

RESEARCH AT A GLANCE



NCVER

The series 'Research at a glance' is produced by the National Centre for Vocational Education Research to disseminate, in an easily accessible format, the findings and outcomes of research in vocational education and training (VET). It identifies the policy implications of the research and how those findings might be applied in the VET sector. It is hoped it will be an aid to both policy-makers and practitioners, providing information to improve the VET sector.

Introduction to CBT in Australia

This issue of 'Research at a glance' summarises some of the most recent research on the impact of competency-based training (CBT) on the Australian vocational education and training (VET) system. CBT was introduced in the late 1980s as part of wider economic policy measures to improve the skill levels of the Australian workforce, enable Australian industry to be more competitive in global markets and establish new career structures for the Australian workforce. CBT has remained a key element of VET policy adopted by successive governments at federal, State and Territory levels. While early research findings suggested that the implementation of CBT in Australia was neither smooth nor rapid (Harris et al. 1995) commitment by VET participants, particularly industry and governments, has remained strong and substantial.

Overview of the research on CBT.

CBT and Australian industry

- ◆ CBT has provided a bridge between the industry clients and the providers of vocational education and training. Competency standards have been an enduring means of articulating industry training requirements, thereby increasing the relevance and job specificity of vocational education and training efforts.
- ◆ CBT has significant support from Australian industry with employers, human resource managers, training managers, supervisors and industry training advisory bodies (ITABs) all expressing satisfaction with CBT.
- ◆ CBT is widely available in most industry sectors in Australia, as evidenced through the almost complete coverage of industry sectors by endorsed national industry standards or enterprise standards.
- ◆ While evidence at a system level is scarce on the extent to which training courses and programs being delivered are based on competency standards and presented in a CBT format, that which is available suggests that CBT implementation progressed substantially through the 1990s.

CBT and Australia's workforce

- ◆ CBT has been an effective means of giving greater prominence to work-based learning and providing a means of formalising this learning in the workplace with the attainment of qualifications. It has increased Australia's skill pool by enabling those involved in CBT to acquire Australian Qualifications Framework (AQF) credentials.
- ◆ CBT has been particularly successful in providing technical, operational and trade skills through training not only based on national industry standards but also more specific enterprise standards.
- ◆ CBT seems particularly effective for imparting procedural knowledge and routine problem-solving skills, making it well-suited for technical skill acquisition. It is not as well suited to the development of conceptual and experiential knowledge.

Research at a glance

Competency-based training in Australia



- ◆ CBT may have been less successful in developing flexibility, adaptability and capacities to innovate, all features seen as necessary for a workforce that will be competitive in a fast-changing, global marketplace.
- ◆ CBT is seen by some to be problematic in its capacity to develop transferable skills in learners, although this can be significantly affected by the ability of experienced teachers using extended pedagogies to add to CBT.

CBT and VET teachers and trainers

- ◆ CBT is viewed more positively by teachers and trainers from non-TAFE providers than those from TAFE providers. Teachers and trainers who predominantly teach lower level AQF awards are more likely to be teaching these in a CBT format than those teaching diplomas.
- ◆ CBT is perceived amongst some VET teachers and trainers to have resulted in a reduction in professional autonomy through the mandating of industry competency standards and a concomitant narrowing of learning experiences, as well as a fragmentation of cumulative educational experiences and learning.
- ◆ Professional and staff development to support the introduction of CBT for teachers and trainers is perceived by many to have been inadequate and continuing needs for professional development are not being fully met.
- ◆ CBT assessment methodology continues to be disputed, especially the lack of graded assessment in much competency-based training, but also the validity of CBT assessment in the various modes used by teachers and trainers. There seems to be a growing practice of extending assessment to include underpinning knowledge, skills, attitudes and ethics to achieve a more holistic and less fragmented assessment in CBT contexts.

Competency-based training defined

The most generally accepted definition for CBT is that put forward by the Vocational Education, Employment and Training Advisory Committee in 1992:

CBT is training geared to the attainment and demonstration of skills to meet industry-specified standards rather than to an individual's achievement relative to that of others in a group.

