



# Effective models of employment-based training: Literature review and case studies—Support document

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# Literature review

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## Background

The literature review in this document informed an NCVET funded research project on contemporary models for employment based training entitled *Effective models of employment based training*. For the purposes of this project, employment based training (EBT) was conceptualised as training that takes place while the learner is an employee within a formalised or regulated contract, as well as under informal arrangements where the employee undertakes vocational courses. The formal contract of training arrangement (Training Agreement) includes a structured learning component in the workplace, while a vocational course model expects learners to organise the EBT component (work placement).

The focus of the research was on effective EBT models at the Australian Qualifications Framework (AQF) Certificate III level and higher, (with an interest in lower level AQF qualifications or skills sets as stepping stones where relevant). We found that EBT in practice takes place under regulated formal contracts of training for new entrants at apprenticeship level for a Certificate III qualification and under the newly formed technology cadetship initiative. Employment based training models are increasingly used at higher VET qualifications levels particularly for entry to technician and paraprofessional occupations. For existing workers with a Certificate III additional EBT takes place in an informal manner where employers 'sponsor' or pay for their employees to complete higher level qualifications. Some employees also pay themselves. Both of these types of EBT feature in the NCVET research project.

The rationale for the focus on EBT at Certificate III level and higher is based on data that suggests that a Certificate III is the benchmark qualification for sustainable job outcomes and good wages. A qualification below this level may yield a job outcome, but for most people Certificate I and II qualifications are best seen as entry level qualifications and as stepping stones to higher level AQF qualifications that ensure greater job security and wage rewards (Stanwick 2006). Other data suggests that new effective EBT models are now essential, not only at the Certificate III level but also at the Advanced Diploma level, to meet projected high future growth in employment at the paraprofessional level (Department of Employment and Training 2005; Department of Education and Training 2006; Australian Industry Group 2005).

The impetus for researching new EBT models also stems from recent government actions. Last year COAG<sup>1</sup> announced new measures to stimulate uptake of EBT at all levels of VET qualifications through the provision of alternative models such as accelerated apprenticeships, new skills sets/qualifications and school-based EBT models. The Prime Minister subsequently announced new Commonwealth incentives for employers and employees to encourage the take up of EBT contracts including in the emerging new models as well as the traditional trades model.<sup>2</sup> In view of government initiatives around this some clear thinking is required to ensure the effectiveness of emerging EBT models, especially since EBT now is a large part of Australia's training effort (>20% of the training effort and much greater in dollar terms). Emerging EBT models need to not only meet the macro-economic needs of Australia, but also the operational needs of industry and the personal needs of workers. Therefore quality EBT is about meeting the

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<sup>1</sup> Council of Australian Governments

<sup>2</sup> Speech Transcript, *Skills for the Future: Ministerial Statement to Parliament* 12 October 2006 <http://www.pm.gov.au/media/Speech/2006/speech2175.cfm> (accessed 7/6/07)

needs of three main players to ensure quality skills outcomes that contribute effectively in maintaining and developing further the national economy. Effective models of EBT need to meet the needs of learners to participate in education and training while earning. They must allow employers/firms to support learning and remain competitive within the marketplace. The models also need to enable the VET providers (or Registered Training Organisations) to facilitate (flexibly) the EBT arrangements.

## Research questions

Five research questions were explored:

- ✧ In what ways are current features of EBT models considered effective or ineffective, and by whom and for what reasons?
- ✧ What are the features of alternative EBT models being considered or trialled at present to secure greater effectiveness for learners and employers?
- ✧ Which emerging EBT models best fit the needs of selected occupations in two industries and what (if any) modifications are required?
- ✧ What issues need to be addressed to implement the identified “best fit” new EBT models in the selected case study occupations and industries?
- ✧ What is the utility of the proposed new EBT model(s) in the case studies for other occupations/industries?

This project focused on two industry areas as case examples. In choosing the industries and occupations, consideration was given to those which:

- ✧ showed activities in alternative EBT models;
- ✧ were keen on EBT models at all VET qualification levels, and the higher levels in particular; and
- ✧ have future employment growth and good job prospects.

Following consultations with networks of the researchers and stakeholders in industry and the vocational education and training (VET) sector, the process manufacturing and child care occupations were selected for this study. They both represented quite different industry types. The manufacturing and child care industries have social and economic impacts within Australia. There is interest in these industries for new and higher (above Certificate III) vocational skills.

Traditional trades industries and occupations were canvassed, but not included for case examples because most of the interest in EBT appeared to be only at the Certificates III and IV levels. Currently, the emerging EBT model in the trade industries is focusing on ‘Skills Sets’ and new qualifications with potential to raise the current benchmark from the Certificate III to Certificate IV level, starting with credentials for master tradespersons. This aspect of the EBT in the trades was reviewed for its potential impact on the case study industries and occupations.

## Employment based training in Australia

Employment based models of training, such as apprenticeships and traineeships, have served well the skill development needs of industry sectors across many countries, particularly through its provision of initial skills for entry into employment. Details of models differ across countries, and sometimes industry sectors, due to historical developments, particular kinds of needs and societal sentiments.

In Australia EBT evolved from the English model of trades indentures established in the middle ages (Ray 2001). The Australian approach to EBT has been characterised by a high level of regulation and legislation, in part to ensure the implementation of models that were broadly consistent in approach and form across States and Territories. Historically each jurisdiction had responsibility for vocational education and training. Regulation and legislation also has been a feature of the traditional EBT model of apprenticeships in the trades for occupational health and safety reasons.

A period of public sector reform in the late 1970s and early 1980s, arising from the need for structural adjustment of the nation's economic activities, extended EBT to all industry areas. The introduction of the Australian Traineeship System (ATS) in 1985 broadened employment based training contracts into non-trade occupations such as retail, hospitality, business services, information technology and community services. In the beginning traineeships involved a shorter duration (usually one year) of EBT for young people. Traineeships yielded a Certificate II level VET qualification compared to the trades apprenticeships for young people of four years duration and a Certificate III VET qualification outcome.

From 1996, the Commonwealth Government combined traineeships and apprenticeships under the title New Apprenticeships (and most recently the title Australian Apprenticeships). Other changes have also been instituted in the last ten years or so, including the extension of EBT to all ages and all levels of VET qualifications. (The changes since 1970 to 2007 are summarised later in this document. See section on evolution and transformation of EBT models and key drivers of change). Evolving models of EBT have responded to chronic skill shortages and the need to develop technical skills at a level higher than Certificate III thereby, support changes in technologies and how work is carried out. However, there is rising interest in more effective EBT models that can support the needs of Australian enterprises and skilled workers now as well as in future circumstances.

The literature review on effective models of EBT looked at what constitutes EBT; the evolution of EBT models in Australia; key issues associated with EBT; and effective features of current models and their significance in attempting to address emerging issues/concerns. The analysis alludes to a need for a compendium of models, with a set of common generic underpinning attributes to suit different occupations or industries.

# What constitutes employment based training

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As well as regulated EBT, Australia offers non-regulated training such as labour market programs involving training and work experience; secondary school ‘work experience’ placements; and co-operative education and service learning programs for students in educational institutions. The concept of regulated EBT has been constituted in the following fundamental ways:

- ✧ Is employment based – enacted with the learner (e.g. apprentice, trainee or cadet) being an employee of a company and paid a training wage.
- ✧ Includes structured learning on and off the job (in the workplace or in an educational institution).
- ✧ Involves a formal contract of training which is a legally binding training agreement stipulating responsibilities of an employer, conditions for employment, and the responsibilities of the apprentice.
- ✧ Involves a training plan, signed by the employer, employee and a registered training organisation.
- ✧ Is regulated by the State VET Authority with whom contracts of (employment based) training are registered. The contract is underpinned by the national VET recognition framework that includes Training Packages to guide the curriculum and assessment of competence.

For new entrants EBT models are emerging at the Certificate III level. This qualification (Certificate III) provides a pathway into higher level VET qualifications particularly for existing workers. Further EBT for higher level qualifications takes place through an apprenticeship or a vocational course sponsored by the employers or paid for by the employees themselves. Employment based training is founded on a partnership between the employer, employee, and VET institute with government also playing a role and sharing the associated responsibilities, and costs and benefits of EBT. Research (eg. by Schofield 2000; Snell and Hart 2007) shows these parties operate on vague assumptions about the roles and responsibilities. This type of arrangement then implicates the overall quality of EBT, hence the skilling of Australian workers for current and future employment. The possibilities for securing partnerships for EBT arrangements may best be exercised when there is discretion at the local level in terms of content and approach to organising EBT.

The strength of EBT in pedagogical terms lies in its provision of experiential learning in the workplaces, which complements experiences in educational institutions. Five main elements which make this an effective approach to developing vocational competence are briefly described below.

*Experiences of the vocational practice* – Learning experiences in the workplace engage the learners, over time, with instances of contemporary and situated practice in the occupation that they are preparing for. Moreover, these experiences cannot be easily replicated in educational institutions. The workplace provides a context for learners to access and develop the kinds of knowledge (i.e. conceptual, procedural and dispositional) that is available in settings where occupational practice occurs (Brown 1998; Billett & Boud 2001), and which are essential for the exercise of that vocational practice. It is in these settings where learners make meanings by contextualising the content within such environments. Theories about such learning hold that individuals actively engage in the process of constructing knowledge from what they encounter. The required

knowledge is gained through engaging with social partners and practices (e.g. experts and workplaces where those practices take place). Through their engagement in activities and interactions in the workplace, learners secure particular kinds of outcomes that arise from those activities and interactions. Rogoff and Lave (1984) suggests that “activity structures cognition”. That is, the things that learners do have a particular legacy. Therefore the design of the learning and facilitation needs to be embedded and embodied in the context of the workplace systems, culture and functions. The learning content includes ordered sets of knowledge to be used in these settings, in a form that has been described as the ‘learning curriculum’ by Lave (1990), and elaborated by Billett (2006) as workplace curriculum.

*Duration* – Employment based training provides a repertoire of experiences that secure learning diverse vocational activities to be practised, and opportunities to effectively learn those activities. The duration of EBT provide the possibility of developing, building, refining and honing skills over time. It is the length and potential diversity of experiences over a period of time that stands to develop robust understandings which underpin quality. Indeed, the requirement for supervised period of practice is valued as much within professions such as law, medicine, nursing, surveying and pharmacy as it is within occupations where workers are skilled by VET.

Learning theories clearly differentiate between the learning of knowledge which is new, and the opportunities to practise and hone skills over time. Anderson (1982) refers to the process as *automisation* that arises through compilation and *proceduralisation*. Tasks which initially require focused conscious thought become less reliant on conscious thought through practice. Part of this process is that separate and distinct procedures are compiled into single procedures which can then be enacted without conscious consideration of each distinct phase of the procedure. For example, the separate procedures used to change gears in cars become a smooth and integrated procedure through compilation. Moreover, through practice, when the enactment of procedures requires less access to and reliance upon conscious thought, individuals are able to use their conscious thought elsewhere. So, for instance an experienced driver does not have to consciously think about the process of changing gears. Instead, they can use their conscious thought to plan their route, negotiate traffic and monitor road conditions.

Importantly, these processes of compilation and proceduralisation, which are so central to competent vocational performance, only arise through practice. While there can be instructional processes to assist this process (i.e. practice) it is a necessary learning process that is likely to be realised through extensive engagement in vocational practice. What it requires is a combination of non-routine (i.e. new) and routine workplace activities which together provide new learning experiences and then the opportunities to home and refine what has been learnt (Billett 2001). These lines of reasoning provide a strong case for sufficiency in the durations of EBT to ensure quality in skills development.

*Expert support* – Learners get opportunities to engage with experts who possess the knowledge to be learnt, who can guide the learner, monitor their progress and provide direct assistance for things they will not learn through discovery alone. Indeed the concept of the development of specialised artisan-quality skills across time under the tutelage of a ‘master craftsman’ is the founding principle of apprenticeship. Although the apprentice model has moved away from the single master/apprentice relationship it is still the intention of current models that the apprentice becomes more and more skilled and productive over time (Ray 2001).

*Links to formal education* – The integration of on and off the job training is a key feature to ensure theoretical aspects are understood, and the provision of a broader learning experience than what the enterprise itself might offer. Such integration requires localised negotiations and communication between places of employment and educational institutions. Learners get opportunities to engage with knowledge about the vocation, which may not be easily accessible in the workplace. They can participate in formal course components which could be delivered in the

work site or in an educational institution. The contribution of the experience within the educational institution is to provide processes for and access to knowledge that cannot be easily accessed in the workplace, and which may be quite distinct from that which can be experienced in particular workplaces. So, for instance providing access to concepts and procedures which may not be easily learnt as part of everyday work activity is an important role of the components of EBT within educational institutions. Moreover, and ideally, a key possibility for EBT models of initial skill development is the rich integration between the experiences in the educational and workplace settings.

*Assessment and certification* – Learning during EBT is assessed and certified to permit the learners to practice their vocation in circumstances other than where it was acquired. The competency based training approach allows assessment of competence when individuals are deemed ready. This means learners could complete their training outcomes quickly and join the workforce as qualified, productivity workers. The nationally implemented Australian Quality Training Framework (AQTF) ensures that all assessment must be against industry endorsed competency standards that are ‘packaged’ at an appropriate Australian Qualifications Framework (AQF) level. The AQTF standards covering both the Training Package content and the qualifications of trainers and assessors, and the conditions of off the job and on the job training and assessment have served to regulate the outcomes of EBT across the country. The standards ensure nationally portable quality outcomes.

In summary, the desirability of EBT as an effective teaching and learning approach based on a sharing of responsibilities is not under question. Rather, it is important that in efforts to evolve this approach to occupational preparation and development further, that the key elements of EBT are not overlooked. That is, in considering further evolution of EBT models we need to be mindful of its effective qualities: an integrated on and off the job training and employment arrangement involving a range of stakeholders; learning experiences that fit with the contemporary and emerging requirements of work and needs of learners; experiences to participate in learning while earning; the employer/firm to be competitive; and the VET provider to support flexibly these arrangements within the support and regulatory requirements of governments. It is these qualities that can assist Australian enterprises to have access to appropriately and highly skilled workers who can enjoy the personal and occupational benefits from such preparation.

# Evolution of EBT models in Australia and key drivers of change

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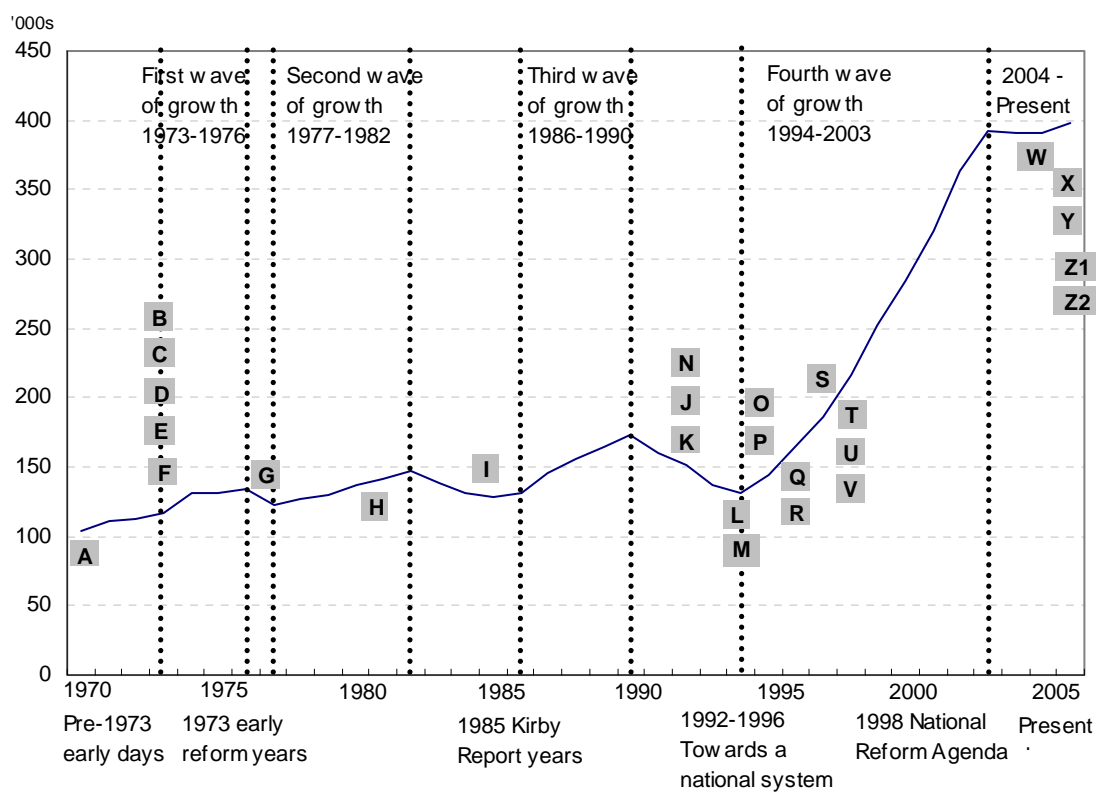
The evolution and transformation of enterprise based models of training in Australia have been consistently shaped by enduring imperatives such as skills shortages, labour mobility and youth unemployment. Governments, together with employers, unions and other stakeholders have sought changes to address concerns surrounding these. In this way, the original apprenticeship model of EBT has evolved in response to a range of social, economic and technological changes that have shaped the world of work in Australia. Rarely, if ever, have issues associated with improving the quality of learning experiences inherent to these models of training been imperatives for change. Employment based training models have evolved and are now available across all occupations and in all industry sectors, and at higher qualification levels. They are available to everyone - all social and age groups, including school students. They are offered both as full-time and part-time programs. Overall, there has emerged a complicated relationship between the term apprenticeships and traineeships, their related AQF levels, durations and end point occupational or employment outcomes (Bowman, Stanwick and Blythe 2005; Cully 2006; Karmel 2006). Major changes were accompanied by new names by which the EBT scheme was referred. Figure 1 summarises growth patterns in the number of apprenticeships and trainees from 1970 to 2006 and key changes leading towards the waves of growth.

## The origin and early days of EBT

In his report on apprenticeships in Australia, Ray (2001) provides a detailed description of the origins of the system. As Ray explains, historically the purpose of apprenticeships was to train young novices, usually boys, in the traditional crafts (such as plumbers, carpenters etc) and admit them to the ranks of the skilled artisan after an often lengthy indenture period with a master. This model of training then evolved to cater for the needs and interests of a wider group of industry sectors that required accredited trades workers, and as regulated by government.

The New South Wales (NSW) Apprenticeship Acts of 1894 and 1901 formally introduced apprenticeship legislation into Australia. These Acts established a framework of regulation regarding hours, minimum rates of pay, indenture lengths and breaches of contract that codified apprenticeships and established their formality. The NSW Acts established the rules that, with variation, were followed by other States. The government was involved mainly to protect the rights of those children who were employed and completing their apprenticeship. Various trade committees, that represented the interests of employers and trade unions, also oversaw the regulation of apprenticeships. These committees promoted the concept of 'off-the-job' training and were the drivers for the establishment of a technical education component, provided through day release wherever possible. However, because of the lack of uniformity across the country, a number of models for the technical education component of apprenticeship developed – day release, block release and pre-apprenticeship training both within an indenture and as a pre-employment option.

**Figure 1 Reforms in Australia's vocational education and training system against periods of growth in apprenticeships and traineeships, 1970-2006 and changes leading towards the waves of growth.**



A = Traditional indentured apprenticeships - Commonwealth, that is, national involvement (since 1970)	O = Australian Qualifications Framework and Quality Training Framework the latter introducing registered training organisations (1995)
B = Traditional indentured apprenticeships extended to all industries (1973)	P = EBT extended to all VET qualification levels (1995)
C = New Apprenticeship Assistance Scheme (NAAS), including financial incentives for employers (1973)	Q = Modern Australian Apprenticeship and Training (MAATS) System, including first training packages (1996)
D = Group training companies (early 1970s)	R = Workplace Relations Act introduced (1996)
E = Pre-apprenticeship courses (early 1970s)	S = School Based New Apprenticeships (1997)
F = Adult apprenticeships (early 1970s)	T = New Apprenticeships replace MAATS, amalgamating 3-4 year apprenticeships and 1-2 year traineeships (1998)
G = Commonwealth Rebate for Apprenticeship Full-time Training (CRAFT) (1977)	U = User choice in New Apprenticeships (1998)
H = Reduced duration of apprenticeships from four years to 3 years and 3.5 years for many apprenticeships (1981)	V = Introduction of a national training system and national training packages, and emphasis on nationally portable entry level skills (1998)
I = Australian Traineeship System and Extension of EBT into non-trades (1985)	W = First Australian Technical Colleges established (2005)
J = EBT Age restrictions lifted (1992)	X = Name change to Australian Apprenticeships (2006)
K = National Training Reform Agenda: CBT, RPL system, and Australian Quality Training Framework (1992)	Y = COAG Human Reform Agenda calling for accelerated EBT, shortening of duration of apprenticeships, greater emphasis on training/recognising existing workers, more school-based apprenticeships and business skills vouchers for existing workers (2006).
L = National Training Wage Rates (1994)	Z1 = Industrial Training Amendment Bill 2006: Introduction of part-time apprenticeships (2006) with school students able to enter into an apprenticeship agreement
M = Call for greater emphasis on middle level skills (1993)	Z2 = AQTF for registered training organisations revised to be outcomes focussed (2007)

As the Federation developed, the population grew and Australian industry matured, craft and trade apprenticeships were increasingly supported by government because this model for supplying skilled trade workers was strained. So, the demand for skills and skill shortages led to government action to transform the apprenticeship scheme through its expansion. Early changes to apprenticeships included the reduction of the length of the indenture from seven to five years after the First World War. It was the skills shortages after the First World War that prompted the first reduction in length of apprenticeship.

