEMENT

5.1 Future directions of education and training in Victoria outlined in the *Planning Guide for Providers of Training and Further Education in Victoria 2001,* issued by the Office of Post Compulsory Education, Training and Employment (PETE) in September 2000, include the following:

- The international economy is rapidly becoming "information-based" and global competition requires continual improvement in productivity and quality. This will be underpinned to a large degree by changes in information and communications technology (ICT), and the need for workers to re-skill as technology changes;

- All industries, both existing and emerging, will face pressure to compete globally in order to survive, with the skills and knowledge of the workforce being a major source of competitive advantage;

- The skilling of the workforce must be dynamic to reflect the changing composition and skills base required of the workforce; and

- The concept of employment for life is being replaced by employability for life. Workers will need to skill and re-skill throughout life and this will impact on the level and type of demand for training.

5.2 For the TAFE sector to respond effectively to these changes there is a need for sound strategic planning and management of the asset base. Planning for equipment needs to be closely linked to the strategic directions established for the sector and to be approached on both a long-term and short-term basis. We found that such an approach was generally not evident at either a central government or institute level, with the exception of the recent development by most institutes of an information technology strategic plans.

Strategic planning at a central level

Asset management strategy

5.3 In February 2000, the Department of Education, Employment and Training finalised an Education Asset Management Strategy 2000-2010, covering both the schools and TAFE sectors. The Strategy, which has been endorsed by the State Government, is aimed at providing vision, direction and priorities for managing education capital assets. As such, it is a key document to be used as a basis for future capital decisions, including the allocation of resources within both the schools and TAFE sectors. The Department advised institutes in September 2000 that decisions regarding new capital funding in the 2001-2002 State Budget and the year 2002 allocation of Commonwealth funding would be considered in line with the Strategy.

5.4   While acknowledging the steps taken by the Department in developing an overarching Strategy for asset management, we consider it does not provide a suitable framework for strategically managing equipment assets within the TAFE sector. In particular, the data used in developing the Strategy did not relate specifically to equipment but focused primarily on capital works such as buildings. In addition, it was not based on information drawn from individual institutes but largely based on information available within the Department and data gathered in 1995 as part of a national study.

5.5   The absence of information relating to the TAFE sector and equipment in particular is evident in the Strategy document which states that:

- *"... there is incomplete data on the assets held by TAFE Institutes, their condition and*

- *"... levels of need for plant and equipment, their maintenance requirements and upgrade/replacement life cycles, along with existing practice and costs, are not well understood. Further analysis and modeling is needed for both schools and TAFE to refine required ongoing levels of capital investment and capital expenditure required to sustain the plant and equipment inventory at optimum levels".*

5.6   The need for further analysis of information and input specifically from the TAFE sector in developing a strategic approach was also expressed at the institutes visited during the audit. Senior executives indicated that they were unaware of details of the Strategy. They were also of the view that because the plant and equipment inventory needs and course delivery demands of the TAFE sector differed markedly from the schools sector, any strategy or allocation of resources needs to take into account these specific characteristics.

5.7   There is currently no requirement to forward equipment or other asset information to the Victorian Learning and Employment Skills Commission, PETE or other central government agencies.

Requirements to provide suitable equipment

5.8   The annual Performance Agreement between the Victorian Learning and Employment Skills Commission and each institute sets out the terms and conditions under which the Commission will make payments to the institute for the provision of vocational education and training. They require institutes to meet defined course accreditation requirements. Although the conditions of registration of vocational education and training providers require that equipment is adequate and in good order and repair, Performance Agreements have not included any general requirements, as a condition of funding, for institutes to ensure the equipment used in course delivery is of a type suitable to the delivery of courses and is upgraded or replaced to maintain curriculum currency.

5.9   This has been partly addressed in the 2001 Agreement which has been expanded to include requirements in relation to the provision by institutes of online services such as enrolment facilities, library services, email between students and teachers, and at least 15 per cent of training to be supported by online services.

5.10   Given the importance of ensuring students are trained on equipment which is relevant to the contemporary workplace, we consider the expansion of this requirement to cover all equipment types would enhance the current framework.

Apprentices utilising electrical installation work bays.
(Photo courtesy of Swinburne Institute of Technology TAFE Division.)

Strategic planning by institutes

5.11   Assets held by an institute, including equipment used in course delivery, are important inputs which, along with information systems, personnel, and financial resources need to be clearly aligned with the strategic directions of the institute.

5.12   Although we found that institutes had generally established corporate plans which defined their objectives and program delivery strategies, they were not supported by asset management strategies developed on the basis of reliable information such as the profile of the asset base and expected future replacement requirements. In particular, of the 12 institutes responding to our survey:

- 7 did not have an overall asset strategy;

- of the 5 remaining, one was in the process of developing an asset strategy while the strategies of the others were limited to administrative procedures or only referred to certain types of assets such as building facilities or information technology, rather than covering all asset types; and

- the individual faculties or departments at only 6 institutes had developed strategic plans in relation to assets required for course delivery and administrative purposes.

5.13   At the 3 institutes we visited, equipment replacement considerations were overwhelmingly linked to the annual government funding processes and to the internal annual allocation of any surpluses generated by particular departments or faculties. For example, one of the institutes indicated that a strategic replacement program had not been determined due to funding uncertainty.

5.14   A positive aspect regarding the strategic management of assets was the development of an information technology strategic plan by most of the institutes responding to our survey. These plans were established in response to a requirement of PETE for institutes to develop plans which integrated information technology into overall capital planning and budgeting functions. While some of the plans were found to be of a high standard, others required further improvement particularly in terms of costing the plans and identifying sources of funding for their implementation. With a view to implementing their Information Technology Strategic Plans, some institutes recognised the need to annually allocate a proportion of recurrent funds or to enter into alternative acquisition arrangements such as leasing. Others indicated that implementation of the plan was uncertain in that it was dependent on the availability of capital funds from Commonwealth or State sources.

ACQUISITION PRACTICES

5.15   A range of options can be considered by institutes for acquiring equipment for use in delivering courses. These can include purchasing, leasing, sponsorships, donations and the use of industry facilities. The most appropriate option should be assessed on the basis of its cost-effectiveness which, in turn, can be influenced by the particular operational needs associated with the equipment.

5.16   All 3 institutes visited reported difficulties in generating sufficient surpluses from their commercial activities to fund major equipment purchases and were almost exclusively reliant on capital funds from government sources for this purpose. Consequently, the priorities, funds availability, timing of funding allocations and government funding processes were the primary factors affecting the timing of acquiring equipment. It was also evident that the availability of funds was the primary influence on the method of acquisition, rather than the outcome of detailed cost/benefit analyses of various options.

5.17   By way of illustration, one institute was in the process of considering options for acquiring a log harvester for use in forestry training. The existing harvester, which had an estimated value of $89 000, required replacement. The purchase of a new harvester would cost the institute $560 000 which was over double the annual capital grant received by the institute for all of its equipment purchases in each of the last 3 years. This situation had prompted the institute to consider other acquisition options such as the purchase of second-hand equipment.