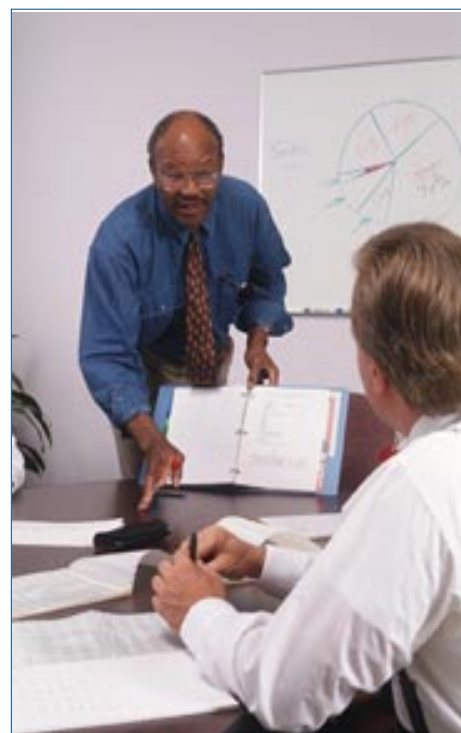
This definition does not include several other CBT elements as described in the Australian literature. These characteristics have been summarised by Smith and Keating (1997) as:

- ◆ based on competency standards
- ◆ focussed on outcomes not inputs
- ◆ involving industry
- ◆ taking account of recognition of prior learning (RPL)
- ◆ modularised
- ◆ self-paced
- ◆ assessment based on demonstration of skills rather than knowledge
- ◆ assessment criterion-referenced and ungraded
- ◆ flexible delivery
- ◆ competencies are widely recognised

This list of characteristics includes features that can exist apart from CBT and, in some cases, are features of systems utilised by some VET providers before the formal introduction of CBT.

The former National Training Board (NTB) developed a broad definition of competency which incorporated underpinning knowledge as well as values and attitudes. Key competencies were also developed to detail the necessary skills and attributes all young people should have on entering the workforce. They were to be incorporated into education and training programs operating in sectors other than the VET sector—that is, the secondary and higher education sectors. These competencies are:

- ◆ collecting and analysing information
- ◆ communicating ideas and information
- ◆ planning and organising activities
- ◆ working with others in teams
- ◆ using mathematical ideas and techniques
- ◆ solving problems
- ◆ using technology



Studies of CBT



The body of research into CBT in Australia is substantial and varied. This summary focuses on recent studies and examines various impacts CBT has had on the VET system, enterprises, providers and practice and, in particular, on assessment. A more extensive review can be found in Misko (1999).

The impact of implementing CBT on the VET system

The impact of implementing CBT on Australia's vocational education and training system can be evaluated and measured in a number of ways.

Those responsible for developing competency standards—the former National Training Board and now the National Training Framework Committee of the Australian National Training Authority (ANTA)—point to the extent of industry areas covered by endorsed competency standards, now standing at around 80 per cent of Australian industry. However, such an indicator tells us little of the extent to which these standards are actually used to guide the teaching and learning taking place in the various vocational education and training settings.

Smith et al. (1996), in their study of the availability of competency-based training in TAFE and non-TAFE settings, showed that in 1994 the impact of CBT implementation was neither extensive nor comprehensive. They found that the proportion of CBT courses in TAFE had grown from 13 per cent in 1990 to 29 per cent in 1994. They also found that non-TAFE providers delivered more CBT-based courses than TAFE, although the gap between TAFE and non-TAFE providers in relation to the amount of CBT courses was narrowing. The study also found there were wide differences in definitions and understandings of CBT among participants. It concluded that, because of the wide variation in views of what constituted CBT, it was difficult to measure the extent of implementation. This same study found significant disparity in the rate of implementation between State and Territory TAFE systems.

There are few studies specifically examining State and Territory VET systems, or the differences in the rates and nature of CBT implementation between States and Territories. Foster (1998) conducted a study of CBT implementation in Victoria, making use of interviews and focus groups with Victorian industry training boards, industry associations, TAFE institutes (two metropolitan and two country) and private providers.