After the Second World War, Australia experienced a period of rapid economic growth. Trade skills were in demand and the Commonwealth introduced the Commonwealth Reconstruction and Training Scheme (CRTS) to fast track trade training for returning servicemen. This scheme proved that adults could be trained as tradesmen in much shorter periods than the statutory five years that then applied to most school-leaver apprentices. Adult tradesmen were trained through intensive courses in technical colleges or industry skills centres, without the need for long periods of on the job training. Here again, skill shortages and labour market imperatives saw adjustments to the apprenticeship system.

Soon after the Second World War, the Tradesmen's Rights Regulation Act 1946 was established to protect the rights of pre-war tradesmen. Because of the shortage of skilled tradesmen, created by many serving in the forces during and after the Second World War, industry resorted to the use of 'dilutees', including many women. 'Dilutees' was the term given to workers who had a limited range of skills - well short of the broad skills of a 'qualified' tradesman. For instance, within engineering there was a group of workers referred to as 'first-class machinists' who were relied upon for the trade skills, but not afforded the status of trade workers.

It was not until the 1960s that the duration of EBT was reduced again to four years. Some significant changes did occur between the 1950s and 1970s. In ways remarkably consistent with recent reforms and contemporary imperatives, there were past calls for alternative pathways to the trades other than through apprenticeships, shorter indenture times, intensive pre-apprenticeship courses in technical colleges, a re-skilling program for older tradesmen, apprenticeships for older people, a fast track option based on the CRT scheme, and the introduction of competency as a measure of completion rather than time served (for details see Ray 2001). Such calls kept recurring in cycles that reflect strong economic growth.

The period of 1950 to 1972 also saw Australia's economy driven primarily by exports of wool and wheat, rather than manufactured products. The trade apprenticeship system evolved slowly through this period and State and Commonwealth governments acted as third parties to industrial award agreements made between employers and unions. Also, the first significant attempt was made during this time to create a national view on apprenticeships. Because of tensions between Commonwealth and State governments, employers and unions arrangements few of the recommendations proposed by the relevant committees were implemented at that time.

## The 1970s and 80s - the early reform years

In 1973, with a drop in skilled migration and growing concerns about skill shortages of tradespersons, the Commonwealth Government introduced the National Apprenticeship Assistance Scheme (NAAS). This scheme was a significant reform as the responsibility for trade training and supervision of apprentices up until this time had been a responsibility of the States and Territories. The scheme provided financial incentives for employers to encourage them to take on apprentices, and also "living away from home" allowances to apprentices. Funding under

NAAS was significant and heralded an era of stronger Commonwealth Government involvement and regulation of apprenticeships, and a move towards the development of national policy.

In 1974, the Kangan's (1974) report initiated significant changes to the Technical and Further Education (TAFE) system and its key role in providing off the job training for apprentices. The influx of government money and attention, and the upgrading of the TAFE system resulted in substantial changes in apprenticeships and an upgrading of the infrastructure for trade training. The Kangan reforms were concerned with melding vocational education with liberal education and that its emphasis was on lifelong learning not just initial skill formation. The proposal was to provide more comprehensive education for apprentices rather the development of trade skills alone. Accordingly, elements of a liberal education including Australian society and physical fitness were included in the off-the-job component delivered in TAFE institutions. The inquiry of the Australian Committee on Technical and Further Education led by Kangan (1974), excluded any examination of industry based training and limited to institutional and systemic provision of apprenticeship. This limitation had a profound and long lasting effect on apprenticeship and traineeships as it marked the commencement of a long term drift away from industrial tripartite control to education systems control. It shifted attention to the institutionalised components of employment based training.

At this time, apprenticeships still took four or three years to complete their apprenticeship as part of a full-time period of indenture. Under the model an individual was indentured with an employer who engaged in training the apprentice from a total novice to a qualified tradesperson through an average of about four days on-the-job training combined with one day of off-the-job learning or, in some States such as Queensland and Western Australia, a block release to the appropriate TAFE college.

During this period the Cochrane Report of 1974 (Report of the Committee of Inquiry into Labour Market Training – Australian Labour Market Training) was also an important policy document. It recommended the consolidation of labour market training schemes (apprenticeships) under the Commonwealth, tied the concept of training wages to the Federal Award system, and set guidelines for the payment of subsidies to employers. The report addressed EBT issues that remain of interest in recurring issues such as wages, subsidies, adult worker access, and group training.

In 1977, the NAAS was replaced with the Commonwealth Rebate for Apprentice Full Time Training (CRAFT) which provided rebates for employers to cover the period of time spent on off the job training. This encouraged the consistent use of technical instruction at TAFE and the ability for remote apprentices to attend block release. It ensured formal training for the apprentice. According to Ray (2001, p.190) 'CRAFT had the objectives of improving both the quantity and quality of trade training.'

The next set of reforms came about when the nation's reliance on wool and wheat was replaced by the mineral and resources boom. The Australian apprenticeship system struggled to supply sufficient numbers of apprentices to work on large mineral and resource based projects in the States such as Western Australia and Queensland. The Report on Education, Training and Employment (Williams 1979) called for an overhaul of training arrangements for the trades and proposed a significant increase in pre-apprenticeship training and a broadening of CRAFT incentives to cover occupations beyond the trades. In response to concerns about time-served indenture and the entrenched nature of apprenticeship structure, this report also recommended a thorough analysis of skills and ways of acquiring them. It was suggested that time taken to complete apprenticeship should be focused on the attainment of skills and not on a fixed period of indenture. Often forgotten in debates is that the duration of time taken to complete an apprenticeship is both regulated and legislated by government. Yet, those asked to implement these regulated arrangements are conveniently blamed for the rigidities. Unusually, here there is

some concern about pedagogic matters, that is, the knowledge required for effective skill development and the means by which these might be secured.

The 1970s also saw the introduction of group apprenticeships – a uniquely Australian solution to encourage the employment of apprentices and, recently, trainees. It involves companies set up principally to employ apprentices or trainees under an apprenticeship/traineeship training contract and placing them with a host employer (ANTA 2001). Because EBT models of entry level training are dependent upon an offer of employment, the number of young people able to access this form of training was restricted to the number of employment offers from Australian enterprises. Group Training schemes were introduced to increase the net pool of employers participating in apprenticeship by creating a mechanism to include small employers who did not have the capacity to take one on full-time. Hence, this government initiative was enacted to overcome the limits to apprenticeship numbers that were being constrained by Australian employers being reluctant to employ apprentices. This initiative saved enterprises from any long term employment commitment to an apprentice or trainee, and also to handle the administrative arrangements associated with employment and training contracts. Group Training Organisations (GTOs) have grown from employing a small percentage of the total number of apprentices and trainees, to employing around 14% of the total number by 2004 (Toner, MacDonald & Croce 2004).

In 1980, a national response to increasing and further supporting apprenticeships was initiated by the State premiers. A range of measures were introduced that included the collection of national data, the abandonment of wage fixation and an emphasis on more institution based training available to apprentices. In 1981 the Commonwealth Government provided financial support to boost group training organisations. By year 2004 there were approximately 200 group training organizations Australia operating in all States and Territories and across most regions (Toner, MacDonald & Croce 2004). Like others, this governmental initiative was born out of a concern about the lack of opportunities for young people to gain trade skills at a time of high youth unemployment. Despite being a timely response to a particular problem of youth unemployment, it is less clear whether the advent of this initiative provided a means for Australian employers to delegate their responsibilities for entry level training to GTOs. The point here is that a temporary measure has become a permanent feature of entry level training in Australia. Moreover, it may provide the necessary, but lasting, service that permits enterprises to avoid their obligation to train the next generation of trade workers.

In 1984 the Commonwealth/State Apprenticeship Committee encouraged the development of institution based training courses. However, it did stress that a full-time institutional training without actual work experience was not a viable option. At this time pre-employment and pre-apprenticeship courses were favoured by the Commonwealth Government to address the growing needs of young unemployed people who could not secure apprenticeships or progress to higher education. The Commonwealth Government's agenda met with harsh criticism in some States. Victoria opposed a significant increase in pre-apprenticeship courses that did not involve a workplace agreement. This arrangement was seen to produce graduates who may work in the trade without completing a trade apprenticeship, thereby lowering the quality of such training.

In 1985, a review by the Committee of Inquiry into Labour Market Programs (Kirby Report) recommended the introduction of traineeships, principally in response to the number of young people who were unemployed following the 1983 recession. Traineeships were originally designed for young people to create new entry level pathways into employment and further learning. These traineeships were of shorter duration than trade apprenticeships (usually only one year training contracts) and resulted in a Certificate I or II under the Australian Qualification Framework. They were also premised on the structured entry level training model of apprenticeships which involved experiences within both workplaces and vocational education institutions. Like apprenticeships, the majority of the trainees' time (75%) was to be spent in the workplace. Their original focus was on general, transferable skills that might serve a family of occupations (but not

trades) and act as a stepping-stone for higher skilled jobs. Traineeships extended EBT to occupational areas beyond the accredited trades (eg. the services areas of retail, hospitality etc). In the trade areas, traineeships comprised new recognised pre-apprenticeship training courses - with varying entry points into apprenticeships, depending on the industry or occupation area.

The kinds of occupations covered by traineeship arrangements tended to be those that have less status and lower levels of remuneration than the trades. The number of women in trade apprenticeships stayed relatively low and static across the years (except in hairdressing), despite policy initiatives to encourage their participation. However, the introduction of traineeships had one significant outcome. There was a significant increase in the number of women in EBT, and an increase in the number of apprentices in horticulture and cooking. However, the traineeship system did not flourish at the rate targeted in the Kirby report. It was the Working Nation policy and the establishment of a National Training Wage in 1994 that provided additional incentive to employers to take trainees, to ensure that the government reached the target of 75,000 new trainees in 1997. This was almost a decade after the target was set (Cully 2006). Again, concerns about youth unemployment and finding a mechanism to encourage employer participation (i.e. through subsidies for youth wages) shaped this new model of employment based training.

Vocational educational and training reforms of the 1980s resulted in a more employer-led set of off the job course content, away from Kangan's (1974) suggested general (liberal) education. In 1991 the Employment and Skills Formation Council acknowledged Kangan's contribution to reforming the TAFE system, but was critical of the TAFE system for providing better 'second chance education' to adults in place of vocational education and training to skill the workforce. Employers expressed concerns that their employees' (i.e. apprentices') time during day or block release was being taken up with content and activities that were extraneous to the particular trade and not pertinent to their employment needs. As training content became controlled by industry interests, educationalists also expressed concern that the reduction of a curriculum to competency based units, prescribed by industry, reduced the scope of TAFE training to performative task based training. This limited the pedagogical impact of the off-the-job experience. These concerns escalated as the curriculum also became modularised and was designed to make it more responsive to industry needs, ignoring individual needs.

## Towards a national system in the 1990's

Since the early 1990s, there have been several points of departure from the original EBT model of traineeships (at AQF II) and apprenticeships (AQF III) for young people, many of which have been driven by a series of deliberate policy interventions. The Australian Vocational Certificate Training System report for the Employment Skills and Formation Council known as the Carmichael Report (Employment Skills Formation Council 1992) provided a blueprint for the integration of formal education with work based learning at up to Certificate IV level for both youth entrants to the labour market and existing workers. Carmichael's report was significant because it provided the framework for school-based apprenticeships and many of its features were later incorporated into the Modern Australian Apprenticeship and Traineeship Scheme. During 1992 the National Training Reform Agenda was introduced with an emphasis on competency based training (CBT), recognition of prior learning system (RPL) as a way of recognising existing worker skills, and a nationally recognised set of accreditation of national qualifications – the Australian Qualifications framework (AQF). Commonwealth and State governments agreed to improve the quality of the system by aligning all apprenticeships and traineeships against the objectives of the National Training Reform Agenda by 1996.

In 1994, a government white paper, Working Nation, strongly encouraged the expansion of traineeships as a way of combating unemployment. The ensuing NETTFORCE traineeships brought about significant changes. They were offered in new industries and occupations such as

sport and recreation and in sub-trades. The qualification levels for traineeships increased beyond Certificates I and II to Certificate III and above. This transformed the long-standing principle of trade assistants such as brake mechanics and tyre fixers to become part of the regulated trade apprenticeship system. It was a pragmatic approach to boost the labour market where 'sub-trade' services were in high demand and could be performed by a worker who may not need the entire trade qualification. The NETTFORCE structure, though innovative, presented a number of problems as they were seen to 'dilute' the quality of the apprenticeship and traineeship system. The government set ambitious targets for the numbers of entry level training places but was criticised heavily for sacrificing quality for quantity.

In 1994 the Australian Employment and Skills Formation Council took up the middle levels skill issue to stimulate discussion. The Council argued that the next step in VET reform was the achievement of a newly conceptualised and upgraded middle levels skills system to complement the entry level VET Certificates I to III. To respond to future challenges, high performance enterprises needed to embrace technological change, move towards flatter organisational structures, introduce work teams, and ensure greater accountability on the part of all workers. This meant that Australia had to expand the skills of the middle section of its workforce. The VET system was required to respond accordingly.

Middle level skills refer to the qualifications that were originally aligned against the Australian Standards Framework (ASF) at levels 4, 5 and 6 that these days are coined under the AQF as being those at Certificate IV, Diploma and Advanced Diploma level. The term 'middle level' originally distinguished these qualifications from the entry level qualifications at ASF levels I- III and university issued qualifications at a higher level. These days the term 'middle level' has been replaced with the term 'higher level VET' which still describes Certificate IV, Diploma and Advanced Diploma qualifications issued by the VET sector. It is of interest to note the change in nomenclature over time from middle to high for the same set of qualifications.

The Council suggested the core of the middle level skills challenge faced by the VET system was the development of appropriate and creative mixes of on and off the job training in a mix of high order core competencies (now referred to as employability skills) and technical skills. The best way to obtain an expansion of middle level skills was to upgrade the skills of the current workforce, particularly those with credentials at Certificate II and III level. It could also be done through recognition of prior learning for those workers who were working at or close to the middle skills level, but had no credentials. The Council also recommended more attention be paid to options for new entrants at the middle level.

A change in the Commonwealth Government in 1996 saw the introduction of a new branding for EBT - the Modern Australian Apprenticeship and Traineeship Scheme (MAATS). This coincided with the development, by the Australian National Training Authority, of an industry-led vocational education and training system, and the introduction of Training Packages based on industry endorsed competency standards for jobs. In 1998, MAATS was replaced by New Apprenticeships (NA), an umbrella term for traineeships and apprenticeships - another re-branding exercise. Significantly here, the traditional three to four year long apprenticeships and the one year long traineeships were amalgamated within this scheme. So, whereas before it was possible to easily discern the number of apprentices and trainees that had been employed, and to gauge relative commitment of employers in terms of whether they employed three or four year apprentices or the more shorter term trainees, this now became more difficult to establish. It provided the opportunity for governments to make claims about the entire quantum of individuals involved in training and employment without having to distinguish between short and long versions.

Along with the name change to New Apprenticeships, came several other initiatives. One feature of New Apprenticeships was their availability to existing employees - not just to adults, but also

to the young as an entry level skill development mechanism. Additional collective changes such as access to User Choice arrangements, allowed the employer (and trainee) to select the VET provider. This was to encourage greater employer participation in the scheme and a move to a fully competency based approach resulting in nationally recognised skills and qualifications. It increased the numbers in contracts of EBT. Significantly, the Workplace Relations Act 1996 replaced many previous training award wage arrangements, reducing unions' capacity to organise and pursue wage related issues.

Another initiative that occurred through this period was the introduction of school-based apprenticeships and traineeships. Up until this time, entry level training had always been the domain of TAFE and a growing range of other registered training organisations, but not the schooling sector. However, faced with increased retention of students in schools who were not bound for higher education, the use of school-based apprenticeships and traineeships was trialled and has been successful in some industry sectors. Typically, these arrangements involve partnerships among schools, registered training organisations and local employers. It still retains the key qualities of a contract period of employment and a training agreement which stipulates levels of remuneration for engagement in the workplace and leads to vocational qualifications.

In 1998 the introduction of a national training system and Training Packages came with an emphasis on nationally portable entry level skills. Certificates I to III were developed first and have been implemented over the last ten years. Qualifications at Certificate IV and above are still under development. Last year, Foster, Delaney, Bateman and Dyson (2007 forthcoming) further confirmed that VET qualifications at Certificate IV and Diploma and Associate Diploma level still require work to meet the needs of employers (and employees presumably – authors' note).

## The present day

By 2006 as the Australian economy continued to boom, once again skills shortages became apparent in many of the traditional trades. Despite official figures showing an increase in take-up of New Apprenticeship (including both apprenticeships and traineeships), major growth was largely in shorter traineeships. The important point here is that a one year traineeship is not a measure to address problems in the labour market.

Australia's workforce is noticeably ageing and has significant implications for the economy. Loss of human capital through retirement without replacement by younger skilled workers, and the slowing of productivity growth due to inadequate labour supply impact on the economy. Pressure is mounting to retain workers over 65 years old, and to assist existing workers to retrain rather than drop out of the workforce prematurely.

Current employment projections also indicate likely shortages in the future at para or associate professional levels (i.e. among those typically performing complex technical and administrative functions, and qualified at Diploma or Advanced Diploma levels). This anticipates a demand for training at these levels, hence an interest in generating new EBT models. The Council of Australian Governments (COAG) recently reached agreement on a package of measures to underpin a new national approach to apprenticeships, traineeships and skills recognition in VET (COAG 2006). COAG reforms in VET with implications for Australian Apprenticeships (current term for apprenticeship and traineeships) include measures for:

- ✧ encouraging accelerated EBTs especially in the trade areas due to skills shortages by shortening the duration of apprenticeships, where competencies are demonstrated;
- ✧ supporting mid-career workers undertaking a traditional trade apprenticeship and people aged over 30 years starting an apprenticeship at the Certificate III or IV level in occupations where there is high demand, through full implementation of recognition of prior learning (RPL),

whereby workers' existing skills and knowledge can be assessed quickly and simply and gap training identified and facilitated using a competency based training approach;

- ✧ allowing intermediate or specialised qualifications in trades as well as full apprenticeships;
- ✧ enabling more school based Australian Apprenticeships;
- ✧ tackling inconsistencies in licensing (trades) issues to achieve full mutual recognition of skills across Australia;
- ✧ encouraging higher level EBTs through incentives to meet emerging demands due to expected growth in paraprofessionals; and
- ✧ supporting trades people to develop small business skills through Business Skills Vouchers and equipment vouchers to encourage individuals to remain engaged in training.

Researchers (e.g. Ray 2001; Robinson 2001; Cully 2006; Karmel 2006) have highlighted key drivers of change as:

- ✧ Need for skilled labour to be competitive in a global market, prompted by technological change and industrial restructuring. This has resulted in apprenticeships diversification from mainly regulated trades to other industry areas. The need for skilled labour peaked mainly during economic booms when diversification in EBT models was noted. During these times new incentives were introduced to boost numbers in EBT.
- ✧ Need for stepping stones at lower level qualifications for unemployed and disadvantaged youth, as well as existing workers without qualifications.
- ✧ Need to up-skill or re-skill all of the workforce, in part to do with the ageing workforce, and also the above mentioned factors driving competition, as well as diversity in the demographic profiles of people entering EBTs.
- ✧ Need to keep pace with changes in how work is organised through outsourcing, casualisation and an emphasis on specialisation. Extension to part-time apprenticeship and traineeship, for example through School Based New Apprenticeships (SBNAs) and the administration of EBT through Group Training Organisations accommodated some changes to work practice.
- ✧ Need for higher level VET qualifications (only recently widely acknowledged) to meet changing technologies, increase productivity and competitiveness. The demand for higher level VET qualification became most apparent since 2005.