Lease/buy decisions

5.18   While the leasing of equipment can be a costly option, it can also have a number of advantages for institutes in terms of:

- increasing flexibility to adapt to change, thus minimising the risk of obsolescence;
- reducing the need for large, uneven capital outlays;
- transferring the risks of ownership to the lessor; and
- addressing equipment issues relating to courses which are short, seasonal or have low student attendances.

5.19   A number of institutes had chosen leasing arrangements for their desktop computer needs as it was seen to be easier to cost and manage the unpredictability of ongoing maintenance and replacement costs.

5.20   However, in general, institutes expressed a preference to purchase rather than lease assets where funds were available, particularly in the case of high cost, large individual items of equipment such as construction and agricultural plant and machinery. We sensed that this preference was partly driven by the current funding model which distinguishes between capital and recurrent funds rather than by consideration of utilising the most cost-effective option. While capital grants were seen by institutes as not having an ongoing cash-flow impact, leasing costs would impact on the recurrent costs of the institute.

Mechanical equipment workshop.
(Photo courtesy of Swinburne Institute of Technology TAFE Division.)

5.21 Other factors worked against institutes considering leasing as an option, even where it may have represented the most cost-effective option from the perspective of the State as a whole. This included the conditions of equipment grants from the Commonwealth that they cannot be used to lease equipment.

5.22 Ten of the institutes surveyed as part of the audit had entered into some leasing arrangements in the last 2 years for a variety of equipment, including photocopiers, desktop computers and large agricultural machinery. However, the quality of the analysis undertaken as a basis for these decisions was found to be poor in that it either did not include full life-cycle costings or, at worst, was not documented. In these cases, the institutes were not in a position to demonstrate that the leasing options were the most cost-effective option. While leasing may have been a cost-effective option in some cases, our analysis of one of the arrangements, relating to the acquisition of trucks used in the delivery of driver training, showed that the 2 year finance leasing option chosen was in fact 13 per cent more expensive than purchasing the equipment for $178 000.

Government purchasing arrangements

5.23 A number of arrangements have been negotiated by the State Government with computer suppliers to achieve the cost advantages of bulk purchasing. Although these arrangements are available for use by institutes, we found that they had not been accessed to any large extent.

5.24 Some institutes were reluctant to purchase equipment under these arrangements even where they may have represented the least-cost option from the State's perspective. The reasons given were that the arrangements would involve additional recurrent costs to the institute associated with maintenance and administration where the institute already had existing agreements with an alternative supplier.

Alternative acquisition practices

5.25 While funding levels and uncertainty are significant factors currently driving purchasing decisions of institutes, changing expectations, technologies, curriculum and administrative requirements are prompting institutes to consider alternatives to the high cost of new asset ownership or leasing.

5.26 All institutes surveyed had pursued some alternative measures regarding the acquisition and use of equipment although these measures represented only a minor component of equipment acquisitions. Alternative practices included:

- Sponsorship arrangements with equipment suppliers which provided access to a wide range of essential, state-of-the-art equipment to facilitate program delivery. At one institute, we were informed that, without such sponsorship, expensive construction machinery could not have been acquired and hence courses could not be offered where such equipment was essential to learning outcomes for students;

- Attracting equipment donations such as vehicles for use in automotive training and expensive software for graphic artists. However, instances were reported where donations are not always suited to course delivery and in many cases the equipment items are old or obsolete, resulting in additional costs to the institute in terms of storage, maintenance or disposal; and

- Process re-engineering particularly in administration areas aimed at reducing equipment requirements.

5.27   The further use of such alternatives could be encouraged in the funding process through requiring institutes to substantiate in submissions that all acquisition alternatives had been evaluated.

> **RESPONSE** *provided by Secretary, Department of Education, Employment and Training*
>
> *The Department agrees that there is a range of options that should be considered by institutes for renewing equipment including purchasing, leasing, sponsorships and donations and the use of industry facilities. Many institutes engage pro-actively in the examination of alternative acquisition practices. One of the constraints facing institutes is the requirement by the Commonwealth Government that funds received under the Commonwealth Equipment Grant cannot be used for leasing as they are Capital Funds. This matter will be taken up with the Australian National Training Authority.*

MANAGEMENT INFORMATION AND REPORTING

5.28   The effective management of assets is dependent on the availability of appropriate and reliable information and the establishment of planning, internal reporting and accountability frameworks. Adequate systems which contain financial and non-financial data on the acquisition, maintenance, performance and disposal of assets can be an integral part of this framework, in addition to facilitating statutory reporting obligations. Ideally, they should form input to performance reports on various aspects of asset management.

5.29   The audit highlighted significant weaknesses within institutes in the information systems and accountability frameworks relating to equipment in that:

- Information systems primarily comprised asset registers which only recorded information used for year-end financial reporting. They did not support strategic asset management either by the institutes or individual departments and faculties as they did not contain details of the various life-cycle asset costs such as maintenance, did not contain information reflecting the service potential arising from factors such as changed course requirements and technological advances, and generally did not facilitate the development of accurate age profiles or future replacement schedules;

- While responsibility for the physical condition, use, functionality and financial performance of assets was delegated to individual faculties or departments in all institutes surveyed, 71 per cent of the institutes did not provide regular reports to their executive management in relation to asset management, e.g. cost, age, utilisation levels, physical condition, maintenance backlogs and replacement requirements;

- Forty-six per cent of institutes did not extract reports from their asset registers and provide them to staff to enable effective asset management, other than at year end for financial reporting purposes; and

- The minutes of council meetings over several years at the institutes visited showed little or no references to matters affecting asset management, such as information on utilisation rates, replacement requirements, obsolescence or asset security.

MAINTENANCE PRACTICES

5.30   The adoption of sound maintenance practices can assist in ensuring equipment assets remain relevant to program needs and service standards. Risks associated with the operation of equipment in terms of occupational health and safety standards and the consequences of breakdown or failure are also important considerations in determining appropriate maintenance policies and strategies. The particular maintenance approach adopted by an institute should relate to the risks and consequences of equipment failure and provide the basis for determining the appropriate mix of maintenance procedures to be adopted.

Regular maintenance practices ensure that equipment remains available for student use.
(Photo courtesy of Swinburne Institute of Technology TAFE Division.)

5.31   While it is unlikely that any one approach will be suitable in all cases, in broad terms, approaches can be categorised as:

- corrective – an ad hoc approach where no maintenance is undertaken unless, or until, the asset no longer functions to the required standard; or

- preventive – a structured process of programmed maintenance to reduce the likelihood of failure to an acceptable level.