Foster concluded that in Victoria there is widespread familiarity with the CBT practice amongst providers and participants. She found strong industry support for CBT, particularly for training based on industry-defined competency standards and that which recognised the role of the workplace in training. While there was some scepticism expressed by participants about CBT as 'a unitary system', most participants would not want to revert to 'more traditional approaches to curriculum'.

Foster found that CBT implementation in Victoria has been '... patchy, particularly as it has been delivered to learning outcomes rather than directly to industry standards.

Industry participants were uncertain, and sceptical, of the extent that courses have been delivered to standards'. In addition, Foster found that CBT was well established in industry sectors such as building and construction, food, engineering, tourism and hospitality, and some areas of community services and health, such as child care, but only recently established in other sectors, such as agriculture, and yet to be implemented in most other areas of community services.

The Australian Centre for Industrial Relations Research and Training has recently concluded a study of the impact of globalisation and the industry training market on VET in the information technology and metal and engineering industries in New South Wales in two regions for each of the two industry areas.

While the focus of this study was not primarily on CBT implementation, its findings show significant difficulties with implementing CBT in New South Wales: 'Our investigation of the extent of implementation of competency standards in metals' workplaces in NSW reveals that very few have succeeded'. They report only large metals employers with a specific human resources function present in their organisational structures have successfully implemented CBT.

In the information technology case studies where CBT was widely used by providers in one of the two regions' case studies a more positive attitude to CBT was reported. It is not valid to generalise about the implementation in NSW based solely on these limited case studies but they do suggest that the extent of CBT implementation may not be as substantial amongst employers in NSW as in Victoria. Only detailed system studies on a State and Territory basis will fully reveal the extent of CBT implementation throughout Australia.

Billett et al. (1999) examined two industries—metals and hospitality—in the States of Queensland and Victoria to identify the impact of the introduction of CBT on curriculum, assessment and the role of instructors in the achievement of the national training reform agenda policy goal of developing an adaptable and flexible Australian work-force. Data were collected from industry representatives, enterprises, teachers and students. Metropolitan and regional locations were investigated in

both States across both industries. Findings on the impact of CBT on VET curriculum are that it has enhanced the relationship between industry and providers:

- ◆ changes were made to the curriculum development processes to directly respond to industry needs
- ◆ outcomes of the curriculum development process were changed from an 'internal' VET focus to one focussing upon industry/enterprise needs
- ◆ the role of industry in the determination of intents and content (the 'intended curriculum') was given precedence over that of teachers
- ◆ there has been an institutionalisation of industry/enterprise involvement in the curriculum development processes (ITABS)

However, while these industries achieved flexibility and adaptability in learners, CBT seemed to work against these particular outcomes rather than achieve them.

Billett et al. conclude:

There is limited evidence of linkages between CBT itself being directly associated with the development of a skilful and adaptable workforce. Most of the factors identified in this investigation refer to factors associated with the broader movement for reform of vocational education and those which existed prior to CBT and remain unaffected by it.

The researchers' concerns with the educational processes in VET receiving less overt attention than the instrumental and behavioural prescriptions of competency standards are a useful antidote to some of the more extreme forms of CBT adopted. However, with more attention to key competencies and partnerships between providers and workplaces enabling more extended learning, a balancing of the constituents of Australian VET should be easily achievable. In this way both specific, job-related skills and general vocational education requirements are met by VET.

The impact of implementing CBT on Australian enterprises

In 1994 the Allen Consulting Group conducted a survey of the practices and attitudes of business enterprises in regard to CBT. The survey found that 85 per cent of enterprises considered CBT to be an important, positive development in training. Seventy per cent of the respondents were using CBT and 66 per cent either were using or would use national competency standards.