The first four drivers in the list above have always existed and had varying levels of impact or exigency. Compounded with these drivers, changing policy directions have contributed to interest and growth in uptake of EBT. For instance, competitive training market initiatives such as User Choice and other employer and employee EBT incentive schemes have impacted on models of EBT. The re-emergence of familiar cyclic challenges resulted in the implementation of models that had worked in the past, EBT models that maintained the status quo, extensions to models that were evolutionary, and others that were truly transformational or revolutionary. Examples of current models of EBT are described below.

## Current models of EBT

The main EBT model variations being considered today can be usefully grouped as:

- ✧ fast tracking options
- ✧ higher level VET qualifications
- ✧ new skills sets/qualifications
- ✧ alternative provisions for young people.

## Fast tracking options

Fast tracking options, to address immediate skills shortages in particular, take two forms:

- ✧ Accelerated progression models (shorter durations linked to a truly competency based approach); and
- ✧ Intensive up front training followed by workbased learning to ensure more immediate productivity of the learner in the workplace.

The fast tracking options are premised on an expedited approach that focuses on efficiencies in delivery strategies and effectively utilises recognition of current competencies. These options are not (meant to be) about a reduction of skills and the number or quality of competencies that must be demonstrated. They are designed to focus on a truly competency based delivery and assessment approach, including the recognition of prior learning. The options consist of a combination of recognition processes combined with targeted 'just-in-time' skill development strategies along with an EBT plan. The intensive up-front model (off-the-job training in a VET organisation combined with an industry specific on the job training in a dedicated workplace) results in work readiness for minimally skilled participants entering the workforce.

Fast tracking options are still in their infancy, but have shown some promise. The Western Australian Department of Education and Training (2005) reported perceived benefits of accelerated progression model for existing workers. There was a reduction of time away from the workplace for off the job training. Technology skills and knowledge of current staff were updated. Fast tracking resulted in an increase in the number of tradespersons available at a workplace in a shorter time frame, which aided business expansion. It also increased compliance where licensing regulations applied. Where valued existing staff are provided with the opportunity to have their skills recognised and to acquire trade certification the Minerals Council of Australia (2006) noted a boost in their morale and confidence

These benefits are offset by a number of concerns identified by employers and employee representative organisations. In the case of accelerated completion, employers point out that they offset the cost of the apprenticeship against a time frame of completion (planned in terms of 48 months). If apprentices complete their apprenticeships in a shorter time and progress to a higher level of remuneration more quickly, but may necessarily not deliver in terms of workplace performance, this potentially jeopardises investment recovery for businesses. With upfront pre-employment training, employers insist that it should not replace the traditional concept of combining concurrent training and employment to ensure that apprentices acquire the theoretical knowledge concurrently while acquiring employment based practical skills. Employers express caution in careful selection of fast track participants who will need to have well developed literacy and numeracy skills. They will need to possess skills and abilities to self manage their study to cope with the off the job component of the program. Employers also make an implied assumption that apprentices will carry out their studies after working hours (Minerals Council of Australia 2006). They generally fear that they may not get a return on investment if their employees leave their jobs after up skilling through the fast track provisions.

Employer and union groups are in favour of fast tracking models, particularly for existing workers who have relevant industry and occupational expertise and experience. This would aide in workforce retention. However, they caution the need for appropriate occupational quality safeguards to accompany fast tracked models, to minimise the risk to individual workers and industry reputation. They also flag the need for appropriate remuneration for workers at all levels of training. Employers and unions also expressed the need for implementation of fast tracking models evenly across jurisdictions in order to maintain a minimum level of parity across industries (Mineral Council of Australia 2006).

While fast tracking provides an option and flexibility to those with work experience, the Skills Formation Taskforce to the Minister for Education and Training, Western Australia (2006, p.112)

recommends another form of flexibility - variations to the training contract to allow for extensions, deferments and transfers. This is to be agreed between the employer and apprentice or trainee.

## Higher level VET qualifications

In support of the COAG reforms and initiatives to meet expected growth in paraprofessionals, the provision of higher AQF qualifications (at Certificate IV and above) needs to be extended to and encouraged for a greater number of occupations.

Employment based training qualifications are already available at the Diploma and Advanced Diploma levels. Research by Stanwick and Saunders (2004) showed that relatively few people undertake this option, although numbers have grown quickly from a low base over the past six years or so. The highest numbers in uptake are in the aged care occupations. Stanwick and Saunders (2004) suggest that the reason for the low numbers in other occupations is possibly because of a lack of correlation between Diploma level qualifications and employment outcomes for associate professionals. They explain that the training needs of apprentices and trainees for the Diploma and Advanced Diploma levels are likely to be different from those for Certificate III and IV qualifications. For example, training at the Diploma level can be more academic (that is, involve more emphasis on theoretical knowledge as opposed to practical skills and responsibilities). Stanwick and Saunders (2004) recommend a more structured associate professional level indenture in place of an ad hoc training approach. They believe that a structured associate professional level indenture could be clearly defined; provide better security of employment during the training; share the load of responsibility for training between the learners and employer; more clearly define the role of the associate professional level in industry; and offer learning pathways and training incentives if extended beyond the associate professional level.

Following interviews with employers in six industry areas Stanwick and Saunders (2004, p.7) offer four possible options for EBT at the Diploma level. These are:

- ✧ A traditional single-stage apprenticeship in which the apprentice is indentured with an employer capable of taking the individual from an unqualified status to a fully qualified associate professional. However, estimates of the time required to complete such an apprenticeship varies from three years to seven years. This also tends to vary according to industry and vocational field.
- ✧ A two-stage apprenticeship in which the individual first completes a lower-level pre-apprenticeship to Certificate III, followed by a second higher level apprenticeship which extends to Diploma or Advanced Diploma.
- ✧ A two-stage apprenticeship in which the individual first completes a one-year theoretical course as a private student, and upon successful completion of this study, commences an apprenticeship with an employer to undertake the remainder of the training.
- ✧ A second version of the preceding two-stage apprenticeship in which the individual is conditionally indentured to an employer during the first year of full-time study towards a Diploma. Contingent upon successful completion of this initial study, automatically continues the apprenticeship with the employer, to undertake the remainder of the training.
- ✧ A fully work-based apprenticeship in which all training is done in the workplace, most of it on the job.

With each of these options, issues of training costs and wage structures warrant further consideration (for details see Stanwick and Saunders 2004, p. 7-8).

## New skills sets/ qualifications

With skills shortages in selected industries, there is COAG (i.e. government) support for new “Skills sets” qualifications where sub sets of competencies from a full apprenticeship are bundled to create a recognised skill set (Schofield & McDonald 2004). The Construction Industry Training Board for instance supports this concept at only the Certificate II level (one below the Master Trade level) and suggests a push for the current Master Trade at Certificate III to a Certificate IV. This proposal demonstrates an evolutionary example of EBT. “Skills sets” could be viewed as another approach to fast tracking (but only at base level) through accelerated EBTs especially in the trade areas experiencing skills shortages. However, “Skill sets” qualifications are yet to attract the interests of industries other than trades.

The Government of Western Australia is currently trialling Masterclass of Trades, a post-trade qualification, in four industry areas: automotive, building and construction, hospitality and metals (Skills Formation Taskforce to the Minister for Education and Training 2006). The full range of applications and features of Masterclass of Trades is being established through a partnership with the Department of Education and Training (Western Australia) and key industry stakeholders. This higher qualification is designed to provide new incentives for apprentices and young tradespeople to strive for excellence and at the same time offers career options through educational opportunities.

The Department of Education and Training in Western Australia is also considering a post-trade traineeship at the Certificate IV, Diploma and Advanced Diploma levels. Plans to utilise identified trade specific skills sets or broader skills in business, project management, team leadership, small business development, training and mentoring are being looked at as part of the Masterclass of Trades.

## Alternative provisions for young people

School Based New Apprenticeships (SBNAs) which also contribute to senior secondary studies is under review. The focus of the review is on greater flexibility with options to take up part-time or full-time training (totally on the job, totally off the job, or combined on and off the job) in one workplace or more than one as per the requirements of the training plan. It is anticipated that the newly established Australian Technical Colleges will offer SBNAs and also provide different approaches to skills development. Arrangements through the Colleges are expected to overcome issues such as inflexible timetables in schools and negotiated time releases from employment in order to better meet employers’ needs. Part-time EBT models are of interest to some employers who see this option as crucial to meeting their workforce needs and accessing a large group of potential apprentices (Skills Formation Taskforce to the Minister for Education and Training, Western Australia 2006).

When establishing effective models of EBT it is important to note the issues with previous and existing models. The following section summarises a set of issues which need to be considered in revisions and reconstitution of EBT arrangements.

# Key issues associated with EBT

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The key issues are summarised under three headings: regulatory environment; education and training delivery; and workplace/ employment relations.

## The regulatory environment

States and Territories in Australia continue to maintain their regulatory frameworks which are multi-layered, with cases of incompatible licensing arrangements across jurisdictions (Australian Industry Group 2005). Anomalies across jurisdictions question a nationally consistent training system and interstate recognition of skills that were aspired through the implementation of Training Packages and New Apprenticeships. Schofield's (2000) research highlighted insufficient policy and administrative cooperation, variations in registration and audit standards within the recognition framework. Schofield (2000) contended that governance which does not promote collaboration, quality delivery and ethical practices impacts on the efficiencies and effectiveness of EBT. For example, incidences of non-compliance by employers and registered training organisations regarding legal and moral obligations to apprentices and trainees raise concerns. Audit processes that are insufficiently rigorous, inconsistent and loosely linked to industry perspectives have implications for quality (Schofield 2000). Furthermore, administrative inefficiencies add to costs in EBT.

## Education and training delivery

There is tension between a competency based training (CBT) model and the four year contract which reflects an indenture. The traditional four-year apprenticeship which is time based, as opposed to competency based, limits several competent learners to complete their training plan ahead of time and join the workforce as qualified workers. The use of a genuine CBT approach for the skilling process is appealing, but does not have wide support from employers. According to the Mineral Council of Australia (2006), not all employers are willing to start paying the full award prior to the end of a four year contract period with the apprentice. The issue here is not about EBT, rather relates to award rates which is an industrial relations matter.

Although Training Packages underpin EBT and their implementation assumes national consistency, inconsistencies in training and assessment across occupations and jurisdictions raise questions about the quality of skilling within a national system (Australian Industry Group 2005). Training, assessment, trade sign-off and licence testing are fragmented activities, with jurisdictional variations disallowing portability within a supposedly national training system using the same Training Packages. The Australian Industry Group (2005) reported that some regions experience the absence of timely training in the preferred locations, mismatch of content that is not relevant, lack of qualified trainers, and use of equipment for training that is out of date.

There are integration concerns, between the on and off the job components of EBT. Most successful links happen when there are localised negotiations and rich communications between places of employment and educational institutions. For instance, one of the key features of the German dual system is a measure of these kinds of localised curriculum development and enactment based upon negotiations in consultation among educational institutions and local employers. However, with the models deployed in the Australian VET system, such negotiations are rendered more difficult. Bowman et al. (2005) found many reports that allude to unsatisfactory amounts of registered training organisation-workplace linkages highlighted by

apprentices/trainees and employers. The issue in this context relates to the skills of trainers or resources to improve bridging of on and off the job experiences.

Stakeholders are also concerned about high rates of non-completion of apprenticeships and traineeships through EBT. Research shows that about a third of the apprentices leave in the first six months (Australian Industry Group 2005). Employers and industry generally believe that young people are not attracted to apprenticeships because of the duration and the perception of lower status, as well as being non-university based. Research by Schofield (2000) showed that some apprentices and trainees were not sufficiently challenged by their training activities and sensed 'dumbing down'. This contributed to non-completion. She also reported that some employers and providers were unclear about their responsibilities for on the job and off the job training. To deal with this type of situation, the Skills Formation Taskforce to the Minister for Education and Training, Western Australia (2006) has recommended the introduction of Apprenticeship and Traineeship Support Network (ATSN) field officers. These officers would ensure that employers were meeting their obligations and provided support to apprentices and trainees with on the job training.

## Workplace/ employment relations

Economic pressures on employers, particularly of small businesses, appear to limit their capacity to act as a master passing on skills. Research by Schofield (2000) found evidence of where apprentices were treated as a 'labourer' and not a learner, even when the Commonwealth and State Governments provide teachers and incentives. Employers were looking for more on the job training, thereby marginalising the off the job component of training. There was pressure on apprentices to do the off the job component of their training in their own time. This typically included 1,000 hours through use of pre-apprenticeships, night classes and flexible delivery options and 7,000 hours on the job (Stanwick and Saunders 2004).

Wages and award rates for apprentices remain an issue for most industries. Employer incentives above an award rate, to a market rate of pay, gravitates more skilled workers to workplaces that can afford to pay at the high end of the competitive rates (Australian Chamber of Commerce and Industry, ACCI 2005). This movement of workers highlights 'leakages' and skills wastage because skilled workers whose skills are portable across industry areas transfer into new occupations where work arrangements are more attractive in terms of wages and life style. This results in wastage of skills which may be in demand, but not utilised by skilled workers. While the market condition dictates the rate of pay, determination of pay above the award rate is influenced by factors such as age, education level, ability and experience, and quality of work (ACCI 2005).

There are significant gaps in training wage arrangements where there are no award provisions or limited and inflexible award provisions for the employment of New Apprentices. These are common for electro-technology, construction, plumbing and service, automotive, metal and engineering, hospitality, hairdressing, aero-skills and furnishing. Interestingly, Training Packages for these areas are also those that serve identified areas of skill shortages in the traditional trades. Although decisions about approval and implementation of Training Packages are made at the State and Territory level, not all have an enabling legislation or the ability to ensure award provisions for training wages. Usually State and Territory authorities will not approve a New Apprenticeship pathway in the absence of workplace relations arrangements, the responsibility for which lies with the industry parties. This becomes a hurdle for employers when developing contracts for registration.

The issues described above draw attention to limitations in communication and agreement between the various parties who need to collaborate in order to address training and employment issues for workers. The Skills Formation Taskforce to the Minister for Education and Training in

Western Australia approached apprentices' and trainees' financial issues by providing concession rates for fees and charges, offering an 'Apprentice Card' for concessions to services such as public transport, entertainment, and discount vouchers, and offering a completion bonus.

# Summary of literature

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Employment Based Training models have evolved and are now available across all occupations and in all industry sectors, and at higher qualification levels. They are available to everyone - all social and age groups, including school students and offered both as full-time and part-time courses. Overall, there has emerged a complicated relationship between the term apprenticeships and traineeships, their related AQF levels, durations and end point occupational or employment outcomes (Bowman et al. 2005). A variety of models of EBT appears to be replacing a 'one size fits all' approach that remained entrenched in Australia until the 1980s. The newer models are attempting to address a multiplicity of complex issues and competing forces. The continuing issue in the structure and efficacy of the EBT system is the relationship between education and industrial issues and how to manage the inherent tension.

The demand for alternative pathways to skilling for trade occupations is not new. Training through apprenticeships; shorter indenture times; intensive pre-apprenticeship sources in technical colleges; a re-skilling program for older tradesmen; apprenticeships for older people; a fast track option; and the introduction of competency as a measure of completion rather than time served, are familiar and have served the skilling agenda to varying degrees. For instance, in 1957, the Australian Apprenticeship Advisory Committee (AAAC) suggested that a system was needed to provide Australian industry with quality trades people as the variation in the quality of skills of migrants and those of the Australian system came into review. A series of subsequent inquiries and reports identified the need for more flexibility in the apprenticeship system to ensure sufficient supply of skilled workers to meet the needs of present and prospective Australian economy. Past measures to meet the economic imperatives are remarkably consistent with recent reforms and contemporary imperatives.

The consequences of the reforms to EBT over time have largely focused on shortening the duration and finding ways of easing the burden on employers (e.g. through the Group Training Scheme, New Apprenticeship Centres). In addition, there have been a range of administrative and curriculum related reforms associated with generating a uniform education and training provision across Australia. So, while the problems of skill shortages and youth unemployment persist and are likely to reoccur in the future, there has been an accumulative trajectory, possibly at the cost of the quality of provision of skills development. Revisions that seek to shorten the indenture and make the process less burdensome upon employers will only rehearse previous reform efforts. Instead, this process of reform and revision needs to consider how to best sustain the EBT model of vocational preparation, given the imperatives of skill shortages and the urgency for more skilled workers. So, the current imperatives for reforms need to also provide a strategic outcome, as well as respond to immediate concerns. Otherwise, re-implementation of past models will remain costly and become 'band aid' solutions.

Changes to EBT have had an incremental and accumulative impact on the provision of skilled workers. Surely there are improvements in the level of skills and youth employment through government support for EBT initiatives, but there are structural problems that require further attention. The overall impact of a series of reforms needs to be seen beyond immediate benefits, from the perspective of long term and incremental gains, and for skills development at a national level.

While aspects of past models will provide short term responses to the COAG reform initiatives, there is call to revisit the models in light of their limitations and new challenges that impact on their effectiveness. What is becoming apparent is the need for a compendium of models rather than a 'one size fits all' to address a multitude of factors. For example, age was identified by

Schofield (2000) and Robinson (2001) as a factor that determines which model is most effective. They found that the models used for younger learners did not suit older learners and stressed the importance of a different model. Similarly, models for the purposes of lower VET qualifications have limitations for higher level qualifications.

Whatever the solution, new models of EBT will need to be designed to take into account the emerging needs of industry for skilled labour to enable Australian business to be competitive in global market. New models must accommodate a workforce that is ageing and offer flexible entry points for all age groups. The VET system and industry must provide entry points for young people as well as a range of re-skilling options for the existing workforce. Future EBT models will need to keep pace with how work is organised in an environment with increased competition, outsourcing, casualisation and an emphasis on specialisation.

Future revisions of the employment based model of training are likely to be shaped by employer and governmental imperatives, associated with skill shortages or crises in the youth labour market. It is probably necessary to consider carefully, further revisions in terms of the unintended consequences that might arise, such as those associated with Group Apprenticeship schemes. Such schemes should not provide a platform which allows local enterprises to avoid their responsibilities to contribute to skilling and the development of the Australian workforce. Over time, the duration of apprenticeships has fallen from seven years down to three or four years. Moreover, employers are indicating preference for even shorter term commitment to entry level training (i.e. traineeship). Mooted in the current transformations is an extension of this trend into shorter duration preparation for the trades and for the identification of sub trade areas, similar to what happened during the Second World War. Here, it is important to understand that while there are important contemporary imperatives seeking to reform EBT in particular ways to respond to skill shortages, hastily enacted reforms may be difficult or impossible to overturn.

# Effective features of EBT

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The review for this project has alluded to key drivers of change to EBT models, the current and emerging models, and the main issues or concerns. The insights from the review draw attention to five fundamentals for effective EBT models. For EBT models to be effective they must be pedagogically sound; operate effectively; provide quality skills; have utility and be sustainable; and address requirements for quality outcomes. The dimensions and features of each are listed below.

## Pedagogically sound

Employment based training models that are pedagogically sound contain the following dimensions and features:

- |                       |  |
|-----------------------|--|
| Vocational experience | <ul style="list-style-type: none"><li>✧ Graduated access to authentic vocational experiences of the kind to be learnt.</li><li>✧ An integrated on and off the job training and employment arrangement involving a range of stakeholders.</li><li>✧ Structured learning experiences and ways to learn the vocational activities.</li><li>✧ Opportunities to effectively learn those activities.</li><li>✧ Based on competencies in Training Packages.</li></ul>                     |
| Duration              | <ul style="list-style-type: none"><li>✧ Long enough to provide a repertoire of experiences that secure learning of the scope of the vocational activities to be practised.</li><li>✧ Truly competency based – learners assessed when ready.</li></ul>  |
| Expert support        | <ul style="list-style-type: none"><li>✧ Opportunities to engage with experts who possess the knowledge to be learnt, who can guide the learner, monitor their progress and provide direct assistance.</li><li>✧ Support and time allocation for experts in the workplace.</li><li>✧ Assessment and certification – learning to be assessed and certified in ways which permit the learners to practice their vocation in circumstances other than where it was acquired.</li></ul> |

## Operate effectively

Models that operate effectively have the following dimensions and features.