5.32   Given the current weaknesses in information systems within institutes, it was not possible as part of the audit to determine the extent of any preventative maintenance backlog or the extent of funding which would be required to enable preventative maintenance approaches to be adopted. The responses from institutes, however, did indicate that the lack of routine maintenance was a concern in some areas. For example:

- Feedback indicated that 77 per cent of institutes did not have a maintenance policy covering all equipment assets;

- Fifty per cent of institutes surveyed indicated that they viewed their maintenance approach as corrective rather than preventative and that this approach was often driven by funding constraints. One institute, for example, indicated that some equipment was so old it was not worth repairing and so a "bandaid" approach was undertaken in order to keep the equipment at least operational. Another referred to the majority of equipment in one particular faculty, which was utilised approximately 30 to 40 hours per week, breaking down on a monthly basis. However, the budget only covered 50 per cent of the maintenance requirements;

- Some institutes did not hold maintenance records for large machinery items as evidence that maintenance was performed in accordance with the manufacturers' recommendations. The reasons given included staff limitations, the heavy workload of mechanics and the onerous task of maintaining maintenance records; and

- The executives of several faculties expressed concerns about their maintenance practices exposing them to risks under occupational health and safety legislation.

RESPONSE *provided by Secretary, Department of Education, Employment and Training*

The Department agrees that a whole-of-life approach need to be taken by institutes to managing equipment needs. Risks associated with the operation of equipment in terms of occupational health and safety standards should be addressed by institutes in their asset management strategies. The implementation of the Asset Management Strategy by the Department of Education and its roll-out to particular institutes will address this issue.

NEED FOR IMPROVED ASSET MANAGEMENT

5.33   The matters highlighted in this Part of the Report indicate that significant improvement is needed in the way in which institutes manage their equipment assets used to deliver vocational education and training.

5.34   If, as suggested in Part 4 of this Report, a revised funding model is adopted which provides greater certainty and flexibility to institutes in relation to equipment, it will need to be accompanied by a strengthening of management information and practices. Improvements, particularly within institutes, need to comprise a more strategic planning focus, give greater attention to acquiring assets in a cost-effective manner and include the adoption of a whole-of-life approach to managing equipment.

5.35   PETE, as part of its central overview function, could play a key role in this regard through giving guidance to institutes in relation to the sound management of equipment assets and providing a stimulus for strategic planning for equipment within the TAFE sector.

> **RESPONSE** *provided by Secretary, Department of Education, Employment and Training*
>
> *The Department accepts the enhanced role that it can play in relation to giving guidance to institutes concerning a sound management of equipment and providing a stimulus for strategic planning of equipment with the TAFE sector. These issues are being pursued with institutes in the context of professional development for ICT strategic planning and the Asset Management Strategy and its application within individual institutes.*

> **RESPONSE** *provided by Director, East Gippsland Institute of TAFE*
>
> *We agree with your recommendation. However, the Institute needs to be funded to purchase asset management computer software packages which could adequately manage your recommendation.*

> **RESPONSE** *provided by Chief Executive Officer, Goulburn Ovens Institute of TAFE*
>
> *The Institute agrees that greater emphasis needs to be placed on asset management practices, both within the Institute and within the overall TAFE sector. Our Institute has an Information Technology Strategic Plan which outlines the direction in which we believe future ICT developments will occur, however, improvement in practices such as preventative maintenance and analysis of equipment productivity are required.*

RESPONSE provided by Acting Divisional Deputy Vice-Chancellor, Swinburne University of Technology TAFE Division

We acknowledge the findings of the audit in relation to asset management practices within TAFE institutes and note that Swinburne TAFE Division through its strategic planning process and the incorporation of the Balanced Scorecard is now developing a broader equipment planning and maintenance process aligned to the Division's key Learning and Teaching Strategy. Equipment capacity will be aligned as a critical enabler of success in meeting our stakeholders expectations, by broadening our current ICT plan to include other equipment requirements.

As an example of this, Swinburne TAFE in 2000 undertook the following strategic developments:

- *A Division wide Hospitality and Tourism Strategy;*

- *Urban Land Management/Landscaping;*

- *Building and Construction Review;*

- *Engineering Review; and*

- *ICT requirements to support flexible delivery including online delivery.*

In each study, equipment requirements were mapped against industry trends and planned delivery models and funding options developed. The Division also considers its equipment requirements annually through its normal program profile planning.

The University also undertook a university-wide review of its ICT requirements and completed an audit of its audio-visual teaching equipment in 2000. It is important acknowledge the different planning framework existing in a multi-sector TAFE organisation where many of the responsibilities for asset management lie within the corporate services sector of the University. It is also recognised that this can be advantageous to the TAFE sector in an area like ICT.

Swinburne TAFE Division supports the recommendations and suggest that the performance agreement between the Victorian learning and Employment Skills Commission and a TAFE institute consider equipment requirements and, where upgrading is necessary an agreed plan be put in place between the VLESC and the institute and funded accordingly.

Part 6

Meeting the needs of stakeholders

INTRODUCTION

6.1 As indicated previously in this Report, vocational education and training has a strong focus on developing skills needed to work within various industries. Government policy objectives for the sector are also directed at meeting the needs of individual students through providing flexible learning environments.

6.2 Within this context, we sought to examine the extent to which the equipment used in delivering courses was suitable to meeting the desired learning outcomes of stakeholders including employers, students, graduates and teachers. These outcomes were of particular interest given the weaknesses in the funding model and equipment management processes identified in Parts 4 and 5 of this Report.

VIEWS OF EMPLOYERS

6.3 Although the Office of Post Compulsory Education, Training and Employment (PETE) periodically conducts some surveys of stakeholders, we found that these seek the views of a narrow range of employers. For example, employer surveys have been directed at apprenticeships and traineeships which receive only around 25 per cent of funding allocated to vocational education and training. The views of employers of other students, such as those completing certificate or diploma courses, have not been sought on a Statewide basis.

6.4 At an individual institute level, it was also evident that the views of employers regarding the learning outcomes of students are not periodically canvassed.

6.5 We consider this to be a weakness in the management framework for assessing the effectiveness of the sector in achieving policy objectives. Feedback on the adequacy of equipment and the acquired skills of students and graduates in equipment usage should form part of this process.

VIEWS OF STUDENTS, GRADUATES AND TEACHERS

6.6 To obtain the views of other stakeholders, namely, students, graduates and teachers, we commissioned a quantitative research study into the availability and suitability of information and communications technology (ICT) equipment and related issues in TAFE institutes.

6.7 The research comprised 3 telephone surveys. Samples of students, graduates and teachers from 5 TAFE institutes were surveyed in order to determine the following:

- the views of current students and recent graduates on the adequacy of the equipment used at their institute to their training needs; and

- the views of teachers delivering courses on the adequacy of equipment and the impact of any equipment deficiencies on their teaching activities.

Institutes and courses covered

6.8   The 5 institutes chosen for the survey were:

- Northern Melbourne Institute of TAFE;
- RMIT (TAFE Division);
- Box Hill Institute of TAFE;
- Swinburne University of Technology (TAFE Division); and
- Goulburn Ovens Institute of TAFE.

6.9   These 5 institutes delivered 49 per cent of the student contact hours in ICT courses in Victoria in 1999. They represent both metropolitan and regional institutes and cover TAFE institutes and the TAFE divisions of universities.