Mulcahy and James (1999) examined in detail the impact of CBT on Australian enterprises by interviewing 195 training managers from all States and Territories and conducting eight intensive case studies of CBT vocational programs in small, medium and large enterprises in four industry sectors in both metropolitan and regional areas. They found that CBT provided for the achievement of the following outcomes:

- ◆ specific, predominantly technical skill—but was less effective in providing broad-based attitudinal/behavioural skills
- ◆ skills specific to individual enterprises many of which combined national competency standards with enterprise standards
- ◆ procedural knowledge and capacities for routine problem-solving—but conceptual, tacit and experiential knowledge were given less attention
- ◆ ability to handle frequently recurring routine tasks—but the ability to use existing knowledge in new ways and new solutions was given less attention

Mulcahy and James also found that CBT benefitted particular stakeholders in the following ways:

- ◆ **Employers:** The main benefits of CBT to employers are that (i) learning can be achieved on the job; and (ii) competencies can be developed which are suited to immediate needs (as well as leading to a recognised qualification for employees). CBT is also of benefit to employers because they can set standards (e.g. in-house competencies) and use standards already set (e.g. national competencies).

- ◆ **Supervisors:** The benefits of CBT to supervisors are that it provides greater transparency in training through presenting clear information on outcomes, thus lessening the need for supervision. The synergy between training outcomes and other desired outcomes (e.g. quality and safety) also has distinct advantages in the context of supervision.
- ◆ **Students and trainees:** Here, CBT appears an unqualified success. The case studies showed that the main benefits for students of CBT are gaining recognition of their skills and formalising this recognition through national qualifications. Other benefits include the opportunity to apply learning directly to the workplace and achieve 'real' results.

Billett et al (1999) also found enterprises had positive attitudes to the introduction of CBT. They report:

Enterprise respondents claimed that multi-skilling, student competence and relevance of courses had all been enhanced by CBT. Access to additional trainees and reduced time in colleges and in courses, were also reported. Closer interaction with enterprises has led to outcomes appreciated by all client groups (industry, enterprises and students).

These studies show that CBT is highly valued for its instrumental, job-specific characteristics in Australian enterprises, but that it is less successful in providing training for workforce innovation and does not provide for learning of a non goal-based kind where problems are set as well as solved.

The studies also suggest CBT has been very successful in linking more directly the worlds of work and vocational education and training. CBT is very positively regarded by employers, management and learners in Australian enterprises and it strongly supports the development of job-specific skills. Enterprises are also very positive about the increased level of on-the-job learning. CBT facilitates this by reducing the time out that off-the-job training and education entails.

The impact of CBT on providers of VET

Smith (1997) conducted case studies, interviews and focus groups, and obtained submissions from VET practitioners into the impact of CBT on teachers and trainers. She found considerable variation in the degree to which teachers and trainers have '... understood, implemented and developed expertise in the delivery and assessment of CBT-based courses'. Smith identified substantial dissatisfaction with competency-based curricula and found teachers and trainers resented the amount of time they needed to adapt curricula for their own students.

Teachers were concerned about modularisation, lack of content, perceived minimal nature of standards, and confusion between industry competency standards and module learning outcomes. However, it was also found that 'CBT leads to a greater awareness of the process of teaching and learning, and particularly on meeting individual student and trainee needs'.

Whether or not they felt they were coping effectively with the transition, nearly all teachers and trainees agreed that their role had changed with the implementation of CBT. These specific changes to the teacher/trainer role were:

- ◆ an equalisation of the relationship between teacher and student
- ◆ becoming more aware of the needs of individual students
- ◆ changing work organisation—more teamwork and in some cases the introduction of new lower-level teaching positions
- ◆ an increase in administrative duties
- ◆ tailoring learning materials to meet the needs of local industry
- ◆ writing learning guides to augment CBT modules

Billett et al. (1999) examined the impact of CBT on teachers' practice, finding that it limited and narrowed their role as educators in the following ways:

- ◆ *CBT encourages the measurement of specific aspects of learning which can be seen, in some respects, as disconnected from teachers' relatively holistic conception of teaching.*
- ◆ *CBT is often perceived as something akin to an administrative technology, a framework for VET delivery in purely behavioural terms, which lead to the appropriate restrictions in teaching practice.*

Overall, their studies report that VET teachers feel their capacities should not be confined to vocational, specific job-related knowledge. Their capacity to be teachers and educators should be more valued and CBT tends to undervalue these dimensions of teaching and learning.