- |                                   |  |
|-----------------------------------|--|
| Links to educational institutions | <ul style="list-style-type: none"><li>✧ Productive relationships between the workplace and educational institution.</li><li>✧ Course components within educational institutions that are adequately aligned to complementary workplace activities.</li></ul> |
|-----------------------------------|--|

Shared roles, responsibilities, costs and benefits	<ul style="list-style-type: none"> <li>✧ Clearly stated roles, responsibilities and costs for the learner, employer, government and other stakeholders (often stated in the training contract).</li> <li>✧ Meets the needs of the learner to participate in learning while earning.</li> <li>✧ Allows the employer/firm to be competitive.</li> <li>✧ Allows the VET provider to support flexibly the arrangements, as supported and regulated by government.</li> </ul>
Access to User Choice	<ul style="list-style-type: none"> <li>✧ Allows access to User Choice.</li> </ul>

## Provides quality skills for employment

Effective EBT models that provide skills for employment have the following dimensions and features.

Meet unemployment issues	<ul style="list-style-type: none"> <li>✧ Provides stepping stones at lower level qualifications for unemployed and disadvantaged youth.</li> <li>✧ Allows flexible entry points for all age groups.</li> <li>✧ Have entry level as well as re-skilling options.</li> </ul>
Offer higher level VET qualifications	<ul style="list-style-type: none"> <li>✧ Offers qualifications above the Certificate IV level.</li> <li>✧ Offers qualifications at the paraprofessional level.</li> </ul>
Are open to diverse learners, including all age groups.	<ul style="list-style-type: none"> <li>✧ Provides options for up-skilling or re-skilling to all in the workforce</li> <li>✧ Supports mid-career workers</li> <li>✧ Supports older workers</li> </ul>

## Has high utility and is sustainable

Models that have high utility and are sustainable have the following dimensions and features.

Are responsive to contemporary and emerging requirements of work.	<ul style="list-style-type: none"> <li>✧ Addresses most of the issues with EBT for the industry.</li> </ul>
Meet the skilled labour requirements	<ul style="list-style-type: none"> <li>✧ Meets skills shortages</li> <li>✧ Allows apprenticeship diversification from mainly regulated trades to other industry areas.</li> <li>✧ Available for up-skilling or re-skilling all of the workforce.</li> </ul>
Meet the needs of changes in how work is organised through outsourcing, casualisation and an emphasis on specialisation	<ul style="list-style-type: none"> <li>✧ Has long term solutions</li> <li>✧ Can withstand future skilling needs.</li> <li>✧ Adds to national skills development</li> </ul>

✧ Is a sustainable model.

## Factors for quality outcomes

Bowman et al.'s (2005 p.7-8) factors for quality outcomes of shorter apprenticeships and traineeships are listed below. Many of these factors are also applicable to traditional apprenticeships and traineeships.

High level of employer support and commitment to the apprenticeship/traineeship is available	<ul style="list-style-type: none"><li>✧ Has good working relationship between apprentice/trainee and employer.</li><li>✧ Workplace supports the development and maintenance of a positive learning culture.</li><li>✧ Allows time for experts in the workplace to conduct the training.</li><li>✧ There is adequate structure in the training at work.</li><li>✧ Training provides good employment outcomes.</li></ul>
The model meets legislative and regulatory requirements for the occupation	<ul style="list-style-type: none"><li>✧ Has a good training plan.</li><li>✧ Applies Recognition of Prior Learning.</li><li>✧ There is provision for assessment when apprentices/ trainees are ready to be assessed.</li><li>✧ Teachers and workplace trainers have the appropriate level of skills and expertise.</li><li>✧ Teachers are aware of contemporary workplace changes.</li><li>✧ Workplace trainers have the appropriate level of skills for training.</li></ul>
There is minimum administrative burden on employer	Administration is managed by a Group Training Company.

The above fundamentals and their dimensions and features were considered for a framework for exploring 'best fit' models of EBT for two case study industries.

# Case studies

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The case study for the process manufacturing occupation was based in Victoria and for the child care occupation it was based in Queensland. The enterprises for data collection varied in size and had a mix of younger and older workers. Both occupations had apprentices who were trained or were in training in enterprises that had developed training culture.

## Methodology

Data for the case studies was collected through face-to-face and telephone interviews, and via emails. Although a focus group technique was organised for greater efficiencies (and was initially planned for this project), employers were concerned about the loss of productivity and finding replacement staff when employees/apprentices are temporarily removed from the workplace. Hence, focus groups were not used.

The convenience of accessing the samples for this project, within the time and budget constraints of this study, was an important consideration for data collection. The researchers liaised with networks in the VET sector to access potential interviewees who were contacted for their voluntary participation in this study. In Victoria, the education and training advisors from the Australian Industry Group (AIG) and members of the Manufacturing & Engineering Skills Advisory Board of Victoria (MESAB) assisted with sampling for data collection. Senior staff at the Queensland Department of Education, Training and the Arts (DETA) and the Health and Community Services Workforce Council Inc. (Workforce Council) assisted with access to the sample in Queensland. Other stakeholders such as VET providers and industry bodies also assisted and contributed to the project. Following the initial contact with the individuals suggested by these agents, more interviewees were obtained through a 'snowballing' process. Contacts were progressively made to increase the sample size. Apprentices who participated in the research needed to be engaged or had been engaged in EBT where they:

- ✧ were an employee of a company and paid a training wage;
- ✧ undertook structured learning on and off the job (in the workplace or in an educational institution);
- ✧ were involved in a formal contract of training which is a legally binding training agreement stipulating responsibilities of an employer, conditions for employment, and the responsibilities of the apprentice;
- ✧ had a training plan, signed by them, the employer, and a registered training organisation; and
- ✧ had a contract regulated by the State VET Authority with whom contracts of (employment based) training are registered. The contract was underpinned by the national VET recognition framework that includes Training Packages to guide the curriculum and assessment of competence.

Data was collected through face-to-face and telephone interviews with individuals, and via emails. Prior to the interview, participants were provided with a short introduction to the project (which included possible benefits to them), a consent form, and the list of overarching questions for data collection. Each interview took between 30 and 40 minutes. Where an email approach was preferred, respondents completed their responses to the interview questions. If needed, a follow up phone interview was conducted to clarify responses. A summary of the interview data was sent to the participants via email to confirm the interpretation of their input in developing the draft models of EBT.

The main findings of this study and draft models were emailed to industry networks, providers and government representatives in Victoria, Queensland, South Australia and New South Wales, and to the *AVETRA Researchers Network for New Apprenticeships* for feedback/comments.

## Limitations

The researchers relied on the accessibility and availability of the sample during the period of data collection (April – May, 2006). Although the sample size is small and may not be representative of the stakeholders, the issues and views expressed by them are consistent with what was found in the literature review.

# Case Study 1: Process manufacturing

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## Background

Much attention has been paid to EBT at the Australian Qualifications Framework (AQF) Certificate level III qualifications especially in the traditional trades. To overcome shortages of workers with higher qualifications, new alternative EBT models such as accelerated apprenticeships, new skills sets/qualifications and school-based EBT models are being considered, and are the focus of this case study. Although it is in an early implementation phase, the Manufacturing Technology Cadetship has been introduced to address entry into middle level skills jobs – ‘cadetship’ being the name applied to regulated EBT qualifications in higher technical areas as distinct from trades (‘apprenticeship’) and operator (‘traineeship’) areas.

The term ‘middle level’ has now been replaced with the term ‘higher level VET’ which still describes Certificate IV, Diploma and Advanced Diploma qualifications issued by the VET sector. It is noteworthy that the change in nomenclature over time from ‘middle’ to ‘high’ still describes the same set of qualifications. Both terms ‘middle-level’ and ‘higher level’ are colloquial in origin and the VET system has not systemised distinctions in the same way that the higher education sector distinguishes undergraduate from graduate qualifications, and the schools sector differentiate lower secondary from upper secondary. This may reflect maturation of VET concepts, or it may be a consequence of the dominance of trades in VET policy and community thinking.

There is evidence that middle level qualifications at the entry point to employment in technical occupations provided by the VET system are in open competition with many generalist university qualifications. Similarly, middle level qualifications for supervisory occupations are often in competition with non-accredited tailored short courses or specific models from accredited training programs. The challenge is for VET providers to offer a middle level skill product that better suits the needs of students and employers compared to other qualifications. Curtain (1998) suggested three strategies to lift the standing of middle level workforce skills through higher level VET qualifications: a proposed VET degree; work placements for all students and work placement assistance after graduation; and short courses, leading to relevant qualifications, for existing workers.

Stanwick and Saunders (2004) established that EBT models could be another strategy at the Diploma level and above. These researchers noted that although EBT is an option available to associate professionals (typically those performing complex technical and administrative functions), relatively few people were undertaking training as an associate professional through EBT. Most were completing their Diploma level training in their own time. They suggested the lack of correlation between Diploma and Advanced Diploma level qualifications and employment outcomes may be a reason for the low numbers.

From interviews with employers in six industries, Stanwick and Saunders (2004) established that employers were not overly aware that EBT was possible at the Diploma levels but that some were interested in this possibility. However, as pointed out by Foster et al. (2007, forthcoming), more work is required to meet the needs of employers and employees.

## Skilling for process manufacturing

Australian manufacturing industry has been taking up the challenges of the global marketplace and increased competition. As early as 1994 -1997 processing industries were seen to be among the most technologically innovative according to an ABS survey (ABS 1998). Technology and work changes have continued and affected the entire Australian and international workforce. Some of those interviewed for this case study referred to the conventional workforce pyramid and how this has been changing. There has been a shift towards more skilled (but not necessarily more highly qualified) workers at all levels of the manufacturing workforce.

Statistical data on changes to the whole of the manufacturing industry workforce profile over a ten year period (1994 to 2004) shows a decrease in the proportion of operator level workers from 39% to 33.5% of the total, no change in the proportion of tradesmen (25.5%) and an increase in the proportion combined of associate professionals, managers and professionals, from 20% to 27% (The Allen Consulting Group 2006). Overall, it appears that the workforce pyramid structure has now changed to a convex structure in the manufacturing sector. However, in the process manufacturing sector there remains high number of operatives relative to the rest of the workforce. Employers interviewed in this study suggested a ratio of four operators to one tradesperson. In engineering based firms, in contrast, there are larger numbers of trade-qualified workers.

Dumbrell, de Montfort, & Finnegan (2002) noted that the changes in work practices and design at the operative level, in process manufacturing enterprises, reflect the manufacturing techniques developed by Toyota, known as 'LEAN production'<sup>3</sup>- using a number of quality assurance techniques to minimise waste and reduce incidental work. They reported that none of the participants, interviewed for their research, used this term to describe their own workplace changes. By 2007, and in this study, we found that 'LEAN manufacturing' has become a term in common usage and is being implemented both in private short courses and as a part of the Competitive Manufacturing Training Package.

Widespread implementation of LEAN manufacturing could in time be revolutionary and redefine worker profiles industry-wide. In some cases the skill needs in certain jobs may actually decrease. For example the shift from breakdown maintenance to preventative maintenance may lessen the demand for trade skills. It does not always follow that LEAN manufacturing and similar techniques mean highly 'technically' skilled employees but that all employees can become more involved in 'thinking', 'problem solving' and innovation across the board.

The new Competitive Manufacturing Training Package has qualifications ranging from Certificate II to Advanced Diploma. Many of our interviewees spoke positively of their involvement in implementing the Competitive Manufacturing qualifications within their workplace. Certainly, the Victorian State Government's increased funding for Certificate IV and a funding emphasis on other qualification levels in other States has led to widespread national interest. Many occupational areas within the manufacturing industry are involved in these new developments. Funding incentives aside, the package is receiving positive feedback to date because it allows for customisation of content to suit individual enterprise requirements.

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<sup>3</sup> LEAN Manufacturing is an operational strategy oriented toward achieving the shortest possible cycle time by eliminating waste. It is derived from the Toyota Production System and its key thrust is to increase the value-added work by eliminating waste and reducing incidental work. The technique often decreases the time between a customer order and shipment, and it is designed to radically improve profitability, customer satisfaction, throughput time, and employee morale. <http://rockfordconsulting.com/lean.htm> (19 June 2007)

The recent development of the Australian Industry Group (AiGroup) Technology Cadetship, developed for new entrants to the manufacturing industry will provide a greater range of EBT pathways from entry level to technician and para-professional occupations. Pathways developed to date include those for manufacturing operations, laboratory operations, technical officer and CAD/Drafting. These cadetships are currently being implemented at AQF Certificate III and IV levels (within the Competitive Manufacturing Training Package). They are also being expanded to Diploma and Advanced Diploma levels in metallurgy, polymer technology and sustainability (environmental technicians).

All the new EBT pathways at the entry level will have the potential for articulation to degree level programs. In Victoria, there has to date, only been one cadet enrolled at Certificate IV level, whom we interviewed for this study. This may reflect the current lack of Diploma and Advanced Diploma outcomes that are the normal qualifications for technician and para-professional work in manufacturing. Once these new qualification levels are endorsed and available, numbers may increase significantly.

In the traditional trades area there are new government funding incentives at the non-entry level for several qualifications - MEM50105 Diploma of Engineering-Advanced Trade, MEM50205 Diploma of Engineering -Technical and MEM60105 Advanced Diploma of Engineering. However, because the Diploma of Engineering - Advanced Trade is not an entry level qualification but a post-trade qualification it is not being delivered under a training contract. Regulated EBT model seems limited due to the lack of clarity/ experience of employers with existing worker cadetships at higher AQF levels.

However, entry level training for the Diploma of Engineering - Technical and the Advanced Diploma is being consolidated under the Manufacturing Technology Cadetship giving coverage for all areas of manufacturing. The national industry skills council, Manufacturing Skills Australia, is looking at the overlap in content and intent between the Manufacturing Technology qualifications under the Technology Cadetship initiative and the MEM50105 Diploma of Engineering - Advanced Trade, MEM50205 Diploma of Engineering - Technical and MEM60105 Advanced Diploma of Engineering qualifications. A rationalisation is expected later this year.

As reflected in several recent reports commissioned by the Australian Industry Group, there is a strong need and desire for higher, as well as faster and smarter, trades training outcomes in manufacturing. To overcome current skills shortages in the manufacturing industry, there is increasing demand for higher level qualifications to be completed in shorter duration.

To achieve faster, and also higher than standard, trades outcomes, the AiGroup approach is evolutionary. That is, it builds on the existing apprenticeship scheme rather than to dismantle it. The AiGroup is suggesting that after three to six months into a trade apprenticeship at the Certificate III level, the employee be assessed jointly by the employer and the registered training organisation for eligibility and suitability for acceleration through the apprenticeship to a higher trade outcome. The AiGroup plan is to build on EBT Certificate III through the introduction of Vocational Graduate Certificates and Vocational Graduate Diplomas. They propose these higher level qualifications might be structured accordingly as follows:

- ✧ Trade Plus - Cert III plus Voc Grad Certificate (in business, management or higher technical skill)
- ✧ Higher Trade Outcome - Cert III plus Cert IV post-trade in a specialist skills set
- ✧ Advanced Trade Outcome - Cert III plus diploma level post-trade outcome (e.g. engineering advanced trade) and
- ✧ Technology cadetship -encompassing Certificate 111 and upwards in manufacturing (Campus Review 2007).

What we have learnt about this middle level skills area in a few process manufacturing and engineering firms in Melbourne is outlined below.

## Data collection

The case study has involved interviews with a small sample of employers, employees and key industry and delivery stakeholders in these two areas of manufacturing in Melbourne (see Table A). The seven employees included two existing workers who have completed a mix of post-trade qualification studies, one undertaking a Certificate IV Manufacturing Technology (Drafting and Design) Technology Cadetship, and four enrolled in an Advanced Diploma of Engineering. Interviewees were provided interview questions ahead of time (see Appendix 1).

**Table A Case study interviewees**

Stakeholder type	Numbers interviewed
Employer	6
Employee	7
Training Package developer	1
Providers	2
Manufacturing State ITAB	1
<b>Total</b>	<b>17</b>

For the purposes of this case study the manufacturing workforce was divided into four skills stream groups. As one interviewee suggested, it is useful to view operator level training as one skills stream, trades training and maintenance work as another, and technicians and new processes and products development as a third skills stream. The fourth stream is workers at the management level, including the chief executive officers (CEOs) and senior management team who require specialist management skills. Some of these workers may already have management qualifications (usually from universities or from specialist shorter courses). The fourth stream was not a feature of this case study. The three skills streams/occupational areas of interest in this study are described below

*1. Operatives* – These workers are at the base of the evolving workforce profile. Operators undertake the shop floor production work. Historically, they have been trained on the job as part of induction and referred to as unskilled or semi-skilled workers. Nowadays, their jobs are more complex or multi-tasked and require a greater breadth of skills and some higher level skills. Operators may complete Traineeships in Certificates I, II and III of the AQF. They are no longer deemed ‘unskilled’. Although they are a secondary focus on this study, they are of interest in terms of their skills and training pathways to Certificate level III and above. In some process manufacturing areas such as chemicals, oils and hydrocarbons it is not uncommon to have operators trained at the AQF IV level.

*2. Tradespeople:* In general, tradesmen in process manufacturing (fitters and turners, electricians) perform maintenance roles whilst in the engineering sector (metal workers) they can be performing either a maintenance or production role. Experienced and highly skilled tradesmen often go on to ‘middle level’ jobs such as ‘specialist tradesmen’ or leading hand supervisors who may require additional Certificate IV level qualifications.

*3. Technicians and new processes and products development:* Some tradesmen may also move on to become technicians requiring skills above the Diploma level. They may work in larger enterprises in the Research and Development Department, along side new entrants who have completed Diploma, Advanced Diploma or Degree qualifications in engineering or science. These workers

are in relatively small numbers in any one enterprise (less than 10 to 20%) (Australian Industry Group 2005).

The three groups are not distinctly different. The Australian Industry Group (2005) notes that the changing nature of Australian manufacturing means

...more skills are required of people at each occupational level, in many cases blurring the traditional boundaries between occupations. For example, the process and production workers have now taken on more of the maintenance and diagnostic skills once the domain of the tradesperson. Equally, tradespeople are also taking on higher post-trade skills that encroach on the traditional occupations of technicians and para-professionals (p.34)

## Findings

The findings for this case study are presented in the first instance under the three streams listed above, and then by the different categories of workers.

### Operatives

Given the focus of this research project on AQF Certificate III level and higher skills and training we chose to gather some data from interviewees on skills and training at the operator level and to supplement this with the research findings of Dumbrell et al. (2002).

Dumbrell et al. (2002) provide a very rich account of the significant job redesign in operator level jobs over the five years to 2002. Their study was based on a survey of 17 firms, some of whom were still in the process of implementing change. They found the operator level workplace changes were characterised by multiskilling or multitasking, computerisation, increased responsibilities, problem identification and solving, rostering, teamwork, ordering, invoicing and operational maintenance. Multiskilling was the term used by operators who took on a broader range of functions, although Dumbrell et al (2002) preferred the term multitasking.

From our interviews we learnt that in the past, plant operations and maintenance roles were a distinct division of labour. When machines were primarily mechanical in nature, it was a simple matter of having one group of people to operate them and another to service or fix them. The delineation between operator and maintenance skills has become blurred across time and this has, to some degree, blurred operational roles especially in regards to preventative maintenance and simpler repairs. As machines became more sophisticated in their design and operation they often require operators who can operate, monitor, adjust and problem solve on a continuous basis. In addition to monitoring machine output, some operators are also involved in tool and die-setting, and machine adjustment. A level of tool and die setting has always been a part of high level operator training role even before the award restructuring of 1988.

Dumbrell et al. (2002) found the move to LEAN manufacturing and other quality related work processes led to the introduction of work teams and the need for greater skills in communication and team work. Teamwork also highlighted some redundancy at supervisory levels as operators became their own supervisors.

The availability of new communication technologies and the replacement of some formerly physical tasks with computer-controlled robotics resulted in an overall reduction in the physical effort required in most operator level jobs in the firms surveyed by Dumbrell et al (2002). In one firm, 12 operators were controlling and monitoring 24 robotic machines. The main task of the operators had changed from a simple machine operation role to one requiring more advanced skills in setting up new dies for the change in output required in the firm's relatively short production runs. This finding has been validated by our research.

Dumbrell et al. (2002) concluded that at the operative level, VET provision needs to address two distinct areas: 'soft' skills and underpinning technical understanding in areas of basic science to provide a sound basis for workers' understanding of the occupational health; and environmental protection issues associated with the products with which they were working.

These researchers also found that almost all of the changes to operator jobs observed in the firms surveyed were covered by national Training Packages. Nevertheless, a minority of firms had developed their own, enterprise-specific training arrangements. In addition, a number of enterprises had modified national Training Packages to meet their own needs. Generally, the relevant national Training Packages were well regarded. It was apparent that the existence of the AQF had facilitated the definition of new occupational levels and the matching of these new occupations with Training Packages.