6.10   Current students, recent graduates and teachers who were involved in the following courses at the institutes, were surveyed:

- Certificate II Information Technology Computer Applications;
- Advanced Diploma of Information Technology;
- Certificate IV Information Technology Software;
- Diploma of Computer Systems;
- Diploma of Information Technology Software Development;
- Diploma of Multimedia;
- Certificate IV in Engineering (Computer Systems); and
- Advanced Diploma of Engineering (Computer Systems).

Size of survey samples

6.11   Telephone surveys of 257 *current students* from the 5 institutes were conducted in November 2000. Quotas were set to ensure that the number of students surveyed from each institute were proportionate to actual enrolments of students in ICT courses. Quotas were also set by course type and by commencement year.

6.12   A total of 94 *recent graduates* from the 5 institutes were surveyed. Quotas were set to ensure that the number of graduate surveys from each institute were proportionate to actual completions and course type. The majority of graduates interviewed finished their course in 1999 (86 per cent) and the remainder in mid-2000.

6.13   A total of 25 *teachers* were surveyed by telephone. Five teachers from each institute were surveyed and the surveys covered the range of ICT courses they taught. All teachers surveyed were requested to complete an additional questionnaire regarding the specific types and numbers of equipment items that they use to teach their courses. Of the 25 teachers surveyed, 12 returned the questionnaire.

Scope of surveys

6.14   The surveys comprised the following major components:

- Students, recent graduates and teachers were requested to rate a number of elements relating to the availability and accessibility of equipment in terms of their importance to the courses they studied or were teaching. A rating scale of 1 to 10 was used where 1 was not at all important and 10 was extremely important. A rating of 7 out of 10 was considered to indicate that a particular aspect was deemed important by respondents. A rating of 8 out of 10 or higher indicated that the aspect was considered by the respondent to be very important;

- Respondents were then requested to rate the same elements in terms of how well they were provided by their institute in relation to the course they studied or were teaching. A scale of 1 to 10 was again used where 1 indicated that the provision of the element was poor and 10 indicated the element was provided extremely well. A rating of 7 out of 10 indicated that the particular aspect had been provided to a satisfactory level. A rating of 8 out of 10 or better was considered the level to which provision of that element should aspire;

- Students and recent graduates were also requested to provide their overall opinion regarding the adequacy of hardware, software and peripherals such as printers and scanners provided at the institute where they studied; and

- Teachers were requested to discuss the factors which impact on the purchase of equipment within their institute, including the extent of their influence on the decision-making process. They were also requested to provide their views on the frequency with which hardware and software was, and should be, upgraded.

Profile of respondents

Students

6.15   A large proportion of students indicated that they were undertaking the course to help them obtain a job or they had a personal interest in the subject. Details of the reasons given are provided in Table 6A.

TABLE 6A
REASONS FOR STUDYING COURSE - STUDENTS

Reason	Per cent
I have a personal interest in the subject	36
To help me get a job that has an ICT component	34
To help me get any job	16
To help me in my current job that has an ICT component	9
To help me in my current job which is not specifically ICT-related	3
Other	2
Total	**100**

6.16   Approximately half of the students interviewed were employed in some capacity and 38 per cent of these students said their course was related to their job.

Graduates

6.17   Sixty-eight per cent of graduates surveyed undertook the course for employment reasons. Details of the reasons given are provided in Table 6B.

TABLE 6B
REASONS FOR STUDYING COURSE - GRADUATES

Reason	Per cent
To help me get a job that had an ICT component	36
I had a personal interest in the subject	32
To help me get any job	22
To help me in my job at the time that had an ICT component	6
To help me in my job at the time that was not specifically ICT-related	3
It was my employer's idea	1
Total	**100**

6.18   The employment status of the graduates surveyed is set out in Table 6C below.

TABLE 6C
EMPLOYMENT STATUS OF GRADUATES

Employment status	Per cent
Full-time	40
Part-time	21
Casual	16
Not employed	23
Total	**100**

6.19   Half of the graduates employed full-time indicated that the skills learnt in the course they studied at TAFE were related to their job to a *great extent*. This figure was 14 per cent for part-time workers and 36 per cent for casual workers. The main reason given by employed graduates who indicated that the skills learnt at TAFE was related in *little or no extent* to their current job was that they were now working in a different field.

Teachers

6.20   The courses taught by teachers interviewed were spread across each of the courses included in the survey as were those teachers who responded to a more detailed questionnaire.

6.21   The length of time the teachers surveyed had taught at their current institute is summarised in Table 6D.

TABLE 6D
LENGTH OF TIME AT CURRENT INSTITUTE - TEACHERS

| Time spent teaching	Per cent
Less than 12 months	8
Over 12 months to 2 years	8
Over 2 to 5 years	28
Over 5 to 10 years	40
Over 10 years	16
Total	**100**

6.22   A copy of the questionnaire used as a basis for the surveys is provided in Appendix A to this Report.

6.23   Detailed information regarding the survey results follows.

STUDENT AND GRADUATE ASSESSMENTS

6.24   Chart 6E details the overall rating given by students and graduates in terms of the adequacy of hardware, software and peripherals at the institutes at which they studied.

CHART 6E
ADEQUACY OF EQUIPMENT,
OVERALL RATING OF STUDENTS AND GRADUATES
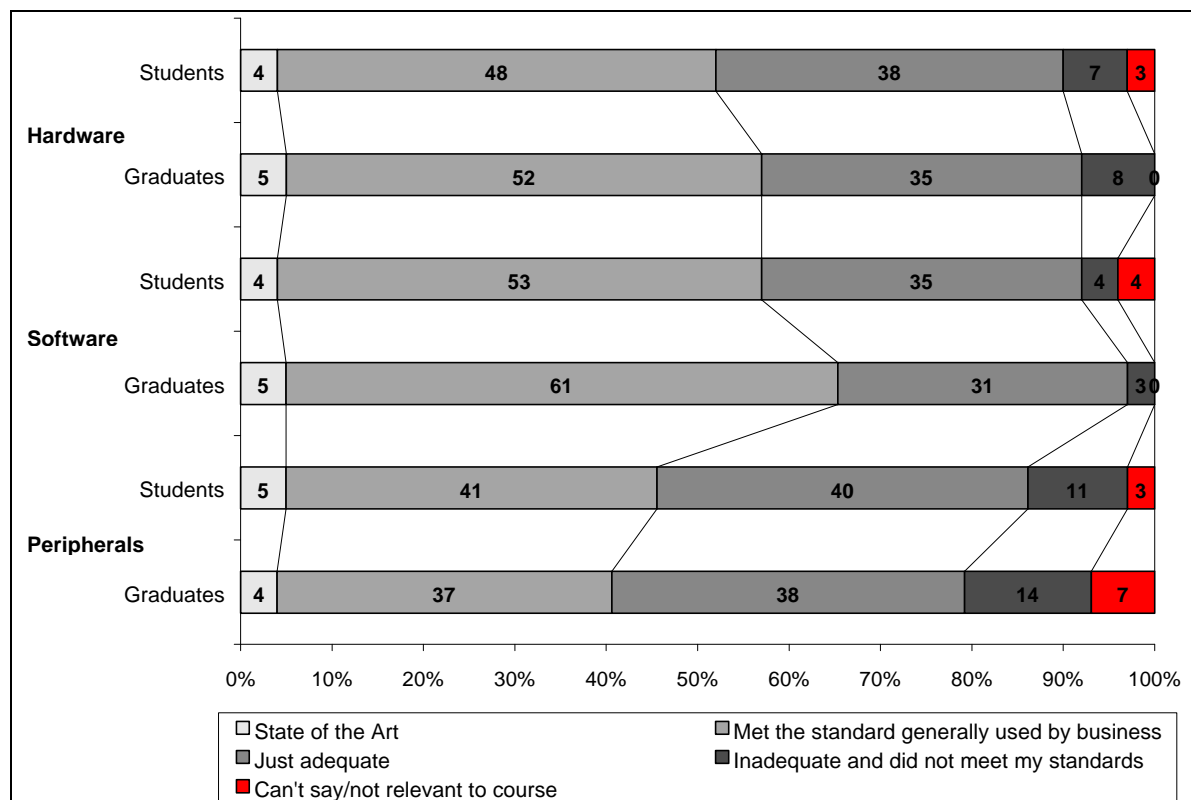
6.25   More than half (52 per cent to 66 per cent) of all graduates and students surveyed consider that the hardware and software provided by institutes at least *meets the standard used by business* and marginally less than half of these groups (41 per cent to 46 per cent) said that peripherals *met or exceeded the standard generally used by business*.