Mulcahy and James (1999) found CBT had different impacts on teachers and trainers largely depending on experience. They conclude that:

... inexperienced teachers appreciate the structures provided by CBT. While experienced teachers can use these structures as a platform for program development and delivery, they rely on other resources (personal and professional) to deliver CBT. CBT as a model of vocational education and training is seen to treat curriculum and learning processes in an ambivalent way (i.e. provide 'parts' for delivering training which require 'wholes' e.g. teacher expertise, to make the delivery work). Consequently, this model is problematic for these teachers.

Lowrie et al. (1999) conducted a nation-wide survey of teachers/trainers, as well as six case studies of CBT delivery, to examine the effects of CBT on the role of teachers/trainers in both TAFE and private providers. They found over two-thirds of teachers/trainers surveyed were strongly positive about CBT and that over 80 per cent of them considered they had a thorough understanding of CBT. The researchers comment that '... this suggests that CBT has now been in place for long enough for practitioners to have developed a satisfactory understanding of its process and structure'.



However, they did find that some features of CBT were more difficult to implement. Flexible entry and exit and assessment on demand in particular were creating moderate to major difficulties for one-third of the respondents. They also found that, for TAFE teachers, assessment at least partly in the workplace while working was utilised less frequently than for those in non-TAFE settings.

This survey found teachers/instructors who taught Australian Qualifications Framework (AQF1) courses were more likely to teach according to a CBT format and display CBT features in these courses, than those who taught diploma (AQF) courses. 'Specifically, the features *Course documentation in a CBT format* and *Assessment at least partly in the workplace while working* were present more frequently in entry level courses'. The survey also found that teachers/instructors involved in lower-level AQF courses had fewer concerns about implementing CBT. TAFE teachers and trainers expressed more concern about implementation issues.

In several of these studies complaints were recorded about the lack of staff/professional development opportunities to enable teachers/trainers to adapt to training reform agenda policy prescriptions and, in particular to CBT. Lowrie et al. (1999) conducted focus groups in Sydney and Melbourne with State and TAFE institute staff development personnel, managers of non-TAFE providers and recent

(less than two years experience) teachers and trainers from TAFE and non-TAFE providers. The issues raised at these focus groups were:

- ◆ the types of professional development strategies that were most worthwhile for individuals and/or their organisation
- ◆ the structure of the professional development activities
- ◆ the way they made sense of the different sources of information regarding teaching with CBT

The results of this investigation showed that staff development needs varied between full- and part-time teachers, types of providers, and permanent and contract staff. The teachers and trainers who teach only a few hours as an adjunct to another job have particular staff development needs. From the evidence offered by the focus groups it appears that the very different needs of these various groups were not being taken into account in planning and delivering appropriate staff development.

A major theme to emerge was that staff development in a teacher's/trainer's industry area is as important as staff development in professional teaching. To fulfil the many-faceted requirements of CBT, teachers/trainers will require staff and professional development of increased variety and timeliness. In particular, the complex relationships between work and education—learning on and off the job, maintaining skills currency and preparing for shifts in jobs and careers—need to be built into a professional development agenda for VET practitioners.

The practice of CBT—assessment

There is evidence in the case studies reported by Smith (1997) that assessment of students in CBT courses is elaborate and time-consuming but student-centred, in that it is more transparent than norm-referenced assessment of student achievement. There was, however, concern expressed by some teachers and trainers that modularisation had encouraged fragmented learning and a checklist approach to assessment that ignored holistic assessment and assessment of underpinning knowledge. There were instances reported of ways in which relationships in a variety of modules were delineated to overcome such difficulties.

Assessment in CBT has always been a source of much discussion, with issues about ungraded assessment and fragmented learning raising questions about the validity and educational worth of student assessment being determined by a judgement of competence or non-competence against the competency standards.