In our study, we found that the bulk of government funded training occurs at the operator level and there was an established acceptance of a traineeship model for existing workers in Certificates I, II and III in either the Plastics or Process Manufacturing Training Package. A commercial registered training organisation (private provider) offering specialised training options to the manufacturing industry claims that the bulk of their business is at the operative level because it involves training to large numbers of people in generic manufacturing content and is the level for most cost effective training.

An enterprise registered training organisation reported that many people employed as operators do not have any post compulsory training qualification and may have been working for years in the same role. Many women and people from a non-English speaking background work in this band of employment. Because of their experience many of these workers could and do 'fast track' through the in-house Certificate II and III training. A Certificate III in Plastics usually takes two years to complete at TAFE. Within the enterprise registered training organisation, the in-house training pathway involving classroom delivery, written and workplace assessment takes six to 12 months. If the worker chooses the workplace assessment pathway, they complete a self-paced manual and then 'show' their competence during work – this option takes one or two months. In many cases, this is the worker's first post compulsory qualification and therefore place much pride in their achievement of a nationally recognised credential.

Several interviewees suggested that experienced operators who have completed a Certificate III in Plastics or in some cases a Certificate IV in Polymer Technology can then move up into the next band of employment. However, we were advised this was a rare occurrence as the next band represents a significant jump in the amount of theory and underpinning science and mathematical knowledge required at work. Those operators with a Certificate III or IV are at the top of the operational skills stream. Many operators may then do several additional training at the Certificate level to broaden or deepen their skills, rather than go on to complete a higher level qualification.

## Tradespeople

Trades workers include: Tradesmen - Maintenance (Fitter); Production (Turner or 1<sup>st</sup> Class Machinist); Electricians; and Metal worker. One of the four employers who employed tradesmen with a Certificate III for maintenance roles, believed that the die setting role could be performed by an operator who is offered additional skills-set training. There was no need for fully qualified fitters. This is acknowledged in the Metal Engineering and Associated Industries Classification structure that aligns Tool Setter or Die Setter with C11 or if advanced at C10 (trade equivalent level).

In the metal and engineering industry qualifications are tied to the classification structure in the Metal Engineering and Associated Industries Award 1998. The award classification system has 14 levels - C1 to C14. Certificate II is aligned to the C12 level, a more rigorous Certificate II is

aligned to the C11 level, Certificate III to C10; Certificate IV to C7; Diplomas to C5; Advanced Diplomas to C3 and Degrees at C1. Normally, university graduate engineers (with a three year degree) start at C6 or C5 (with a four year degree) because they do not have work experience. They are able to move up the pay scale each year, eventually to reach the C1 scale. Other manufacturing areas such as food and beverage manufacturing, plastics, chemicals oils and hydrocarbons, manufactured mineral products, textile clothing and fashion, and furnishing have similar arrangements. However, the AQF qualification alignment to classifications and/or the degree of formality of the link between qualifications and classifications may be slightly different. It should be noted here that classification structures in all Awards is currently under review by the Fair Pay Commission and there may be changes to the above arrangements in the future.

All employer interviewees clearly delineated the difference between an AQF qualification at Certificate III level delivered as a trade qualification and one delivered as a traineeship, for example a Certificate III in Plastics. They clearly saw a trade qualification as having more gravitas, quality control and end-value. A Certificate III trade was seen to be attractive and rewarding to participants, giving them genuine employment outcomes, the support of employers and industry, and embody excellence in delivery. They were frustrated that both trades and plastics qualifications were equal in relation to the AQF, yet within the culture of the workplace they do not have parity, nor do they yield the same wage levels.

There was an acknowledgement among employers that the VET competency based training (CBT) system could deliver the required trade skills in less time than the traditional four years of apprenticeship. However, the notion that four years was required to complete an apprenticeship was supported from a perspective on maturity – more than one employer considered that it takes this long for young people to develop to a point that they can operate autonomously. The strength in a time served system is its discipline, doing the same thing for four years on a sliding scale of autonomy. Full-apprenticed tradesmen are seen to be ‘of value’. A common view was that the nature of trade licensing and the depth and quality of skills that are officially ‘signed off’ under an apprenticeship was worth waiting for four years.

One employer had an apprentice who was competent before his time was served. However, the licensing system required him to serve out his time. In his fourth year he was utilised by the company as a full tradesman, but could not be formally recognised because of related industrial relations (IR) issues (although the company would have been prepared to pay). This manager supported a fast tracking model where an apprentice who finishes a Certificate III set of competencies ahead of time can also complete specialist skills sets in the remaining time. He is then rewarded through pay or other incentives (and through the issuing of an upgraded apprenticeship).

Some employers expressed concerns about the idea of an EBT model that consists of one year upfront and then entry into the workforce. They thought this model might mean there was a significant lag in the opportunity for the worker to fully put into practice what they had learned ‘in theory’. They felt this lag may mean that the worker would not immediately ‘value-add’ to the business as they would take time to learn how to apply the skills in the workplace. Several employers expressed the opinion that young people need work experience but also ‘learning skills’ and how to apply them. Because of this, pre-apprenticeship courses were seen useful for learning the ‘basics’ of measurement, accuracy and practicing these skills without ‘eating into company profit’. Another interviewee representing employers concurred that upfront institution-based programs should be about getting the young person employment-ready before they join the workplace. This will allow immediate productivity gain for the employer when apprentices take on EBT.

TAFE was criticised for letting some young people through without the basic literacy and numeracy skills (for example calculating the size of a drill bit for a hole or being able to access

information from a technical manual). One employer also wanted registered training organisation's to make more site visits to talk with the workplace mentors about how to effectively link what was delivered at TAFE and in the workplace.

One employer suggested that 10 to 20% of their shop floor tradesmen had the capacity to go on to do higher qualifications but at present this doesn't happen because there are no incentives or wage structure to support it. 'Pack' mentality (that is getting workers to stand out from the pack and be prepared to do further study and move away from the shop floor) was considered to be another issue, according to one employer:

To move from a wages (allowances plus overtime) model to salary 30 hour week plus flat rate overtime takes a change in culture. It is a move from union agreements to EBAs. That is why not many shop floor trades move between the two. Sometimes it might happen if a fitter wants to become a designer, CAD programmer but he'd lose his friends.

## Maintenance workers

Trades workers can go on to complete a Certificate IV in Engineering specialising in maintenance skills i.e. machinery, welding, electrical (trades). There are some components of technician skills (from Diploma qualification) in the Certificate IVs. Some trades people also go on to be supervisors doing leadership skills courses at Certificate IV level. One interviewee identified a gap in Manufacturing Training Packages. According to him the emphasis is very much on technical skills, without any business skills.

For one enterprise the development of 'add-on' specialised 'skills sets' has become an in-house training solution that is now tied to the Enterprise Bargaining Agreement and wage rates. Operators complete a Certificate II in Process Manufacturing and can then move through Certificate III to a customised set of competencies drawn from Certificate IV in Polymer Technology from the Plastics Rubber and Cabling Training Package (featuring die setting competencies). The enterprise has analysed the Training Package and the skills required by the workers and ascertained that there is no need for completion of the entire Certificate IV qualification for their purposes. In this case, a Certificate III plus a customised specialist skills set provided a viable set of workplace skills tailored to the job but not to a full accredited 'qualification' within the VET system.

## Workers' perspectives – two examples

For both these workers their initial trade qualification was completed as an apprenticeship. All additional post-trade training has occurred outside of a formal EBT model. Some of their training has taken place under employer 'sponsorship', some they have paid for themselves.

### *Worker 1*

A Leadership Manager of a Technical Department had started a fitting and turning apprenticeship when he was 16. He has worked in abattoirs, a major food production company and as a contractor for about 20 other industries as a maintenance worker. He completed a post-trade Certificate in Pneumatics and Hydraulics (Fluid Power) in about six months in a self-paced way, learning the theory at home on his rostered days off. He used his extensive workplace experience to fast track through this certificate. He had a passion for problem solving and technical enquiry and was recognised by his employer as an excellent trainer. He completed a short Leadership Management course (12 weeks) as part of work. Now he is a team manager.

When asked about the best models to support entry level workers, he suggested the government and education system had to acknowledge that higher education options were not the only

choice: that a trade is not 'a second choice'. He stated that a trade should be seen and marketed as an equal choice once a person had worked out what he/she was good at and given equivalent status in society to a university option. He thought the government needed to do more about this than just the current advertisements on TV. He proposed that schools and teachers needed to know more about trade and general VET options.

He was skeptical of a totally on the job model of learning and explained: 'Your plant only can give you so much. You need to learn off others and learn in groups and learn how things are done in other industries.'

He believes that the creation of specialist skills sets that are only about one particular workplace leads to workers being afraid to leave. 'They become an expert in the machines they know so they want to stay. If you want to move off the shop floor then you need to learn more. But you might not learn enough for you to leave'.

He believes that for existing workers there should be more ways to extend their future in the field. He would like to do a Diploma in Engineering but claims he can't afford the 'time to come off the floor' and did not want to pursue night school options. He had a family and felt he had sacrificed a lot in terms of shift and overtime work in the past. Any future form of training would have to be work based. He did not believe that he could be paid at a rate that would make this worthwhile to him as an experienced worker.

#### *Worker 2*

A Process Engineer in a Technical Department completed the first part of his fitting and turning apprenticeship in 'form 5' (Grade 11) at school in the 1970s as a pre-apprenticeship. He then went on to do a Production Technician Certificate in Tool-making, Drafting and Metallurgy and Pneumatics. He then took another two years to complete a toolmaker Certificate in Plastics and Pressed metals, and a Jig and Tool Drafting Certificate. All up this comprised a total of nine years of post-trade training. After applying these skills as maintenance fitter for six years, he went into the Technical Department and then completed a Certificate IV in Polymer. This would usually take up to four years to complete part-time but getting exemptions for Drafting and Metallurgy and his other work experiences he was able to complete this in 12 months. His employer allowed him four hours for a class during the day. He attended another class at night. This course had a practical application and he felt that the TAFE component was way behind industry. He observed that his TAFE teacher learned more than he did from the teacher's visits to his workplace. Although he learned a lot of chemistry in the Polymer course, more than he needs for his job, he supported the notion of learning beyond what is required by the immediate job. 'The existing workplace can limit you if you only stick to what's available in your industry'

In his current job, the Process Engineer sets up machine parameters, makes production improvements, trains, and liaises with customers. In addition to the Certificate IV in Polymer has also completed Certificate IV in Training and Assessment that took 12 weeks. He can't fathom why under the AQF these two courses are considered for the same level of outcome. He now trains people in the in-house competencies in Certificate III in Plastics.

His view on the current training system is that it puts too much emphasis on the student controlling the pace of module completion. He is concerned about a student who is not self-directed, may become lost in the system and not complete, or fail to make the direct connections between what he is learning at school and at work. He believed Group Training Company structures, rather than direct employment of apprentices, also cause a greater disconnect between TAFE learning and on the job instruction. The workplace supervisors often do not know where the apprentice is up to in relation to the course content. In his experience, it was rare to see a TAFE teacher or Group Training Company person onsite. He also thought the employer does

not get enough assistance with how to best help the apprentice link up their skills to the workplace. He believes a more structured system that lays out training options and wage increments is desperately needed. Such a system would let apprentices know what they will get at the end of their contract. He felt that there needs to be clearer pathway maps and job outcomes created for the industry so that people will persevere with training because they see what is at the end of their effort.

He believed that closing the technical schools in the 1970s and moving away from pre-apprenticeships has caused the skill gaps that exist today. Yet, he stated that the small number of Technical Colleges and the infrastructure money mentioned in the recent budget,

... won't scratch the surface of the equipment upgrade that is needed to bring Australia up to international standard. Companies have multi-million dollar laser lathes and moulding machines that can't under any circumstances be replicated in a TAFE training environment.

## Technicians - new processes and products development

In the past some tradesmen have moved into this area of work through completion of a trade and then some post-trade qualifications delivered outside of a formal EBT model. The new technology cadetship initiative now allows for these skills to be developed fully within an EBT model.

### *An AiG technology cadet's perspective*

The new technology cadetship - encompassing Certificate III-IV in Manufacturing Technology - are new EBT qualifications aimed at school leavers. They take 12 months to two years to complete and can lead into a range of jobs such as:

- ✧ drafting officer
- ✧ manufacturing or production planner, who can become managers with more training
- ✧ laboratory operations – junior scientific officer or technician
- ✧ technical officer – with top up specific technical knowledge (e.g. plastics, rubber).

In time, Diploma and Advanced Diploma Manufacturing Technology qualifications are also to become available.

The technology cadet interviewed for this project had completed Year 12, as a Victorian Certificate of Education with Maths and Physics, and then begun a Bachelor of Information Technology. He dropped out of that and started a job that involved CNC<sup>4</sup> machining. He had completed a pre-apprenticeship in CNC machining and wanted to progress this as far as possible. Through AiG he got a job as a cadet and enrolled into the Certificate IV in Manufacturing Technology (Drafting and Design). He claims that the experience he is gaining in the industry is 'second to none' with all the theory being applied every day within a work context. He has a supervisor and a mentor at work and thinks his employer is a strong supporter of learning in the workplace. He saw it imperative that he received training whilst working. He suggests that, as the system progresses, he will go on to complete a Diploma of Engineering (Manufacturing

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<sup>4</sup> The abbreviation CNC stands for computer numerical control, and refers specifically to a computer 'controller' that reads G-code instructions and drives the machine tool, a powered mechanical device typically used to fabricate metal components by the selective removal of metal.

Technology) which will involve about five years of night school. He says job advertisements for the job he wants state: 'five years experience is needed'.

After his first year he received a pay increase and feels that although it is his passion and commitment to the field that is the primary driver, it is also important to be rewarded for the effort. In order to get the skills he needs in the longer term, he is sacrificing immediate monetary gain. Both he and his employer agree that once he has the skills for a CNC specialist he will be able to work internationally for 'top money'. The cadet saw the upfront sacrifice of wages as worth it against long-term gains in CNC specialist skills. In his view two years is a realistic timeframe to learn what he needs to know (for a Certificate IV) but cautioned that to fast track further could compromise quality. In his opinion longer involvement equalled better learning.

The cadet emphasised the need for a supportive workplace with a culture of mentoring and enquiry. He suggests the current model would be improved by more onsite work visits by the provider. The provider currently enrolls him in one subject at a Diploma level that did not require an onsite visit. He holds that decisions by the provider about what suits them may not necessarily suit his best interests but feels he has no choice. He prefers that most of the TAFE subjects link directly to his work, but that he also learns about broader subjects (such as stress testing) that he doesn't currently need for work. He feels that there is a need for more independent learning materials and reference texts that he could apply on the job himself.

## Technician level

Technicians have specialist sets of knowledge in areas such as (Polymer, Pneumatics, Nano and Bio-technology). Although the numbers within each enterprise at this level of employment are not high, the impact of the technician's role on productivity and innovation is extremely high. If machines are not working to their maximum output, or if materials are not being used efficiently, then entire outputs can be compromised. Many skills required at technician level require access to cutting edge machinery that was not viable to keep in operation under a traditional TAFE model. These days there is a lack of infrastructure and a perception of a lack of highly trained 'industry specialist' staff in the TAFE sector and so technician skills training is offered by specialist registered training organisation's or proprietary companies.

What is happening now in technician level training was explained as a resurrection of past training at this level. There used to be technical level training available in the past but it had dropped off when manufacturing underwent major restructuring. The privatisation of public utilities was specifically mentioned to be associated with a sharp drop off in technician training numbers mainly due to uncertainty about the future of this level of occupation. In more recent years, the emphasis on entry level training had also meant that the development of specialist technician training remained slow.

In the past, technician training was primarily State-based curricula delivered as 'night courses' at a technical college. Nowadays, many of the skills required at technician level are tied to the need for access to state of the art machinery that is not viable to keep in operation under a traditional TAFE model. This lack of feasibility in maintaining the infrastructure and a perception of a paucity of highly trained 'industry specialist' staff in the TAFE sector sees technician skills training offered by a few specialist registered training organisation's or proprietary companies. A couple of examples follow.

### *Case example – customised training*

At present, one enterprise we interviewed offers in-house technician level training, using proprietary training options such as the FESTO system – an international company providing cutting edge 'business solutions' to the manufacturing industry such as Mechatronics, Six Sigma,

and Target Engineering. This is because of the perception, by the Quality Manager, of a lack of specialised equipment available within the TAFE system and the need for short, just-in-time training solutions that are geared around a particular issue in his company, rather than the development of a full qualification. For this company, the investment is in 'cutting edge skills', not necessarily accredited 'qualifications' within the VET system.

Another enterprise, that wanted the highest-level of LEAN training, has formed a partnership with a specialist registered training organisation who created a State-based course – a Graduate Vocational Diploma and Certificate in Competitive Enterprise, taught by overseas specialists under the auspices of the registered training organisation. This course was a mix of technical, management and LEAN based content that results in an accredited qualification (based on a State-based course and not a Training Package). Vocational Graduate Certificates and Graduate Diploma qualifications that will cover LEAN are currently under development by Manufacturing Skills Australia. A third enterprise combined management skills training from a private training company with a customised Certificate IV in Competitive Manufacturing to provide the company with LEAN training content.

## Research and development department staff – technicians

Research and Development Department staff, whose job is to develop new processes and products, most often appears to include higher education engineering graduates. Occasionally, a long standing employee from the technical or trade area makes the move up through experience and/or additional training. However, this is rare and works against the cultural assumptions rife within enterprises - as illustrated by the following anecdote.

## Employer perspectives

One enterprise reported that they had recently advertised for an engineer for their process department. Historically, these positions had been filled with tradesmen/technicians who had performed well and had perhaps done a Certificate IV in Polymer Technology. In this case, a new Engineering Manager decided he wanted to fill the position with a qualified Engineer and rejected the application from a long term, valued and experienced tradesmen from within the company. The rejection was on the basis that he did not have any 'tertiary' education and therefore not eligible for an interview.

The training manager reported that it was strategic thinking, learning and analysis type skills that the tradesman candidate might have lacked. He felt that these skills need to be built into any future qualifications developed for industry and supported through government incentives. In addition to a set of financial incentives that would convince the Engineering Manager to take on the tradesmen and develop him into an engineer (using the Training Package Diploma) there is also a need for a change of mindset that values a higher education graduate with no experience above an existing worker with years of enterprise specific experience. The training manager raised the issue that it is this mindset (rather than the lack of training options available) that is a barrier to multiskilling existing workers beyond Certificate III level. 'If Certificate IV had more 'clout' or reputation in the system it could be seen as a viable pathway.'

More education for a fitter to become a higher level worker has not had that much success. 'It is easier to hire a university engineer. But these guys are a different breed to tradesmen and need significant work based experience. Really you want a similar skill-set from university graduates and process engineers – maybe a trade diploma could deliver this – the right combination of theory and practice.'

## Advanced Diploma in Engineering Employee perspectives

Four of the employees that were interviewed were doing the Advanced Diploma in Engineering. Three of them had completed a trade qualification as a fitter and turner. One employee wanted to use the course to justify a wage increase and was doing the course without his employer's knowledge. Another wanted a management position and was also self funding the course.

Their respective employers were paying for the remaining two interviewees. One had been promised a pay rise (from a C5 to C3 level on the C1-14 Metal and Engineering classification scale) on completion of the Advanced Diploma. The other had moved jobs and negotiated study support at TAFE as part of his employment package.

All four employees wanted to pursue further study. All believed that more qualifications would result in better pay, work conditions, and potential for management positions. They spoke of losing earnings by moving from wages (i.e. hours earned plus overtime) to a salary (i.e. set hours per annum) but agreed that earning wages was tiring and non-sustainable over time.

These workers were completing an informal employer sponsored "cadet" training. This model has been around since the 1950s especially for higher level VET outcomes. Sometimes these informal EBT arrangements were recognised in Awards through a special training rate as in the Metal Industry Award Part II. However up until the Technology Cadetship they rarely involved formal training contract.

None of the four employees were aware that it was possible to do an Advanced Diploma under an 'apprenticeship type' model or believed that a system could exist that would allow them to study in work time. They indicated that their employers were either not aware of or probably would not be interested in an EBT option because it would take them off the job and disrupt work. They believed that the employer was happy to have the worker do the study in their own time. Moreover, they thought that if the government offered too much incentive for workers to study that many would choose to study to 'get out of work'. They felt that by making the choice to come in their own time they showed initiative and commitment and that they then deserved the benefits of this sacrifice. To make it too easy would work against that.