6.26   Although few graduates and students rated computer hardware, software and peripherals as *inadequate*, between 31 and 40 per cent rated their provision as *just adequate.* The main reason given by those providing a rating of *just adequate* or *inadequate* was that the hardware or software was *old or out of date*.

IMPORTANCE AND PROVISION OF EQUIPMENT

6.27   Survey responses received from students, graduates and teachers in relation to the importance they placed on various aspects of equipment and their responses regarding satisfaction with equipment provision were canvassed under 3 areas, i.e. computer hardware, software and other facilities.

Computer hardware

6.28   As indicated in Chart 6F, having the *capacity to run software* was seen as the most important element of hardware provision by students, graduates and teachers alike. *Students having a computer to themselves during class time* was seen as the next more important element. Importance and satisfaction in the survey were rated out of 10.

CHART 6F
**HARDWARE IMPORTANCE/PROVISION**
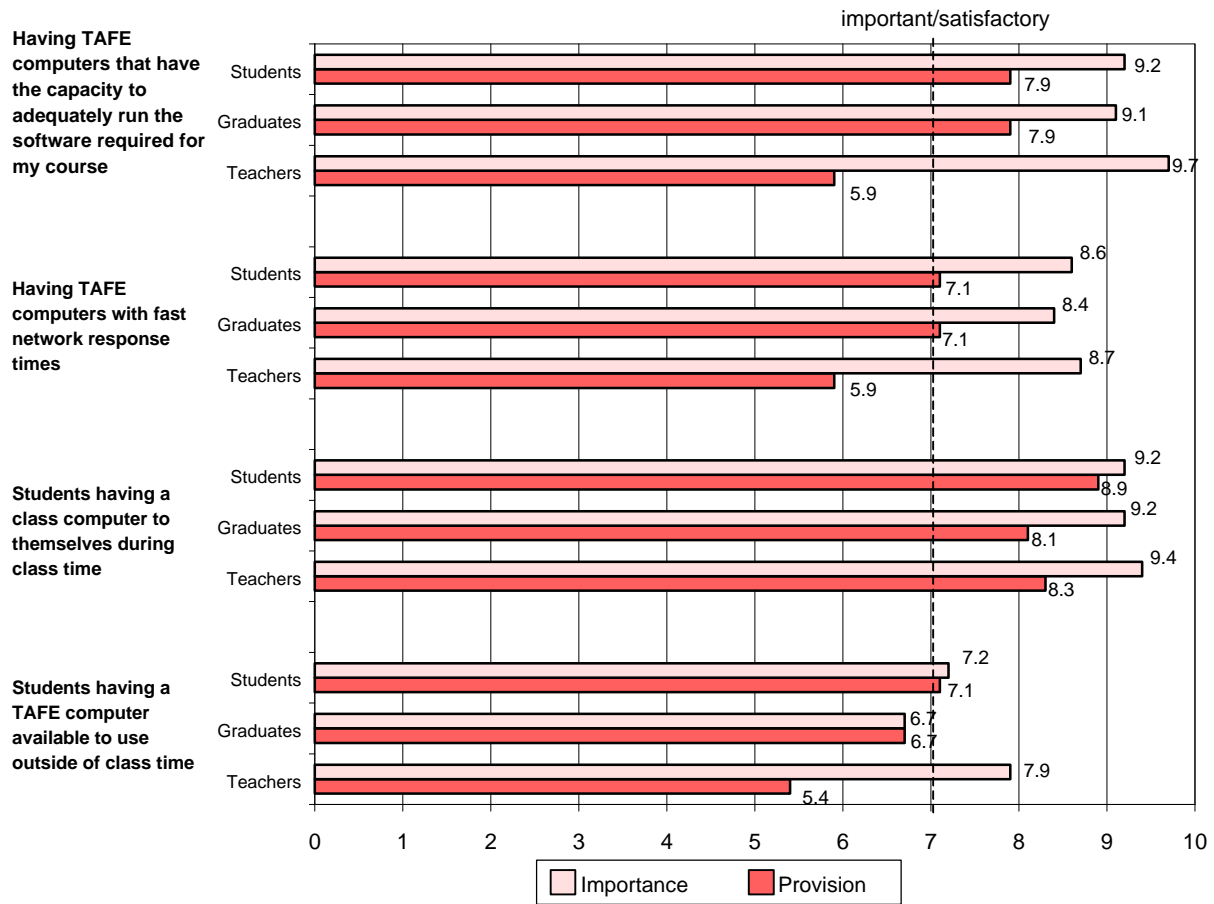
6.29 The *capacity to run software* and *fast network response times* were rated above 7 out of 10 by graduates and students in terms of provision, but not by teachers who rated their satisfaction with the provision of these aspects at 5.9. The main reasons given by teachers for the lower rating was that they considered the provision of hardware to be poor due to it being *old/out of date* or, in the case of networks, the responses were *too slow*.

6.30 While the *availability of computers during class time* was seen by all groups as satisfactory, *availability of computers outside of class time* was assessed as less than satisfactory with teacher, student and graduate ratings ranging from 7.1 down to 5.4.

Software

6.31   Each of the groups was requested to rate the importance of the provision of various elements of software. Chart 6G indicates that all groups rated all elements above 8 out of 10.