Dickson and Bloch (1999) surveyed 300 users of competency-based assessment in three industry sectors, covering 45 site visits from across all States and Territories. While they found general satisfaction with competency-based assessment, they also found there were a number of areas where VET participants believed improvements were justified.

Grading was an issue for both teachers/trainers and industry representatives (from ITABs): both groups considered that strategies were needed to bridge the gap between competence and excellence. In addition, employers want grading to improve selection and placement decisions, students felt their achievements were not properly recognised in the ungraded situation and teachers/trainers saw grading as a means of motivating students. Several TAFE systems have introduced some form of grading into a CBT environment in response to these concerns.

Dickson and Bloch also found that all the industry areas covered in their evaluation did not believe that the prescribed competency standards fully reflected the underpinning knowledge, skills, attitudes and ethics required to adequately assess those areas. Some respondents felt because of this '... they were losing the teaching and learning of knowledge through CBT and competency-based assessment'. Other practitioners suggested this area was being handled through informal arrangements, and that highly skilled and sensitive teachers and trainers used their educational practice to inject these aspects into the teaching, learning and assessment of students.

Practitioners also expressed that they were able now, after considerable involvement in CBT and competency-based assessment, to fine-tune the assessment tools in relation to their own areas of practice and were able to improve quality in a grounded, specific way. They believed this experience could be used to improve administrative practices and assessor training. In relation to resources, both practitioners and industry representatives '... felt a revamp of what is currently available and a careful consideration of how people and paper resources were being used would add value to existing competency-based assessment practice'.

The study also found respondents identified the establishment of training and assessment partnerships between industry and providers as being valuable.

Those who had already developed successful partnerships suggested that their competency-based assessment practice had improved because both parties were aware of industry realities impacting on assessment. As a result competency-based assessment tended to be more appropriately tuned to meet industry needs.

This critical area of assessment is one in which practical experiences could be transformed into helpful guidelines designed to assist VET practitioners to provide CBT outcomes which are both more acceptable and relevant to all VET participants.

CBT in the Australian VET context

These various studies indicate that implementation of CBT in Australia's vocational education and training system has not been straightforward, nor without difficulties. The implementation problems of the early 1990s can, in part, be ascribed to a lack of attention to the impact on teachers and trainers. It can also be said that the claims made for CBT's scope and impact have at times been too sweeping and comprehensive. By the end of the 1990s however, CBT can be seen to be a significant and vital part of the Australian VET system—a pillar but not the whole edifice of Australian VET. In particular, training packages, which are based on competency standards constitute a new phase in CBT.

The successes of CBT should be built upon in the next decade. In particular, its effectiveness as a means of skill formation in entry-level and lower AQF levels should be consolidated and CBT elements should be included thoughtfully and flexibly in modules and training programs at other levels.

The refinement and dispersion of appropriate assessment tools should be another way of broadening and grounding CBT in a whole range of VET settings. The use of flexible delivery techniques opens up new possibilities for fulfilling the promise of just-in-time, multiple entry and exit points for skill acquisition in CBT programs.

CBT offers much to the increasing integration of training into the workplace. Appropriately placed CBT should not only be the means of delivering job-relevant training in the workplace; it should also be the reference point for further and necessary extended educational experiences which integrate learners into a wider world of vocational education and training. For future workforce development, interconnections through partnerships between training providers and workplaces will establish the preconditions for a continuous approach to lifelong learning in which CBT should play a critical, key role.

CBT policy issues ...

Competency standards

For competency standards to be the viable base for CBT and training packages it is essential they maintain their currency with industry by accurately reflecting the skills required by industry. This means national competency standards will have to be regularly reviewed by the National Training Framework Committee and, given the way workplaces need to frequently change, probably more often than the approximately four-year current cycle. The integration of key competencies and adequate reflection of underpinning knowledge will also be required to meet the broader vocational needs employers are asking for in educating adaptable and flexible employees. An important issue in all this is to not over-elaborate standards and in effect make of them a surrogate curriculum. This will result in very long and inaccessible documents with limited impact. The capacity in the training package environment for flexibility and local customisation needs to be facilitated. The standards must be a base: one that is comprehensible to, and useable by, all in the sector—industry, teachers and learners.