The four employees were also concerned that an EBT model would limit their learning to only what the boss wanted them to learn. They expressed the desire for a broad based theory that 'sits behind' what they did at work. They wanted to learn more than what their current work could offer them. They liked the autonomy of night study because work couldn't intervene or influence their choices of subjects and there was a broader set of choices in subjects than just what might apply at work. They enjoyed the cross-fertilisation of ideas that they received from meeting people from other workplaces.

The Advanced Diploma in Engineering course they were doing was entirely theoretical in nature and did not have a practical component. Two of the four employees had claimed a 160-hour exemption because of trade related competencies they already possessed. As the Advanced Diploma is completely theory based without workplace visits or any workplace assessment they said it was difficult to have gathered sufficient evidence of competency. A formally completed module and Statement of Attainment would give them 'credit transfer' but not less formal evidence from the workplace. They did not seem confident as to how to go about demonstrating their current competence other than through a formal prerequisite process.

Referring to applying the knowledge they are getting in class to their own work all said this was very important. In their view there is no better way to learn than putting theory into practice: 'You need to move up in the ranks at work at the time of education because if you have a higher education but are not working at a technical level you will never get in.'

They thought the course they were doing could be improved through the addition of ‘hands on training to back up the theory’ such as practical ‘shop’ demonstrations or site visits. But one student immediately saw an issue with site visits scheduled at night: ‘It’s 6.30pm now (referring to the time they are in the room for class). Nothing would still be open would it?’

As a solution for this, they suggested project-based approaches in the workplace and a series of site visits from subject teachers. They also suggested more options of night classes and subjects and better facilities – tools and instruments available to measure and analyse, and practice what they were learning. As a last ‘wish in an ideal world’ they suggested cash incentives to offset ‘overtime earned against hours free to study’ - another aspect of their ‘ideal’ course arrangement.

In relation to their TAFE experience, they noted that some of their teachers did not have sufficient or recent industry experience and so could not link what they were teaching to real contemporary examples from industry. Several of them also had found a lack of flexibility in subject choices because TAFE could only offer the course when there were sufficient numbers. The issue of sufficient numbers to constitute a ‘class-size’ and subsequent finding viability for ‘higher level’ VET qualifications was one that was raised by other employees and employers alike.

We also asked this Advanced Diploma group about some alternative EBT models. They strongly supported technical education in schools and, like the existing worker interviewees, talked about society ‘pushing’ the university choice as the best choice and trades as a ‘less than’ option. They stated that getting baseline technical skills early was an advantage but there was no way of fast tracking the theory and how the theory applied on the job.

Regarding new qualifications based on skills sets they saw this as an option to do post-trade subjects such as CNC programming. They didn’t like the idea of too many ‘Mickey-mouse’ subjects, meaning small niche areas of knowledge without the proper grounding in the basics. The course is theoretical in nature. There were no site visits as part of the course. Their teacher (of thermodynamics) said he would love to have a container set up with an engine/motor for practical demonstrations.

## “Best fit” EBT models for process manufacturing

The findings of this case study show that variations in the four EBT models (fast tracking options, higher level VET qualification, new skills sets/qualifications, and alternative provisions for young people) are not mutually exclusive. For example, new skills sets are being used to achieve higher level VET outcomes and in general the issues for consideration can be bundled into two groups, workplace relations linked to regulatory environment and education and training delivery.

The Australian manufacturing industry is pursuing an articulated entry level EBT model from Certificate III qualifications upwards, from trades level to technician or para-professional level occupations using its new Training Packages and custom built training options for existing workers. Fast tracking of Certificate level skills training is considered possible for existing workers from a technical skills perspective, but this is often not perceived to be an option for the younger people in apprenticeships, possibly for maturity reasons. This is less the case for apprentices who have completed a Year 12 or pre-apprenticeship than those entering an apprenticeship straight from Year 10 at school. Fast tracking is sometimes criticised by employers who argue that the later third and fourth years are where they gain their economic return for the unproductive first and second years of an apprenticeship. However, our research found support for paying top level apprentices and fully utilising their skills when they were deemed competent rather than when their time was served.

If an appropriate way can be found to assure quality with a fast track model then employers agreed that it was a way to address immediate skills shortages. Our research found anecdotal examples of companies that had in the past included competency based pay scales in Enterprise Based Agreements to allow for apprentices to fast track. An assessment of the young new entrant candidate, for suitability for fast tracking and/or higher levels skills training, after six months in EBT seems a sound way to assure quality trades (plus) outcomes.

To take advantage of fast tracking options, it was found that many existing employees have to push for RPL despite this being a key element of the national training agenda for many years. This is not surprising as studies that have examined the implementation of RPL (e.g. Cameron and Miller 2004) reported ‘... a gap between the promise and rhetoric of RPL and the actual reality.’ This, and the reluctance by employers to accept RPL, may partly explain the lack of fast tracking models in existence today.

Our research suggests that as individuals go higher up the qualifications framework the harder it is for them to demonstrate prior competence, given the more theoretical nature of Diploma and Advanced Diploma level programs. Also, at these higher levels (Diploma and above), existing workers want less employer control and so are not convinced a formal EBT model is the most suitable arrangement for them. Employees doing Advanced Diplomas generally wanted to have complete control over their learning and did not want the theory they were learning directly tied to their current employment. Their intentions were to broaden their knowledge and skills beyond what was needed for immediate application. Those still relatively young (mid 20’s) were prepared to spend time at night for learning. They wanted more certainty that their investment of time would pay off in pay scales and development. None of them saw their current employment as their ultimate goal and were using the study to ‘move up and on’. Older workers had done the ‘hard yards’ of study at night. They were interested in further study only if it could be done on the job and benefit them within the company.

New skills sets/qualifications appear to be alternatives to Diplomas and Advanced Diplomas (especially for existing workers with trade qualifications). Specialised skills sets are a growing currency in manufacturing training, some of which are not easily characterised at a qualification level. Employers who are also registered training organisation’s start with the job description and work back to the Training Packages, mixing and matching from different packages and AQF levels (e.g. some from Diploma level, some from Certificate IV level etc.). Nationally endorsed Graduate Vocational Certificates and Diplomas are also being considered for existing workers with trade skills. In Victoria, state based courses are created specifically to fill a qualification gap.

However, when recruiting technicians it remains the case that employers often judge VET and work-based trained individuals less desirable than university graduates. The new VET Diplomas and Associate Diplomas may see this change in future.

## Issues for process manufacturing

This case study highlights key workplace relations issues linked to pay rates for existing and entry level workers. Formal training rates linked to all levels of the AQF are not yet in place. The technology cadetship, with its specific industrial award, offers one model. However, it is too early in the implementation of this initiative to report on its viability at higher than Certificate IV level.

The current low unemployment rate means that demand for ‘top quality’ apprentices has resulted in employers who can afford to, and do pay more than the award rates. For small to medium businesses this creates less than a level playing field, and in some eyes a mockery of wages linked to awards. Employers reported dissatisfaction with wage rates that do not draw

... quality apprentices and cadets or encourage existing workers to undertake training. Our research indicates that the structure and adequacy of wage rates at both entry and existing worker level need to be further explored.

The apparent lack of parity between Certificate III production and trade related certificates under the AQF is clearly unfathomable for some. Similarly, the lack of parity between the technical Certificate IV in Polymer Technology and Certificate IV in Training and Assessment draws criticism of the system.

Employers, in one instance, expressed frustration with employees who do not want to stand out from the crowd and take on additional study and a move from blue to white-collar work. In another instance, there is employer reluctance to accept that an existing worker could move up into a technical role via a VET Pathway despite signs that the employee is interested in doing so. Clearly, a workplace culture that unnecessarily delineates fields of skill needs examination if effective models of EBT are to be introduced in this industry.

With regard to education and training, the key delivery and pedagogy issues appear to be that:

- ✧ across all levels there is a need for an effective combination of learning and applied practice - that work based training requires regular registered training organisation visits and that theory-based courses require industry visits.
- ✧ on the job training within a particular enterprise, at above Certificate III level, is generally in small numbers and is therefore costly (certainly not an attractive delivery option for registered training organisation's using government funding).
- ✧ registered training organisation's offer models of delivery of post-trade training and full-time Diploma and Advanced Diploma level training that are not connected directly to workplace practice or assessment.
- ✧ industry demands highly credible 'cutting edge' trainers otherwise commitment to government funded training is not worth it.
- ✧ industry perceives that TAFE generally are not 'up to speed' on the way things are done in industry.
- ✧ models of on the job training that break down silos in company structure and thinking, and pose business challenges in a real time environment are valued.

On reflection, of the models proposed by Stanwick and Saunders (2004) that provided a number of potential EBT options for industry, this research validates the first two options as being viable for use in the manufacturing industry:

- ✧ A traditional single-stage apprenticeship in which the apprentice is indentured with an employer to undertake training capable of taking the individual from scratch to a fully qualified associate professional. However, estimates of the time required to complete such an apprenticeship vary from three years to seven years.
- ✧ A two-stage apprenticeship in which the individual first completes a lower-level apprenticeship to Certificate III, followed by a second higher level apprenticeship which extends to a Diploma or Advanced Diploma (p.7).

Preferably, the national training system needs to supply a set of flexible options that can be used to meet the needs of individual enterprises and workers. The introduction of the AiG technology cadetship initiative indicates that it is possible to develop a set of 'staged' EBT options that meet the needs of entry level workers. With a longer period for implementation and endorsement of higher level qualifications through technology cadetship, it will be of interest to see if this initiative can also meet the skill development needs of existing workers. Also, the Training Packages make it possible to mix and match competencies to make up new skills sets required for

existing workers and/or new post initial or graduate trades qualifications. Clearly, there are a variety of EBT options now available - the “one size fits all” approach is a thing of the past.

# Case Study 2: Child Care

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## Background

The child care sector in Australia is regulated by State legislation which sets the qualification requirements of practitioners. The Commonwealth Government influences services through the Child Care Benefit allocations linked to the tax system. The Australian Government is currently looking into establishing standards to foster self regulation in all jurisdictions (details can be found at [http://www.facs.gov.au/internet/facsinternet.nsf/child care/national standards child care.htm](http://www.facs.gov.au/internet/facsinternet.nsf/child%20care/national_standards_child_care.htm)).

The sector is made up of long day care centres<sup>5</sup>, kindergartens, family day care schemes, occasional care, school age care, and in-home care. While technology and work changes have directly affected many industries, this has not been the case with child care. The “hands on” nature of the work remains unchanged. Demands of children, especially those with complex needs, and from migrant and refugee backgrounds have required higher levels of skills and professional support in centres and services. With an increasing number of parents in employment, there is demand for longer hours of operations. These factors have implications for appropriate skilling of workers in the child care sector.

The expansion of the child care sector is expected to continue. Data from the Australian Bureau of Statistics (ABS 2001) show that growth in the number of businesses and organisations providing children’s services is outstripping growth in employment levels. For instance, for the periods 1995-1996 and 1999-2000, the number of businesses and locations increased by 28% and 26% respectively. Over the same period, employment in the child care sector increased by 13.8% from 36,135 practitioners to 41,109 workers.

Due to a range of issues in the children’s services workforce, including the lack of reliable and consistent data, the Community Services Ministers’ Advisory Council funded the National Children’s Services Workforce Project in July 2003. The research for the project estimated about 926,000 children were using services each week in 2004. There were about 99,275 practitioners (over double that estimated by the ABS for 2001), with 56% of them working in long day care centres. Nearly two thirds (64%) of practitioners were employed on a part-time or casual basis, and 73% of these practitioners were unqualified. In the 12 months prior to the National Children’s Services Workforce Study that was conducted in 2004, 12% of vacancies remained unfilled. The job turnover rate was 32%, with unqualified workers having the highest turnover rate (37%) (Community Services Ministers’ Advisory Council 2006).

The Skills in Demand Lists (Commonwealth Department of Employment and Workplace Relations 2006) show that there are skills shortages in child care occupations across Australia. Despite increasing enrolments in the Diploma and Advanced Diploma qualifications, there are shortages of child care coordinators and child care workers across Australia (DEWR 2006). These shortages are expected to escalate in this sector that continues to expand in response to the ongoing demand for services. The prediction in the National Children’s Services Workforce Project was a net shortfall of 7,320 staff by 2013, with long day care accounting for 88.7% of this

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<sup>5</sup> A long day care centre is a type of formal care that is centre-based and is available to children between birth and school age for the full day or part day. Centres are usually open for most of the year (ABS, 2006, p.61)

shortfall. The main reasons for shortages include ongoing demand in places for child care, regular turnover of staff, and difficulties in attracting and retaining qualified staff. Misko's (2003) research found the main reasons for shortages were: low wages, lack of incentives, low community recognition and status, lack of people with the necessary skills and qualifications, limited opportunities for career progression, low levels of formal support for new recruits and graduates, and higher pay rates for practitioners in other sectors who undertake similar levels of responsibilities for the care and education of children (pp.16-18). These reasons were also expressed by respondents who participated in the National Children's Services Workforce Survey in 2004 (Community Services Ministers' Advisory Council 2006, p.7). The respondents rated a set of strategies to improve the workforce of the child care sector. The strategies with the highest level of agreement were as follows:

- ◆ Workers in the sector should have higher wages (96% agreed)
- ◆ Pay for in-service training (87% agreed)
- ◆ Raise the profile and status of workers (86% agreed)
- ◆ Allowance of preparation time away from children (84% agreed)
- ◆ There needs to be more on the job training (75% agreed)
- ◆ Increased flexibility in the workplace (70% agreed)
- ◆ Introduce rostered days off (68% agreed)
- ◆ More support from management (65% agreed)
- ◆ Greater involvement in decision making (64% agreed)
- ◆ Increased flexibility in working hours (62% agreed).
- ◆ Greater involvement in decision making (64% agreed)
- ◆ Increased flexibility in working hours (62% agreed).

Source: Community Services Ministers' Advisory Council (2006, p.7)

Findings from the National Children's Services Workforce Project are expected to inform stakeholders across Australia with the aim of strengthening the children's services workforce. The Queensland Government for instance continues to implement plans directed at many of the above strategies.

This case study reviewed the licensing and training requirements for child care workers in Queensland understand the context for the case study based in this state. Current EBT models were explored by interviewing employers, employees and other stakeholders in Queensland. The strengths of these models, together with issues identified by participants informed the development of "best fit" EBT models for child care. The application of these models is also considered for other sectors/industries.

## Licensing/training requirements for child care workers in Queensland

The child care sector in Queensland is licensed by the State Government through the *Child Care Act 2002* and the *Child Care Regulation 2003*. This legislation requires child care services to meet minimum quality standards concerning, for example, the number of adults to children ratio, the activities and experiences, the physical environment, health hygiene and safety. Under legislation, all existing workers are required to have completed or be enrolled to gain a qualification at Certificate III, Diploma or Advanced Diploma levels (Department of Education and Training DET 2006). The *Child Care Regulation 2003* includes the prescribed qualifications requirements for workers in centre-based care, school aged care, and coordinators in family day care. The legislation does allow employers 'to engage workers without the necessary qualification if the

engaged person has the required qualification of the level below' as long as they start 'a relevant course for the position they are engaged in, within six months and complete the course within the prescribed finishing period' (Queensland Community Services and Health Industry Training Council 2005, p.10). As such, 'enrolled' is often interpreted as 'qualified'. At the time of writing this report, the Department of Communities was conducting a review of qualification provisions in the legislation. This review involved state-wide consultation and submissions closed on 30 April, 2007.

All staff involved in caring for children in Queensland are also covered by the *Commission for Children and Young People and Child Guardian Act 2000*. The Act requires certain people working with children under 18 to undergo employment screening - known as the Working with Children Check. Following this screening, a Blue Card is issued if the applicant is eligible. A person who is employed as a cook or volunteers as a cook in a child care site, and is familiar with the workplace could also become a child care worker, as was the case with one of the interviewees in this study.

The qualifications in the *Community Services Training Package (CSTP)*<sup>6</sup> that meet these legislative requirements include:

- ◆ CHC30402 Certificate III in Children's Services
- ◆ CHC40402 Certificate IV in Out of School Hours Care
- ◆ CHC50202 Diploma of Out of School Hours Care
- ◆ CHC50302 Diploma of Children's Services
- ◆ CHC60202 Advanced Diploma of Children's Services.

After completing a qualification, child care workers can gain a position as a team leader, group leader, program leader, assistant, or special needs inclusion worker. Workers who are enrolled in an Advanced Diploma can also work in the position of service manager or director. An example of how these qualifications map against worker profiles in centre-based care, as per Queensland's *Child Care Regulation 2003* is illustrated in Table B.

**Table B Prescribed qualifications for child care workers in centre-based care**

	<b>Prescribed qualifications</b>	<b>Corresponding qualification from the Community Services Training Package</b>
Assistant	112 (a) Certificate III or IV in an area of study applying to child care workers under the AQF; or 112 (b) A one year qualification in early childhood studies or child care studies; or 112 (c) A qualification mentioned in section 113 (a) or (b) or 114	Certificate III in Children's Services
Group leader	113 (a) A Diploma in an area of study applying to child care workers under the AQF; or 113 (b) A 2 year qualification in early childhood studies or child care studies; or 113 (c) A qualification mentioned in section 114	Diploma of Children's Services
Director	114 (a) An advanced Diploma in an area of study applying to child care workers under the AQF; or 114 (b) A qualification that is at least a 3 year qualification in early childhood studies or child care studies; or 114 (c) A post graduate qualification that is at least a 1 year qualification in early childhood studies or child care studies.	Advanced Diploma of Children's Services

Source: Queensland Parliamentary Counsel 2007, *Child Care Regulation 2003*, pp. 55-57.

<sup>6</sup>The National Training Quality Council endorsed the *Community Services Training Package* on 23 December 2002

The required training to conform to the legislation currently recognises an enrolment as ‘qualified’. For example, an apprenticeship at the Diploma level can be completed in six years on a part-time basis. However, workers can remain enrolled in courses for years while operating as an assistant and above. The recent offer of apprenticeships in the Diploma of Children’s Services is expected to boost higher level skills and qualifications of child care workers.

The *Child Care Regulation 2003* also determines staffing levels for services, with levels differing according to the ages of the children in care. Table C illustrates staffing ratios by age range. Children aged between two and five years accounted for 77.2% of all children in long day care services in 2005.

**Table C Staffing ratios by age range**

	<b>Birth to 2 years</b>	<b>15 months to 2 years</b>	<b>2-3 years</b>	<b>3-6 years</b>
<b>Staffing</b>	1 group leader : 4 children	1 group leader: 5 children	1 group leader: 6 children	1 group leader: 12 children
	or	or	or	or
	1 group leader and 1 Assistant: 8 children.	1 group leader and 1 Assistant: 10 children	1 group leader and 1 Assistant: 12 children	1 group leader and 1 Assistant: 24 children

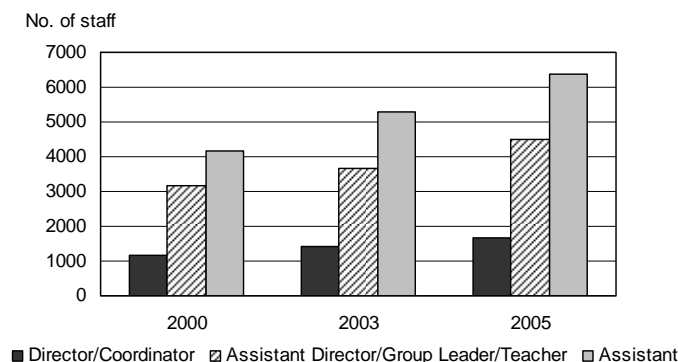
Source: Queensland Parliamentary Counsel 2007, *Child Care Regulation 2003*, pp. 64.

The regulatory environment frames the labour market for the child care sector as the qualifications are mandated along with the numbers of children who will be supervised at the qualification level. Directors must comply with these regulations at all times. This puts stress on those employees who want an allocated number of hours each week to complete the study exercises in their workbooks. As the rates of pay are aligned to qualifications, there is no incentive on the employer’s side to encourage the worker to become qualified because “enrolment” is accepted as “qualified” for all levels of occupation under the Queensland legislation. Furthermore, there is no incentive in terms of pay rates because the levels of responsibility and the amount of paperwork which is often needed to be completed at home cannot compensate for the erosion of work / life balance for employees.

## Skilling for Child Care in Queensland

Queensland’s Department of Employment and Training (2006a) estimates that around 25,000 people are employed in child care in the State. Workers in the child care services can be grouped into three levels of employment: senior (director/coordinator); middle (assistant director/group leader/teacher); and assistant. Figure 2 displays the distribution of staff at the director/coordinator, assistant director/group leader/teacher, and assistant levels.