**CHART 6G
SOFTWARE IMPORTANCE/PROVISION**
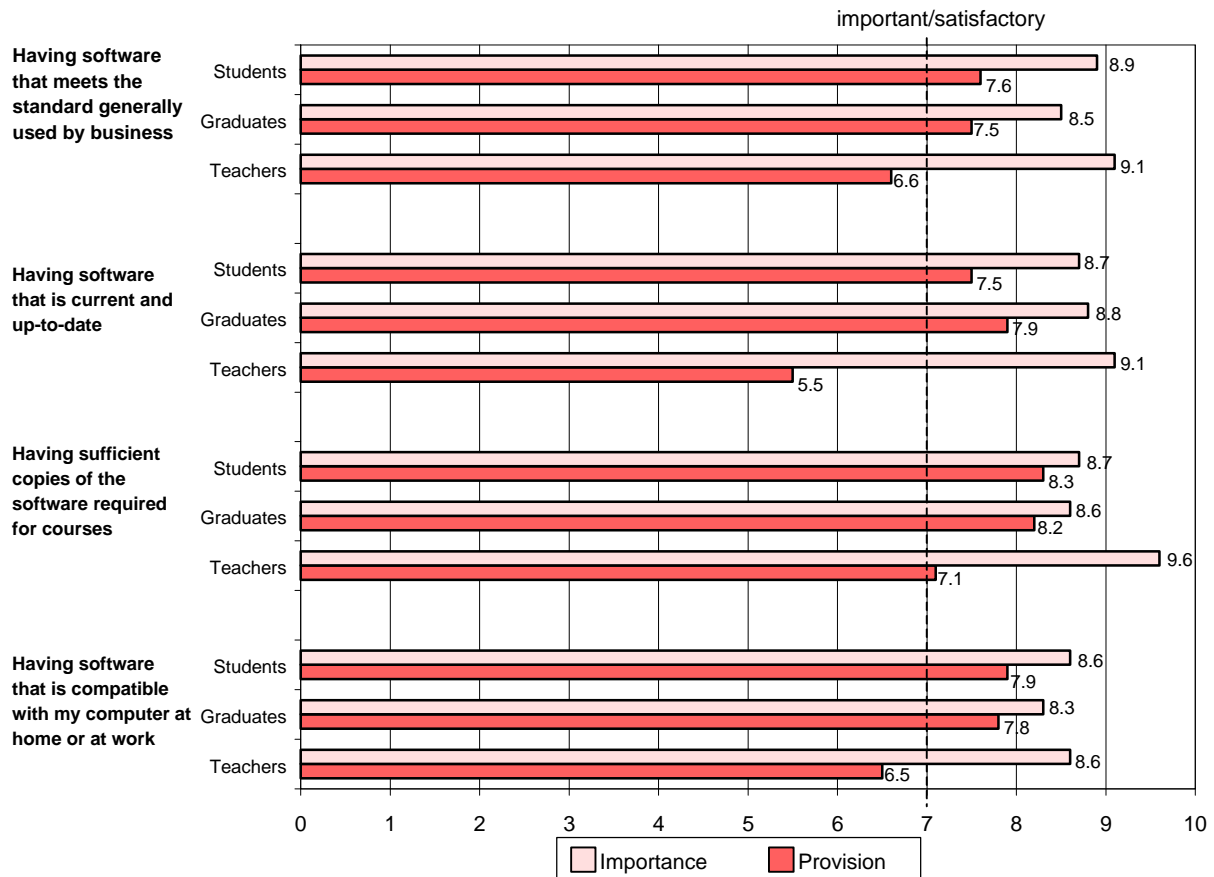
6.32   Although the provision of *sufficient copies of software* was rated at or above 7 out of 10 by all 3 groups, teachers rated the provision of the remaining 3 elements as unsatisfactory.

Other facilities

6.33   Views regarding a number of other aspects of equipment provision were also surveyed. These related to internet and remote access to TAFE computers. The supply of consumables such as disks was also canvassed, in the case of teachers. A summary of the responses is provided in Chart 6H.

CHART 6H
OTHER FACILITIES IMPORTANCE/PROVISION
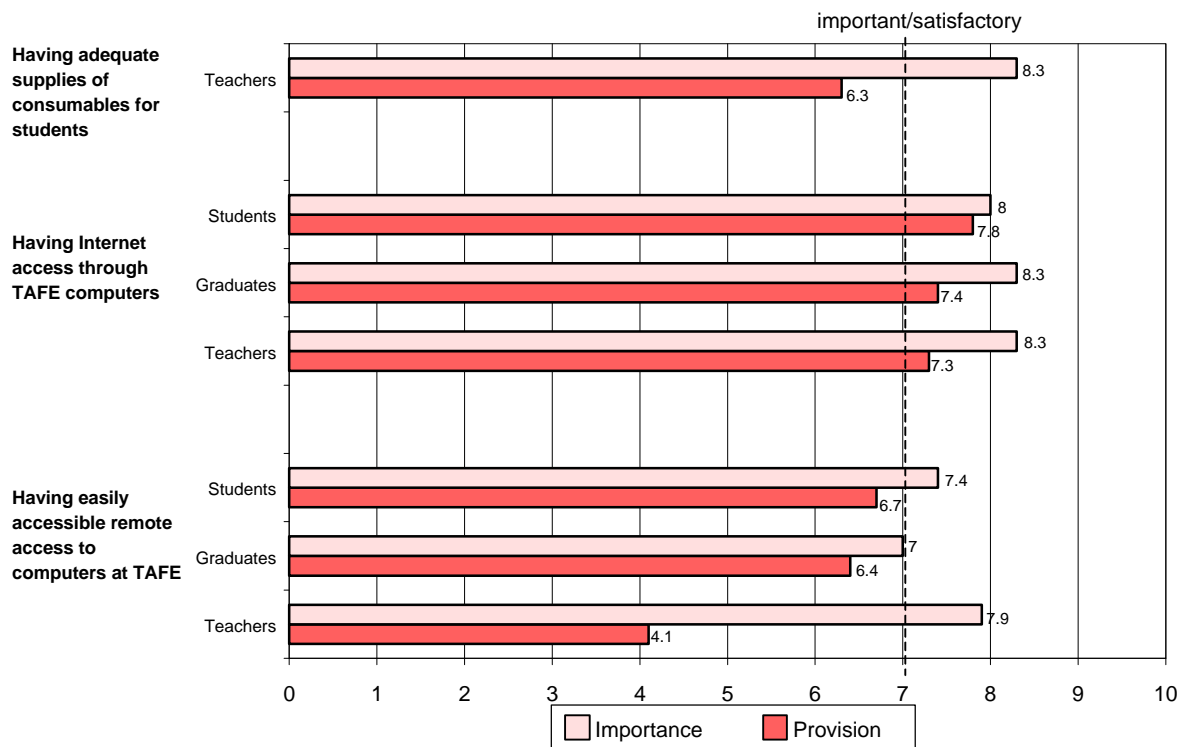
6.34 As indicated in the above chart, *having internet access through TAFE computers* was rated above 7 out of 10 by all 3 groups surveyed in terms of importance and actual provision.