Balancing job-specific and generic skills

While CBT is generally applauded for enabling a clear focus on job specific skills, employers and learners also require educational experiences that equip them with conceptual and experiential knowledge that will enable them to continue to grow and develop in workplaces and society more generally. The achievement of a balance between these two classes of skills is a challenge for all VET sector participants. Understanding of the necessity for such a balance by educators, enterprises and learners is essential for vocational education and training to be relevant, timely and comprehensive.

Integration of key competencies into training programs

Key competencies are required by the training package development guidelines to be reflected in competency standards, but are not always addressed in associated training programs. Ways of better integrating the educational experiences which address the key competencies into CBT programs should be devised so that learners are able to build skills and knowledge cumulatively. This will require links to be made between modules and the establishment of learning conditions that support the acquisition of key competencies.

Transferability of learning outcomes

CBT learning outcomes need to be portable and articulate with other education sectors so the Australian skills pool is developed and renewed over time. Attention needs to be paid to counteracting the fragmentation of learning outcomes that is sometimes observed as the result of CBT. An important aspect of this area is ensuring VET sector conditions are sympathetic to learners who undertake vocational education and training to equip themselves with skills and knowledge to change career paths as well as consolidate a career path. This is particularly important in an economy where employees are increasingly required to change career paths several times in a working life.

Partnerships between workplaces and VET providers

CBT has effectively established the workplace as a learning environment. There are excellent examples of partnerships between employers and VET providers in providing learners with integrated vocational education and training that combines job-specific skill acquisition

with more extended educational experiences addressing generic skills and skills for adaptability and flexibility. Policies that encourage such partnerships are needed to make such partnerships more of a key feature of the Australian VET system. The possibilities of using flexible delivery techniques to build and develop such partnerships is fertile ground for their effective creation.

Workplace trainers and assessors

CBT has established workplace trainers and assessors as important VET system participants. There is some concern that the instrumental job-specific emphasis of CBT has too narrowly defined the tasks of workplace trainers and assessors. It is an appropriate time to review the standards and professional development requirements of these staff to ensure they are capable of fulfilling the roles required in CBT delivery and be effective links to further vocational education and training opportunities for learners.

CBT as a marketing tool for Australian VET

Enterprises value CBT, particularly for developing job specific skills. To increase the participation of workplaces in the VET system consideration should be given to utilising CBT as a marketing tool for the Australian VET system. VET providers of all types could be supported by national marketing campaigns highlighting the advantages and value of CBT for Australian enterprises.

Professional and staff development of VET teachers and trainers

To effectively deliver CBT vocational education and training staff will need on-going staff and professional development: provider staff will need to maintain work-

relevant skills within workplaces which themselves will be in a state of continuous change. They will require marketing skills in an environment of user choice and will need to broker learning in and between workplaces. An indication of the range of capacities that VET practitioners will need to fulfil in future can be seen below:

- ◆ specialist learning facilitator
 - ◆ market analyst and researcher
 - ◆ consultant to enterprises and industry groups
 - ◆ developer of strategic partnerships
 - ◆ designer of multimedia learning products and services
 - ◆ knowledge management strategist
 - ◆ business manager
 - ◆ communications strategist
 - ◆ career path strategist
 - ◆ assessment and accreditation specialist
- (Lepani in Staron 1999).

There is a need for a coherent national staff development policy supporting the full range of the various future needs of provider staff. An important aspect of such a strategy would be the balance between personal responsibility and system responsibility for such support activities.

Assessment of competence

There is general agreement amongst providers, employers and learners that CBT would be improved if some form of recognition of excellence was countenanced. Informal, local arrangements have developed around Australia, where graded assessment in a CBT environment is taking place. Policy should be developed to enable graded assessment to take place in CBT on a consistent and accepted basis.

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- VOCED** There is a wide range of work published on competency-based training. To obtain more information on CBT see NCVET's VOCED research database, <http://www.ncver.edu.au/voced.htm>

Comments and suggestions regarding this publication are welcome. They should be directed to the address below.

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