**Figure 2: Distribution of staff in child care services Queensland – 2000, 2003 and 2005**



Source: Department of Communities (2003, 2005); Department of Families (2000)

While the number of qualified staff has increased between 2000 and 2005, the rate of increase at more senior levels has been below what is in demand. Assistant or base level workers form the largest group in Queensland, accounting for around half (51.3%) of the workforce in 2005. They undertake the physical, intellectual and emotional nature of child care. Since the introduction of legislation in Queensland in 2002, these workers have been trained through VET (either through traineeship or course work). They are deemed “qualified” for the purposes of the *Child Care Regulation 2003* if they are enrolled in the qualification aligned to their job role. Staff at the middle level accounted for 39.3% of the workforce in 2005. They require skills that equate to a Diploma qualification. Some also enter the workforce with a university degree in early childhood studies or child care studies. At the management level, assistant directors and directors require specialist management skills, but current qualifications don’t always provide this. For example, a Bachelor of Education – Early Childhood qualifies one to be a director, but the university course may not include management subjects in the four year degree program. Many directors and assistant directors may have or be studying an Advanced Diploma or a higher award. The legislation requires one director for each centre or service. If they do not have the required qualification, assistant directors and directors can undertake their positions as long as they enrol within the first six months of taking on the position and complete the qualification within the prescribed finishing period.

The Department of Communities reported that 70.2% of all workers held an approved qualification and 45.9% of assistants held an approved qualification in the week of its Child Care Census 2005 of Licensed Child Care Services in Queensland. As legislation prior to the *Child Care Act 2002* did not require assistants to hold an approved qualification, only 36.8% of assistants held an approved qualification in the week of the 2000 census.

Qualifications and levels of employment in Queensland are linked to pay scales and increments (see *Children’s Services Award – State 2006* for wage scales and progression). The average weekly wage rate for child care workers is \$757.40 compared with average weekly earnings of \$857.50 for employees in general (ABS 2007). Financial incentives to enter, remain and progress in the sector is not appealing.

The Queensland Department of Communities, which conducts an annual census of licensed child care centres, found that the number of licensed child care services increased by 44.1% from 1,186 in 2000 to 1,709 in 2005. Over this period, the private sector’s share of services increased from 45.9% to 52.1%; the number of children attending services increased by 16.7% to 127,288; and the number of workers increased by 48.5% to 12,648.

Queensland is experiencing shortage of child care coordinators and child care workers who are qualified as group leaders – occupations that require higher level qualifications. Demand for child care services in Queensland is likely to exceed the national average if the State’s forecasted population growth of 32.4% by 2021 remains above the current forecast of 18.8% for Australia (ABS 2005). The Queensland Government has attempted to address the skilling needs through its *Child Care Statewide Training Strategy 2001-2004*, *Child Care Training Plan 2004-2006*, and the current *Children’s Services Skilling Plan 2006-2009*. The current plan is a joint initiative of Department of Education, Training and The Arts and the Department of Communities. It aims to continue supporting workers to meet their qualification requirements and to support the child care sector to address workforce issues including attracting and retaining qualified staff (Department of Education and Training & Department of Communities 2006).

The *Children’s Services Skilling Plan 2006-2009* contains eight strategies. The second strategy in this plan focuses on ‘assisting existing eligible children services workers attain the appropriate skills and qualifications outlined in the *Child Care Act 2002*. This will be facilitated by access to publicly funded vocational education and training’ (DET & Department of Communities 2006). This allows existing workers to access training at a reduced cost. Fourteen (14) TAFE institutes deliver

training using a range of delivery modes, including face-to-face, on the job, flexible delivery and online. To date the Queensland Government estimates that this strategy has enabled more than 2,500 workers to graduate with a Certificate or Diploma level qualification.

In response to the skills shortages and the urgent need to upskill existing workers in the child care sector, the Queensland Government has also allocated funding in its training and employment priorities for 2005-2006: \$13.8 million in vocational education to provide an estimated 1,700 full-time places in TAFE; \$0.6 million to fund the Remote Area Aboriginal and Torres Strait Islander Child care (RAATSIC) Strategy; and additional funding of around \$3.2 million for child care trainees and apprentices (Department of Education and Training 2006b).

The children's services sector is characterised by EBT models that lead to qualifications in VET. Despite a decade of regulations and strategies to develop skilled child care workers through subsidised places in TAFE, skills shortages persist. Traineeships at the Certificate III level, offered as a vocational course by registered training organisations, only partially respond to skills requirement. Currently there is greater labour shortage in some regions, particularly group leaders with a Diploma qualification, and qualified centre directors (with an Advanced Diploma as a minimum qualification). It is this situation which prompted the offer of apprenticeships in Diploma of Children's Services to boost higher level skills and qualifications for workers in the Children's Services areas.

## Delivery

Training of child care workers is linked to the available Training Package as per the requirements of Queensland's *Child Care Act 2002* and the *Child Care Regulation 2003*. The training to conform to the legislation currently recognises an enrolment as "qualified". For example, an apprenticeship at the Diploma level can be completed in six years on a part-time basis. However, workers can remain enrolled in courses for years while operating at an assistant level and above. Under this arrangement, there is no incentive for them to complete a qualification because they can continue to work while studying and the child care service operator (licensee) is allowed to continue operating while all staff are studying. This may explain the incidence of low numbers of completion within defined funding periods. This situation highlights the disparity in regulations controlled by two different bodies - the child care sector and the training sector.

Vocational qualifications for child care workers are offered through blended learning approaches that include online and face-to-face facilitation. Employment based training forms a significant part of the skilling. In Queensland, all child care worker/learners must enrol with registered training providers as a requirement of the state-based legislation. Those who wish to enter the child care field but are unable to find employment can undertake Certificate III in Children's Services organise assessment in the workplace to meet the requirements in the syllabus.

Although the bridging between theory and practice is well recognised and aspired to, supervision of the employment based component is inadequate. In Queensland child care workers gain their qualifications through vocational courses, mainly at their own expense. To satisfy regulatory requirements, they are required to be enrolled. Centre Directors, with qualifications to supervise other staff enrolled in a course have little time for close supervision because the legislation demands constant attention to the activities within the centre.

Delivery of courses for higher qualifications (above Certificate III) is not attractive to registered training organisation's due to limited enrolments and cost inefficiencies. The child care sector finds that TAFE trainers and assessors in Queensland are unable to keep up to speed with multiple dynamics such as review of the Training Package, food standards, child care benefits, service standards, and review of qualifications for the industry currently being undertaken simultaneously.

## Data collection

All employers who agreed to participate in the study had apprentices undertaking a Diploma of Children's Services. Data was gathered from participants based across the State and included those at locally based centres; private (owner operated) regional, remote and urban centres; and community based and church based centres. The large employers (those with in excess of 600 staff) preferred contact with the human resource manager at the corporate services level rather than the centre director to represent the views of the employer.

Data collection commenced following full approval by the Research Ethics Committee at the Queensland University of Technology. Data was collected through face-to-face and telephone interviews, and via emails. A set of interview questions were used (see Appendix 2). Although a focus group technique would have allowed greater efficiencies, this was not possible. There were three reasons for this. Firstly, the child care sector occurs in a highly regulated environment and staffing numbers in each area are critical to maintain the license. Consequently, management and practitioners could not make themselves available as a group. Secondly, employers were concerned about the loss of productivity and finding replacement staff when employees/apprentices are temporarily removed from the workplace. Thirdly, the sites were geographically spread across the State - beyond the scope of the project budget and timelines. Most of the data was collected via telephone interviews because of access due to the geographic spread of the sites. Sites visits required an official Blue Card which the researchers could not obtain within the timelines of the project.

The interviewees represented employers, employees, a training provider and Queensland's Health and Community Services Workforce Council. This Council is responsible for a skills formation strategy in child care and is contracted to provide professional support coordination in Queensland. Table D lists the representatives in the sample.

**Table D : Representatives in the sample**

<b>Stakeholder type</b>	<b>Numbers interviewed</b>
Employer	5 (2 State-wide)
Employee/apprentices	9
Training provider	1
Queensland Health and Community Services Workforce Council	1 (email)
<b>Total</b>	<b>16</b>

## Findings

The bulk of all enrolments in this industry are at the Diploma and above levels. Child care workers develop higher level skills (above a Certificate III qualification) through a combination of on the job training and off the job training that is facilitated in face-to-face and online modes. The primary driver for higher level qualifications in the sector was skills shortage in some regions, particularly of group leaders with a Diploma qualification and qualified centre directors (with an Advanced Diploma as a minimum qualification). The offer of apprenticeships in Diploma of Children's Services is expected to boost higher level skills and qualifications of child care workers.

The review for this study found that a variety of models apply: fast track; higher level VET qualification through college-based and apprenticeship models; and access programs<sup>7</sup> for young people immigrants and refugees. Even though employees/apprentices in the sector have the opportunity to fast track the completion of their qualification, this model of EBT was not so popular in the child care sector mainly because experiences in a number of settings is valued.

In determining features for a best fit EBT model, the interviewees highlighted a range of issues with the training of child care workers. These issues provide a context for the best fit models of EBT they suggested. These are explained below.

## Recruitment and retention of staff

Attraction and retention of staff, particularly at the assistant level, is a serious ongoing problem for the sector. Wages are regarded as the main deterrent for attracting high quality applicants to services. Experienced assistants who have completed a Certificate III in Children's Services can move up into the next band of employment, however their career path is considered unattractive. For example, at the next band of employment at the group leader level, the small rise in the pay rate is not commensurate with the added responsibilities. Group leaders said that the paperwork is completed at home in their own time. This becomes very difficult for workers who need to maintain a quality work and life balance.

There is a critical labour shortage of Group Leaders in our services. There is no financial incentive in the pay structure to take on the considerable higher duties involved. So people were not doing the extra modules as a vocational course. We need to comply with the regulations as a licensee and we could see we would be in breach in the future if we did not do something about it (Large state-wide with registered training organisation employer).

Some employers have compared the alignment of Awards and qualifications in the child care sector with workers in other industries and highlighted a lower wage and condition standards in the child care sector.

As an apprentice a Group Leader in child care would equate to tradesman on the Metal Industry Award – there is no comparison with the wage rate. The apprentice rate for each level is a percentage of the trade's rate; all so clear (Employer, large state-wide and registered training organisation).

One employer is attempting to retain workers by paying higher wages.

I do not pay trainee wages – they earn very little as it is and they are a member of staff and in the quantum we are required to be licensed. You cannot live on the trainee wage. They are doing the job (Employer, community based, remote).

Some employers covered the costs of training to retain workers. Another employer used the qualification structure to retain a valued assistant in a remote setting.

Our experiences are positive ones – we have taken a young lady as a trainee. She is now studying for her Diploma and I am grooming her for a career and succeeding myself as director. She has been here 10 years.

Another contributing factor to the retention of staff is the lack of clarity about the role of assistants. Some assistants were routinely undertaking low level tasks while others were

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<sup>7</sup> Access programs are designed to provide people with extra skills or confidence in order to enter vocational education and training. Many providers offer these programs to help people to improve their study, reading or workforce skills (Department of Education and Training 2007).

undertaking tasks that went beyond what they were employed to do (and for which they were not remunerated).

In some cases the lower levels do little more than cleaning at the Cert III level. Cleaning is part and parcel not a separated out repetitive task (Employer, large, state-wide centre).

In some instances, there is lack of clarity about the roles of assistants who take on responsibilities above their levels. One interviewee observed this situation to be more prominent in remote and regional areas.

The assistant undertakes observation of children's development, sharing this information with staff and families either verbally or in written form. In selection criteria this would be a group leader's role and the assistant's role would be to assist the group leader. However to work as the second person in a room I think that the assistant is doing this as well. They work in close collaboration with the group leader (Diploma level or above). They identify environmental dangers throughout the centre and respond to these to minimise risk. They work collaboratively with parents and other colleagues requiring high level communication skills. They require knowledge of child development and current early childhood theory in order to recognise social, behavioural and physical challenges with children so that they may implement strategies collaboratively to minimise risk and maximise positive outcomes for all. While a group leader may do this in a written 'behaviour management plan' the assistant is also doing it every day as they work with the children, and if there is a written plan the assistant is also required to implement it. They need an ability to take on a leadership role in the room when the other staff member are away - I think that this one is very important - many centres use agency relief staff to cover days off and in this case the assistant needs to be able to take a leadership role in the room in relation to routine, individual requirements and programming. They require an awareness of individuals' medical requirements including allergies and asthma management and ability to aid in the implementation of appropriate management strategies should a medical emergency arise. This could include anything from taking the other children out of the area, seeking help from the director or other staff (Representative, Health & Community Services Workforce Council).

Finding suitable staff is also impacting on the retention of staff. Employers are never quite sure that applicants for the position of an assistant have the capacity to learn how to relate to children as well as operate effectively in their centres.

One apprentice suggested a "volunteering" approach to address this issue. Firstly, a potential entrant to the industry, no matter what age, should volunteer in a community setting to understand that the child care sector is a more complex environment than caring for children within a family. Should they still be interested, it is advisable that they take some role in a service centre. For example, one apprentice worked as a cook in the kitchen before signing up for a traineeship and is currently completing her apprenticeship. This opportunity and experience gave a thorough understanding of the work tasks and confirmed her interest in the vocation.

Employers were also asked about the usefulness of the School-based Traineeship (SBTs) in Child Care as a means of recruiting assistants. Two employers responded positively, stating that SBTs provide students with an opportunity to 'get a feel and know whether it [child care] is for them', and that it is '...better to discover early in the piece if one is suited to child care'. However, another employer stated that one day a week in the workplace is not sufficient as 'there is no consistency for the children ... they need to develop a relationship with consistency ... one day a week they [trainees] can not practice any activity'.

Apart from difficulties in attracting and retaining staff, some employers were hesitant to recruit apprentices because of funding and regulatory arrangements. For example, for employers whose services were government funded (community based services) on a yearly basis, the length of an

apprenticeship was a major deterrent as they could not commit to the timeframe, especially six years for a part-time employment period. Employers were also faced with contradictory advice from the two regulating departments about whether trainees are actually staff.

As far as trainees are concerned the DETA say they are supernumerary and the Department of Communities which regulate us, license us if we have someone enrolled. So for the Communities side of the legislation they are not supernumerary. I can not get a straight answer. This is a barrier to employing trainees especially if they are not counted as staff on the floor (Employer, community based remote).

For apprentices in this research the fact that study was not regarded as 'academic' was no barrier to joining the industry. They mentioned that some young people want to leave school because academic learning does not suit them. Employment as a trainee or apprentice, if these are offered by the employer, is highly regarded. Being given the opportunity to work at the level of the traineeship course is considered critical to managing work and learning. Where young assistants are studying to be group leaders through off site vocational courses, the logistics cause problems for managing work and learning. A well defined career path in the industry allows people entering to see the gains for them emotionally and financially and then secure their future. The interviewees recognised that the job can be emotionally exhausting. They recommended some classroom contact as a feature of any "best fit" model in the industry. It would provide an opportunity to belong to a community of practice and develop a professional identity.

A child care worker who entered the industry through an Access Program spoke of her good experience.

Good – time to study at work, other apprentices here to have their support. The trainer coming to all of us on a regular basis – every few weeks... I worked as a bilingual worker – there are others – we work in suburbs where our skills are needed – I speak Arabic and Neuer (a tribal language of Sudanese people) (Apprentice 35-45 years).

## Higher level skills and training

Higher level skills and training are more relevant for group leaders and directors. However, the skills and qualification requirements for these workers are set in a complicated and rather confusing structure. The *Children's Services Award (State)* in Queensland allows qualified and unqualified staff to continue working in the child care sector. It is often difficult to identify those who are skilled and have a qualification and those who do not because the *Child Care Regulation 2003* defines "enrolled" as "qualified".

Unlike the trade industries where apprentices are engaged for a Certificate III qualification, in the child care sector the same qualification is offered as a traineeship and an apprenticeship is available above this level. Because of disparities between the licensing and training regulations, child care apprenticeships are often difficult and costly to manage. For example, the regulation around the number of staff required on the floor at any given time places constraints on quality time for supervision or for completing learning activities during operating hours. Furthermore, because completion of apprenticeships do not equate to higher pay awards, there is no incentive for learners to complete their studies early. One issue with workers at the director level enrolled at the Diploma level is that they do not have other staff to supervise them. This contravenes the conditions of training for an apprenticeship.

In larger organisations where area managers are assigned to oversee a number of centres they closely supervise directors of those centres. In Queensland, a model that overcomes this limitation with other centres is yet to be articulated to the sector. In the meantime, a director may be "enrolled" and therefore "qualified" under the Act but requires no supervision through the course of study. The findings of this project suggest that the current EBT model for higher

qualifications in the child care sector may be pedagogically sound in terms of experiences of the vocational practice, duration and link to formal education. However, the model is weak in terms of expert support in the workplace, and assessment and certification.

## Quality of graduates

Some employers were concerned about the quality of graduates who had completed vocational courses offered as full-time, part-time or online. Their dissatisfaction with the quality of graduates led some operators of child care services to register as a training organisation. By doing this they are able to offer apprenticeships to their existing staff and provide training that they consider is of high quality.

Certainly for a number of years – each year it gets a bit harder to recruit skilled staff. To gain the skills we need we do our own training to meet the standards. We have low faith in training organisations – the public [provider] seems to do a bit better than the private – but generally speaking no one is meeting the standard. There is a huge variation in the quality. At all levels the registered training organisation's train in the cheap and easy skills sets – such as OHS but there is little application of knowledge and so although they may know not to have electrical cords hanging over benches – no one will attend to this or see it as being needed to do. They can tell you this as knowledge but that is where it stays; the emphasis on theory and only compliance knowledge not action to remedy (Employer, large state-wide).

It is important for employers that their graduates experience best practice while they are forming their identities within the sector. For one state-wide community based provider centre directors are required to have a four year degree qualification. This is higher than the standard required in the legislation for such a role.

We need to meet minimum qualification conditions across all the roles. But because of our advocacy role within the sector we require higher than the legal benchmark. For instance we require in the 3-5 year room that a person is a fully qualified teacher. This is above the requirement (Employer, state-wide & registered training organisation).

While some registered training organisations operating in Queensland offer a range of support to apprentices, many in the industry avoid graduates from registered training organisation's that are well-known in their circles for lacking in quality. For example, some registered training organisation's oblige with the required two site visits for on the job training during the period of the apprenticeship which can take up to six years on a part-time basis. Some others offer responsive telephone contact as required and visit every three weeks.

Senior members of the child care workforce and employers who were interviewed advised against school leavers entering the child care sector and proceeding as fast as possible through the qualification structure. This may be possible in other sectors/industries, but in the child care sector experience in a number of settings is highly recommended and sought by employers when recruiting workers. Employers also recognised that experienced workers in child care are difficult to find. Many child care centres operate with staff generally aged under 25 years, and with limited experience in the sector.

## Training arrangements and learning resources

Some interviewees expressed concerns about the current training arrangements for apprentices in the child care sector.

The flexible delivery and competency based training has been of great detriment to our profession. The qualification means nothing as the applicants know nothing about how to work with children. Competency based training provides no indication to the service or the

students what a person's skills need to be to work with children. The level and standard is a lot lower than it was 15 years ago when I entered the sector. The product of this system is crap quite frankly (Employer, owner operator, private).

Yet two apprentices found the variety of delivery and flexibility worked well for them.

I was lucky as I can work on the modules at home and on the web. Cert III was all online. You have to take the initiative. The quality was good. I did not go to class for the whole time. It did not fit in with my husband's night shift and the area around the college at night is quite isolated and dangerous. One of the mothers of the children was a lecturer in the subjects in TAFE and I could raise any problems with the content with her. And of course all the girls I work with in the rooms helped me. I am paid as an existing worker. They recognised Cert III. There was no other recognition. The modules for the Diploma are similar to those of Cert III, but in more depth. So I have had no trouble with the content (Apprentice, over 45 years).

Yes it was better than Cert III which I did on my own online from TAFE. The modules I am doing are with the apprenticeship behavioural challenges and inclusion – as we have three autistic children in the room and this is really relevant to my activities day to day (Apprentice, over 45 years).

Apprentices who are in full-time employment are permitted varying periods of study time, with many expected to complete the formal learning tasks in their own time. While this type of arrangement worked for apprentices who are more self-directed and motivated (such as the two above), other apprentices preferred time during working hours to complete learning tasks.

The experience has been very pleasant. Training while you work full-time is good. The trainer is very responsive. She calls around and the work goes very smoothly. I get time with the practice at the group leader level when this is possible. It is all very well coordinated by the director. I am given the allotted study time out from the floor to do my study (Apprentice, 25-25 years).