6.35 Although *remote access to TAFE computers* was also considered important, it was rated below 7 out of 10 by all groups in terms of their satisfaction with its provision. Similarly, teachers rated *having adequate supplies of consumables for students* as very important (8 out of 10) but rated the provision of these items below 7 out of 10.

TEACHER INPUT TO PURCHASING DECISIONS

6.36 In response to questions regarding the factors impacting on the purchase of hardware and software and their influence on the decision-making process, teachers indicated the following:

- 4 in 10 teachers considered that they had *at least a moderate* influence in the purchase of hardware and software for ICT courses at their institute, while 3 in 10 teachers claimed to have *no influence at all* on the purchase of hardware and software;

- *Budget/resource allocation* was seen as the main driver influencing the extent of ICT resources at institutes. The budget was named by 9 out of 10 teachers as an influence in both hardware and software purchases; and

- *Meeting industry standards* (mentioned by 60 per cent for hardware and 68 per cent for software) and *student curriculum needs* (48 per cent for hardware and 60 per cent for software) were the next most influential drivers. One-third of teachers indicated that *software* drives the purchase of ICT hardware.

6.37   The responses regarding the influence of the budget and resource allocation on purchasing decisions were consistent with our examinations at individual institutes. A positive aspect of the survey results was the relative importance placed by institutes on meeting industry and student curriculum needs when making purchasing decisions.

UPDATE OF HARDWARE AND SOFTWARE

6.38   Teachers viewed the update of hardware, software and peripherals for ICT courses as occurring *less frequently* than required, but only marginally. Table 6I summarises the teachers' responses to questions regarding the actual update and preferred update timeframes for each category of ICT equipment.

TABLE 6I
EQUIPMENT UPDATE, ACTUAL AND PREFERRED - TEACHERS

Equipment type	Actual update	Preferred update
Computer hardware	Every 2 years or more	Every 2 years or less
Computer software	Annually, or less often	At least annually
Peripherals	Every 3-4 years or less	Every 2-4 years

6.39   The following specific aspects regarding the update of hardware, software and peripherals were reported by teachers in their survey responses:

- A need for the latest versions of compatible hardware, with the ratio of hardware to students needing to increase marginally;

- A need to upgrade to the next version of operating systems;

- The ratio of licensed copies of operating systems to students and the number of licensed copies of relational databases were generally considered sufficient. However, more licensed copies of language packages and internet software packages were considered to be required;

- Desktop publishing software was seen to be needed at some institutes, with most teachers surveyed indicating that their institutes had little at present; and

- More printers of any kind were seen to be needed, with the ratio of peripherals such as printers to students needing to increase marginally.

SUMMARY OF SURVEY FINDINGS

6.40   The views expressed by students, graduates and teachers, with a few minor exceptions, were consistent across the 5 institutes included in the study.

6.41   Students and graduates assessed most aspects of equipment provision to be at least satisfactory. However, their responses highlighted dissatisfaction regarding the level of access to computers for use outside of class time and remote access to computers at the institute. Given the importance of these facilities to the effective implementation of the Government's policy objective of providing flexible learning facilities, the survey responses indicated that these are areas which warrant particular attention in developing future strategies and making funding decisions within the sector.

6.42   The study found that teachers tended to have different perceptions from students and graduates in relation to both the importance of various ICT capabilities and their satisfaction with the equipment currently provided at their institute. Teachers placed greater importance on most aspects of the ICT equipment required to effectively teach students and rated the current provision of hardware, software and peripherals as less than satisfactory in terms of almost all aspects canvassed. The issues raised by teachers and differences in perceptions between teachers, and students and graduates are aspects of the survey results which we consider require further investigation by PETE.

6.43   While the survey results, from a graduate and student perspective, suggest that the equipment used in ICT courses currently meet their needs, some aspects of the survey reflected issues raised previously in this Report regarding deficiencies in the management of equipment and the current level of funding provided for equipment replacement and upgrade. These include:

- views expressed by teachers that more frequent equipment upgrades were required; and

- the significant number of students and graduates indicating that hardware and software was *just adequate* and that it was, in some cases, old or out of date.

6.44   These issues reinforce the need for greater attention to be given to the strategic planning and management of equipment if the sector is to maximise learning outcomes, meet the needs of all stakeholders, respond to technological changes and provide services in line with the Government's policy objectives.

6.45   As part of such a strategic approach, greater attention should be given at a central and institute level to periodically monitoring the adequacy of the equipment provided to support all vocational education and training courses, from an employer, student and teacher perspective.

RESPONSE *provided by Secretary, Department of Education, Employment and Training*

The development of the Virtual Campus and ICT capability in TAFE institutes is providing the basis for students to obtain 24 hour access to computers from remote locations.

Future surveys of employment of students and teachers will be expanded to better gauge the views of the stakeholders as to the adequacy of training equipment in the areas recommended.

RESPONSE *provided by Director, East Gippsland Institute of TAFE*

We agree with your recommendation. We survey students with respect to these issues.

Given the Institute's sphere of influence covers 14 per cent of the State of Victoria, the Institute places great importance on the provision of access to computers for use outside class time through Flexible Learning Centers and in remote locations through Outreach Centers.

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

In general, the Institute has a high satisfaction rate from clients who have undertaken training. We agree that access to computing equipment outside of structured class time is limited, however, this is due not only to the physical constraints of limited hardware availability, but also to the significant security costs involved in such practices.

RESPONSE *provided by Acting Divisional Deputy Vice-Chancellor, Swinburne University of Technology TAFE Division*

Swinburne TAFE Division supports the recommendations and notes that Swinburne TAFE administers an industry satisfaction survey, a staff satisfaction survey and a student satisfaction survey annually. It will be our intention to ensure that appropriate weighting is given in future surveys to ensure the issue of equipment satisfaction is adequately addressed.

It is worth noting that surveys within Swinburne TAFE of its staff and students have shown similar findings to the audit regarding the differing attitudes of students and staff regarding satisfaction with equipment, especially ICT. It appears that students focus more on the special relationship between supportive teaching and student success, rather than equipment currency, while staff, because of the need to train to industry standards, are particularly concerned with *equipment currency as well as teaching support. It is agreed that more work needs to be done in this area, especially the canvassing of industry expectations.*

Appendix A

Survey questionnaire

STUDENT/GRADUATE SURVEY

Can you tell me which ONE of the following best matches your reason for studying the Course?

- To help me get a job that has/had an ICT component;
- To help me in my current job (job at the time), that had an ICT component;
- To help me in my current job (job at the time), which was not specifically ICT-related;
- I have/had a personal interest in the subject;
- It was my employer's idea;
- To help me get any job; or
- To help me get into uni/get a degree (students only).

Are/were you expected to provide your own computer for classroom use or do/did you use the computers provided by TAFE?

Are/were you expected to provide your own computer software for classroom use?

Did the TAFE, your employer or some other organisation provide the computer or provide any financial assistance to buy this computer? (Exclude gifts from family members.)

On a rating scale of 1 to 10 (where 1 means not at all important and 10 means extremely important) how important would you say the following are/were:

- Having a TAFE computer to myself during class time.
- Having a TAFE computer available to use outside of class time.
- Having TAFE computers with fast network response times.
- Having TAFE computers that have the capacity to adequately run the software required for my course.
- Having sufficient copies of the software required for my course.
- Having software that is/was current and up-to-date for my course.
- Having software that meets/met the standard generally used by business.
- Having software that is/was compatible with my computer at home or at work.
- Having easily accessible remote access to computers at TAFE.
- Having internet access through TAFE computers.

On a rating scale of 1 to 10 (where 1 means very poorly and 10 means extremely well), how well does/did your TAFE provide the following:

- Having a TAFE computer to myself during class time.
- Having a TAFE computer available to use outside of class time.
- Having TAFE computers with fast network response times.

- Having TAFE computers that have the capacity to adequately run the software required for my course.
- Having sufficient copies of the software required for my course.
- Having software that is/was current and up-to-date.
- Having software that meets/met the standard generally used by business.
- Having software that is/was compatible with my computer at home or at work.
- Having easily accessible remote access to computers at your TAFE.
- Having internet access through TAFE computers.

Do/did you have to provide your own consumables such as paper, disks and so on, for class use in the course you are studying/studied, or did the TAFE provide them?

Which one of the following statements best describe the adequacy of the software that is/was provided for use at TAFE for the course you are studying/studied?

- Inadequate and does/did not meet my standards;
- Just adequate;
- Meets/met the standard generally used by business; or
- State-of-the-art.

If software provided is/was not adequate or just adequate, why do you say that?

Which of the following statements describe the adequacy of the computer hardware that is/was provided for use at TAFE for the course you studied?

- Inadequate and does/did not meet my standards;
- Just adequate;
- Meets/met the standard generally used by business; or
- State-of-the-art.

If the hardware provided is/was not adequate or just adequate, why do you say that?

Was the network service provided by TAFE adequate for the course you are studying/studied?

Which one of the following statements generally describes the adequacy of the peripherals such as printers, scanners and so on that are/were provided for use at TAFE for the course you are studying/studied?

- Inadequate and does/did not meet my standards;
- Just adequate;
- Meets/met the standard generally used by business; or
- State-of-the-art.

Students

Are you currently employed in a full-time, part-time, or casual job, or not employed?

Is the ICT course that you are studying related to your job in any way?

Did your employer recommend or suggest that you enrol in an ICT course?

Did you have to seek approval from your employer before you started the ICT course?

Are there any other comments you would like to make about the ICT equipment or facilities you use for your course?

Graduates

Are you currently employed in a full-time, part-time, or casual job, or not employed?

Were you employed in a paid job when you were studying for the course?

If you were employed when studying course, did this job allow you to use the ICT skills that you were learning at TAFE?

If the job allowed use of ICT skills learnt at TAFE and you are employed, were you employed by the same employer as now or a different one?

If you are now working, to what extent are the skills learnt in the course you studied at TAFE related to your current job?

- A great extent;
- A moderate extent;
- To some extent;
- Little extent;
- No extent; or
- Can't say (why do you say that?).

If you were employed when studying, when you started the course did your employer at the time recommend or suggest that you enrol in an ICT course or was it your own idea?

At the time you started the course did you have to seek approval from the employer you were working for?

Are there any other comments you would like to make about the ICT equipment or facilities you use for your course?

TEACHER SURVEY

On a rating scale of 1 to 10 (where 1 means not at all important and 10 means extremely important), how important are the following:

- Students in your course having a computer to themselves during class time.
- Students in your course having a TAFE computer available to use outside of class time.
- Having TAFE computers with fast network response times.
- Having TAFE computers that have the capacity to adequately run the software required for the courses you teach.
- Having sufficient copies of the software required for the courses you teach.
- Having software that is current and up to date for the courses you teach.
- Having software that meets the standard generally used by business.
- Having software that is compatible with the software students use at home or at work.
- Having adequate supplies of consumables for use by students.
- Students in your course having easily accessible remote access to TAFE computers.
- Students in your course having internet access through TAFE computers.

On a rating scale of 1 to 10 (where 1 means very poorly and 10 means extremely well), how well does/did your TAFE provide the following:

- Students in your course having a computer to themselves during class time.
- Students in your course having a TAFE computer available to use outside of class time.
- Having TAFE computers with fast network response times.
- Having TAFE computers that have the capacity to adequately run the software required for the courses you teach.
- Having sufficient copies of the software required for the courses you teach.
- Having software that is current and up-to-date for the courses you teach.
- Having software that meets the standard generally used by business.
- Having software that is compatible with the software students use at home or at work.
- Having adequate supplies of consumables for use by students.
- Students in your course having easily accessible remote access to TAFE computers.
- Students in your course having internet access through TAFE computers.

To what extent do you personally influence the decision-making process in the purchase or upgrade of new ICT computer hardware for student use in your courses.

To what extent do you personally influence the decision-making process in the purchase or upgrade of new ICT software for student use in your courses.

Which of the following factors are the 3 main influences used by your TAFE in determining the type and quantity of computer HARDWARE used in the ICT courses you run.

- Budget or resource allocation;
- Meeting industry standards;
- The required software;
- Student curriculum needs;
- Class textbooks and the hardware they refer to;
- Physical space and amenities e.g. number of rooms, seating capacity etc.;
- Shared ICT resources with non-ICT courses;
- Network considerations; or
- Past purchases.

Which of the following factors are the 3 main influences used by your TAFE in determining the type and quantity of SOFTWARE used in the ICT courses you run.

- Budget or resource allocation;
- Meeting Industry Standards;
- The required software;
- Student curriculum needs;
- Class textbooks and the hardware they refer to;
- Physical space and amenities eg. number of rooms, seating capacity, etc.;
- Shared ICT resources with non-ICT courses;
- Network considerations; or
- Past purchases.

On average, how often is the computer hardware used by students in ICT courses updated at your TAFE.

- Whenever new versions become available;
- Every 3 months;
- Every 6 months;
- Annually;
- Every 18 months;
- Every 2 years;
- Every 3-4 years;
- It's a combination of old and new; or
- Other.

Ideally, how often should ICT computer hardware be updated in order to effectively teach ICT courses.

On average, how often is the software used by students in ICT courses updated at your TAFE.

Ideally, how often should ICT software be updated in order to effectively teach ICT courses.

On average, how often are the peripherals, for example, printers, data projectors and so on, used by students in ICT courses updated at your TAFE.

Ideally, how often should ICT peripherals be updated in order to effectively teach ICT courses.

Approximately what percentage of students currently have remote access to the TAFE network using their own computers away from TAFE.

Is this remote access via the phone line or the internet, or both.

Do you have any comments that you'd like to make about the ICT hardware or software provided to STAFF teaching ICT courses at your TAFE.

Finally, are there any other comments that you would like to make about ICT equipment at your TAFE in general.

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