As the number of staff on the floor is regulated so strictly, if a director cannot be compliant for any reason it is simply not possible to provide apprentices with any study time. Time to leave the floor to fill out the workbooks is a constant problem:

I really did not get too much information about the Diploma when I signed up. It was going to be cheaper for me to gain a Diploma this way than paying for a vocational course. But what it actually contained was not really set out. If I had known for instance that there was 11 hours required study time per week I do not think we could have signed me up – this is not possible here. To fill out the booklet takes time and to do it I have to complete at home. It is safer for the employer and registered training organisation because of the regulations and the two systems (Apprentice, 35-45 years).

One employer explained the difficulty in providing compulsory study time and the necessary support during working hours.

The mandatory four hours per week study time for the Cert III trainees is an issue. With three trainees that is 12 hours not available to the rooms and some rostering to make sure that we are consistently meeting the regulations. I also do a lot of support and supervision as trainees come to me for guidance about assignments and assessment requirements. As I was a trainee I am able to do this (Employer, community based remote).

The situation in this instance breaches the conditions for apprentices. It also highlights the disparity in legislations stipulated by two different authorities who need to liaise more closely.

Some employers questioned the relevance of the material in the workbooks provided to apprentices and noted limited integration of theory into practice. One employer spoke about a

lack of a tool kit and resource box of activities, games, songs, stories, puppetry, paint and play dough recipes that are of immediate practical application, and were very much a tradition under the older courses. There was also criticism that the workbooks contained alien language, especially for people from non-English speaking background, which challenged learners and mentors on some sites. Lack of support with literacy problems also impacted on the training. Essays are often used as a form of assessment in the workbooks. They were seen to be a major barrier to the progress of the learner. Without any support or specific instruction in essay writing, good practical caring workers become disengaged and confused. In some cases, they leave the industry because they often see themselves never qualifying.

Literacy is a big problem with the workbook so leaving trainees alone to read is not the answer as they gain no meaning from their efforts. Some trainees are working two other jobs to afford to have such low pay as a trainee in child care. Both parties to the agreement need to be responsible for the training – trainees should not be deployed as cleaners...

A mentor should say to the trainees during the week what we touched on and show where the work has demonstrated the theory in the workbook and how various competencies have been integrated into an activity. The performance criteria should be linked explicitly by the registered training organisation – but they are bound to come twice during the training agreement. They should then sit with the trainee and the mentor and list what has been done in the centre and how it related to the competencies. They should motivate by saying you were terrific in these competencies and could be at the same standard with these if you ..... (Employer, community based, remote).

The study found that the importance of teachers and workplace assessors modelling or demonstrating the necessary interpersonal skills to work with children and colleagues. Some of them provided little in the way of integrating the learning into the care environment while others met the needs of the learners.

It is finished. The RTO was great. All the contact I needed – fax, phone, email – personal visit every few weeks, phone conferences with others. Seminars each time she was in town. She would get the other apprentices together (Apprentice, 35-45 years).

One employer said that phone calls by apprentices to staff in registered training organisation's sometimes received no response without the intervention by the employers.

I have flagged to RTOs that I will not use them. I will not do business with some on the Coast. I have a reputation for not putting up with any nonsense. They treat their students very badly; never return calls when the trainee or apprentice is having trouble with the assessment requirements. It takes me to "cut the rough" to have them deal with the problems – that cannot be very good for the feeling of self worth of the trainee and apprentice (Employer, small owner operator, private).

Another concern raised was that some visiting assessors held assessment qualifications but had no relevant industry experience. This has always been the case in remote locations where there is reliance on third party reports provided by the workplace supervisors who were often unpaid to do this. Such situations impact on the quality of their services. All directors and HR managers interviewed for this project regarded the process as too paper-driven with documentation overtaking learning about how to care and provide activities for children.

To assist in resolving some of these issues, one director held a professional development evening each week to link theory to practice for all staff undertaking study whether it was within an apprenticeship model or through vocational courses (undertaken in the child care workers' own time). This director said that the worst system was one in which the learner undertook the competency (or module) one at a time with no links to practice or integrating a suite of competencies within activities made explicit or highlighted in the workbooks. In the case of her work site, these activities were provided in the learners' and director's own time.

Decision-making around professional development priorities for regional areas is locally based and facilitated through the Queensland Health and Community Services Workforce Council. The Council arranges professional development at a small cost to the individual. The activities are often scheduled during the weekends to allow interested staff to be involved. Learning during these activities is completed in their own time.

Some employers and apprentices criticised the national training system for being insufficient and confusing, particularly in relation to the move from the old State-based course to the evolving national Training Package and its impact on recognition processes.

No one is doing anything about these issues of standards – we as an industry have been complaining for years – they rewrite the competencies so often – the student does not know where they are. Before they complete the qualification it has changed with seven more competencies!!! I know the environment is becoming more complex but this does not go to attracting people to the industry through a qualification system (Employer, small owner operator, private).

To allow experienced, unqualified workers to meet the qualification requirements for Group leader and director positions it was suggested that sets of skills could be grouped for recognition. However, there was a strong view about the importance of having a full qualification.

There should be advocacy that no matter how the model is set – we would never be advocating a lessening of the qualifications – so you could not work with a recognised skill set – it must be a qualification. [Employer, large state-wide & registered training organisation]

Some employers expressed reservations about a recognition process. Some others were sceptical of the whole idea of competency where learners have to demonstrate competency in a single instance to a single assessor (often with no or little industry background) and deemed competent. They were doubtful about an entire complex system of different agencies involved in signing up, then providing the training, workplace assessment either directly or through a Third Party (often unpaid), and the issuing of qualifications. According to them, there could be possible misunderstandings and role confusion in the market place. They observed that 'there is a lot of scratching each others back in arrangements around employment based training in VET'.

An apprentice who had qualified through the recognition process had the issuing of her certificate delayed by eight months. This could have technically prevented her from having the higher wage rate for eight months. Another apprentice with many years of experience in child care did not have her prior learning recognised.

I began at 18 but I had money issues and could not continue. I missed a subject so I left child care – I could not take up the Diploma as it had all changed. I had to start from scratch with a Cert III as the Cert III that I had completed in the Diploma was not recognised as it was not the QLD course but the national Training Package (Apprentice 25-35 years).

Although apprentices have the option to stagger payments for their courses, this provision has implications for timely certification. For instance, an apprentice who was interviewed for this study had completed her course, but would not be able to progress to a higher position or higher salary until she receives her formal certification.

To allow experienced, unqualified workers to meet the qualification requirements at group leader and director positions it was suggested that sets of skills could be grouped for recognition. However, there was also a strong view about the importance of having a full qualification.

There should be advocacy that no matter how the model is set – we would never be advocating a lessening of the qualifications – so you could not work with a recognised skill

set – it must be a qualification (Employer, large state-wide & registered training organisation).

There was a view by some that experienced unqualified workers could be attracted if their learning was focused around skills sets.

Yes I think that would suit experienced workers – but need to ensure they have the theory and know when they are applying it. At the Diploma level you need admin skills, public relations, diplomacy, HR skills in the qualification (Employer, community based, remote).

There is such a lack of experienced workers now in child care – it is hard to say that a skills sets model would work. It makes me wonder when the director is 21 and her staff are all younger and she is trying to supervise their study and run the centre (Apprentice 25-35 years).

The data for this case study resonate reasons that are similar to those reported by Misko (2003) and the Community Services Ministers' Advisory Council (2006). It appears that the implementation strategies suggested in the report of the Community Services Ministers' Advisory Council are yet to take effect.

## “Best fit” EBT models for child care

There was wide consensus from employers and apprentices who were interviewed that many issues must be addressed for successful “best fit” apprenticeship models in the child care sector. There are many features of the existing models that are working well mainly because of the high level of support that is provided to the apprentices by employers and trainers/assessors.

Although the key features of “best fit” models for the child care sector suggested here have merit these will be plagued by the issues that need resolving. For example, low wages in the *Children's Services Award*; and the conflict between strict government regulations in relation to staffing ratios (by qualification) and the compulsory study time during working hours as set out in the qualification requirements, are matters that need to be resolved.

The suggested key features of a “best fit” EBT model for the child care sector are:

- ◆ Strategies aimed at raising the awareness of the child care profession in order to increase the number of “suitable” people entering and remaining in the industry – which may include rethinking the current model for school-based traineeships in child care.
- ◆ High quality vocational courses for apprenticeships where industry has direct input into the mix of theory and practice.
- ◆ Theory that is integrated on the job where apprentices can work with qualified staff at the same time as learning and can discuss observations/activities with them.
- ◆ Learning resources that integrate skills needed in the workplace and are not too academic for apprentices.
- ◆ Workplace assessors with knowledge of the industry and who provide the necessary support to apprentices.
- ◆ Support to child care services to provide apprentices with the required study time in the workplace (and without a drop in wages) whilst at the same time maintaining the required staffing level.
- ◆ A clear pathway through the AQF, and where roles/responsibilities of qualified staff are articulated.
- ◆ Fast track and improved recognition processes to reduce the duration of an apprenticeship.

- ◆ A career path where qualified staff are remunerated accordingly.
- ◆ Strategies to support graduates of high level courses with no experience of the industry and who can quickly lose confidence when confronted with reality.
- ◆ Where possible, employers cover (or part-cover) the training costs of apprentices.

Many of these features are already present in existing EBT models at selected sites. The sample for this case study recommends that these become standard features. One employer believes that these features could be relevant to those sectors/occupations in the Community Services and Health Industry that require knowledge of child development, such as social welfare work, child protection, foster carers and residential workers. This comment was supported by another employer who stated that the model can apply to occupations relating to child psychology, family services and any kind of care work. Another employer believes that the model is relevant to nursing where some of the skills to care for patients are similar to the skills to care for a group of children.

## Issues for child care

The issues relating to EBT for the child care sector were similar to those expressed by the interviewees in the process manufacturing sector. The key workplace relations issues linked to pay rates for existing and entry level workers remain unresolved.

The apparent lack of parity between the different levels of qualifications for the child care sector and other similar industries such as aged care and health services contributes to the lack of incentive for child care workers. The qualifications and salary scales of child care workers often do not align with the levels of responsibility of workers such as child care assistants, assistant directors and directors. The variations are more apparent in child care centres based in rural and remote regions.

The interview data highlights the dissatisfaction of employers with the level of support provided by several registered training organisation's. The issue with such operators is that most of their training may be too enterprise specific, thus limiting diversity in work experiences for the workers.

Several features of the "best fit" model, suggested by the sample for this case study, are already in place. Many of these features are supported by a high level of commitment by employers to training of their apprentices/employees. Overall, this case study received positive feedback from stakeholders who reviewed the draft EBT models. Some employers expressed reservations about the 'technical' nature of the models and the impact of current regulatory requirements on the implementation of these suggested models.

# Effective models of EBT

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The findings from the case studies confirm a need to revisit and revise models of employment based training, yet retain and extend the effective features of existing models. Certainly, both case study industries are seeking more from existing models of employment. The findings from the case studies were viewed against the fundamentals, dimensions, and features of effective EBT models derived from literature. That is, they must be pedagogically sound, provide quality skill formation, be inclusive of quality outcomes for individuals and enterprises, be operationally effective, and can be effectively enacted and sustained.

Ordering EBT models into those associated with either: (i) entry level training or (ii) further or specialised training, respect two distinct educational purposes and the need for particular kinds of experiences and support to achieve those purposes. This seems more efficacious than applying other frames (e.g. AQF levels which are inconsistent and have levels that apply to both entry and further development). So, for instance individuals who are engaged in Certificate I, II, III as well as Diplomas and Advanced Diplomas also participate in forms of entry level preparation. Therefore, these two categories of educational provisions are used to delineate the models advanced here.

## Entry level training

Typically, the provision of entry level training provides experiences both through educational provision and workplace settings, to the level of Certificate III. There seems little enthusiasm for overturning a balanced provision of preparatory learning for an occupation through both these kinds of experiences. Indeed, the child care case study is looking to improve this very kind of provision. However, from both cases comes the request for a greater integration of experiences in the two settings, and, in particular, for the educational provider to exercise leadership in organising these integrations. Neither is enthusiastic about having a ‘front end’ provision of an extensive block of time in an educational institution followed by continuous on the job experiences. So, the principle of balanced participation in both kinds of experiences is supported and need to be extended into sectors that do not enjoy this provision (e.g. child care). Yet, there is also a commonly identified requirement to maximise the potential of this approach by integrating the two sets of experiences to effectively secure outcomes for both the student and workplace. Similarly, the duration of the preparatory period is seen to need to be commensurate with the complexity of the knowledge to be learnt. Hence, there is little enthusiasm for shortening existing entry level provisions, except for particularly able students (i.e. accelerated preparation), and for expediting the progression of student workers on untenably lower levels of remuneration (e.g. child care assistants). Both industry sectors, however, are demanding higher levels of capacities (i.e. skills, responsibilities, accountabilities) through the entry level training provision. The challenge for entry level models of employment based training is to provide the balance of on and off the job components, the effectiveness of those components, and comprise a duration of learning experiences that will secure these outcomes. Considerations of the viability of options and alternatives also extend to meeting the needs of both the learners and their enterprises.

From what has been advanced in the findings section and arising from both the review of the literature and case studies, we propose four different models of employment based training

models that commonly focus on initial preparation for the occupation, yet seek to account for distinct purposes and imperatives that have been identified in our research.

1. *‘Traditional’ entry level training model*

This reflects the current apprenticeship/traineeship model. It features sets of learning experiences in both the workplace and the educational settings (i.e. registered training organisation) across the duration of the entry level period of training (i.e. between one and four years). It is anticipated that worker-learners will attend and engage in experiences in educational settings as part of their work. The balance of experiences in this model will always be more on the workplace (e.g. 80% workplace - 20% education institution), and this degree of emphasis will increase across the duration of the program. An enhancement here is for greater integration of the learners’ experiences in the workplace and educational settings, in which both the workplace and the educational provider will participate. The educational provider might be expected to exercise leadership in bridging what is learnt in the two setting, and advising about appropriate workplace pedagogies to facilitate learning.

This model is familiar to VET and industry. Theoretically, this model has potential to sustain much of the trade skilled preparation for manufacturing and is needed in the child care sector, particularly for the skill and career development of lower-level child care workers. However, the implementation of this model needs to address poor completion rates. Universal limiting factors such as inconsistent regulatory arrangements, non-compliance by employers and registered training organisation’s, poor audit processes, variations in the interpretation and practice of competency based training, wages and awards also need to be resolved to make this a more effective model.

**Table E** ‘Traditional’ entry level training model

<b>Elements</b>	<b>Model - specific requirements</b>
<i>Specific purpose of model</i>	Providing entry level preparation through a combination of experiences in workplace and educational settings, progressive assessment and certification, particularly for school leavers and those with lower levels of educational achievement.
<i>Duration</i>	Consistent with current arrangements (e.g. three to four year for trade certificate, shorter period of time for traineeship level (Cert II)).
<i>Levels of certification</i>	Certificates II, III, IV.
<i>Specific requirements of model</i>	An effective integration of experiences and support in both educational and workplace settings.

2. *‘Accelerated’ entry level training model*

This model constitutes an expedited version of the ‘traditional model’. The purpose is to assist selected worker learners speedily progress through the process of skill development through more effective and intense experiences in both workplace and educational institution. The accelerated apprentice will attend and engage in experiences in the educational setting as part of their work, however this may be in a more condensed or distributed form. There will need to be responsibility exercised by both the workplace and the educational provider to carefully manage the expedited skill development processes to assist meeting student and workplace requirements. The leadership for managing the effective integration of experiences in the workplace and educational setting needs to be shared and collaboratively regulated. Partnership arrangements between educational institutions and the workplace can improve the bridging of knowledge and skills gained at the two sites. This model is one which might be used to provide the kinds of expedited initial skill development currently being requested by the manufacturing sector. The accelerated nature of the model relies on Recognition of Prior Learning, performance reviews and

selection processes. Issues such as the practice of competency based training and assessment, wages and awards will have implications for the implementation of this model.

**Table F** 'Accelerated' entry level training model

<b>Elements</b>	<b>Model specific requirements</b>
<i>Specific purpose of model</i>	Providing an accelerated approach to initial skill development to shorten that of the existing duration of apprenticeship training, particularly for younger entrants with high levels of educational achievement and capacities to become highly skilled quicker than their peers.
<i>Duration</i>	Premised on the progress of individuals, their successful assessment and the minimum duration of experiences required for securing occupational competence.
<i>Levels of certification</i>	Likely, Certificate III and IV.
<i>Specific requirements of model</i>	There is a specific requirement for the participants to be carefully selected on the basis of predicted performance; experiences in both the workplace and educational settings needing to be carefully organised and maximised; and a process of monitoring learners' progress would be required.

### 3. Internship entry level preparation model

This model provides for a period of employment related learning beyond the completion of an expedited entry level training process that would initially lead the worker-learner to be afforded the status of 'internees'. This would provide them with recognition and the interim authority to practice their occupation. After a further and stipulated period of employment related learning experiences (e.g. one year), both the employer and educational institution will finally assess and recognise the learner as being fully certified for the occupation. This model offers an alternative to the wholly expedited model being requested by the manufacturing sector. It addresses concerns within that sector about the need for an appropriately long period of initial preparation to develop the capacity required for trade level work.

Although such a model has potential for meeting the needs of the manufacturing and similar industries, particularly with more established employers, details of its operation may vary from site to site. More research is required to explore its implementation with small sized workplaces and those in regional and remote areas. The implications for awards, and assessment and certification also need to be addressed.

**Table G** Internship entry level preparation model

<b>Elements</b>	<b>Model specific requirements</b>
<i>Specific purpose of model</i>	Providing a specific period of consolidated work experience, beyond an accelerated form of initial preparation. Having completed an accelerated program, the learner is given probationary status and can work full-time, with a further period of work experience being required prior to securing occupational certification.
<i>Duration</i>	Typically, a year beyond that required for an accelerated apprenticeship.
<i>Levels of certification</i>	Likely, Certificate III and IV.
<i>Specific requirements of model</i>	There is a specific requirement for the participants to be carefully selected on the basis of predicted performance; experiences in both the workplace and educational settings needing to be carefully organised and maximised; and a process of monitoring learners' progress would be required. This would be followed by a managed and supported provision of probationary work within the workplace.

### 4. Extension model of entry level preparation

This model of entry level preparation is intended for mature workers (eg. experienced manufacturing or child care workers) or those who are entering the particular occupation after or on the basis of success in another (e.g. child care centre directors). This model is based more

strongly on employment based experiences, supported by educational provisions that will largely occur outside of work time, and will not require the worker to attend an educational institution on day or block release. Instead, to assist the worker-learners develop their occupational capacities, the employment based experiences will be augmented by an extension kind of educational provision (e.g. in the evening, at weekends or by distance). This type of arrangement is primarily imposed by child care legislation that determines the number of workers ‘on the floor’ attending to children during operational hours.

This model requires and expects that the learner is well-placed to be self-directed in their learning. The responsibility for securing a rich integration of experiences is shared among the educational provider, employer and worker in terms of how the learning is organised and recognised while in the workplace. This model addresses the kinds of needs for initial skill development for those entering an occupation with a level of maturity in skill and capacity and, who need to find other ways of balancing work and learning other than through block or day-based engagement in educational provisions. For instance, child care centre directors are seen as having their needs met by this model of entry level preparation.

**Table H Extension model of entry level preparation**

<b>Elements</b>	<b>Model specific requirements</b>
<i>Specific purpose of model</i>	This model is intended for mature workers and the kinds of work where frequent day release or block release is not possible or desirable. Here, full-time employment is likely to be supported by weekend, evening or flexible provisions of learning experiences and support through educational institutions and courses.
<i>Duration</i>	Premised on the progress of individuals, their successful assessment and the minimum duration of experiences required for securing occupational competence. Here, the learner is most likely to determine the pace of completion.
<i>Levels of certification</i>	Level III and IV Certificates, and Diplomas and Advanced Diplomas.
<i>Specific requirements of model</i>	The worker-learners must have maturity, a level of educational achievement and be located in employment that will permit a conscious focus on blending through work activity, over a period of time, and supported by an educational provision which is provided outside of work time.

This model attempt to provide variations of the provision of entry level training that privilege: appropriate duration for skill development, the use and integration of experiences afforded by both the workplace and the educational provision and, yet, acknowledge that for different learners with different capacities there needs to be different kinds of pathways through entry level preparation. In addition, they offer alternative approaches to managing the duration of the time required for the formation of occupational knowledge. They also seek to uphold the five requirements for pedagogical soundness, quality skill formation, and in ways that can be effectively enacted and sustained, for both the interests of the learners and their workplaces.

## Further or specialised training

Some key premises for advancing models of further specialised employment based training, are that the participants are most likely to be building upon their existing occupational knowledge; are mature in terms of age, interest and capacity to be self-directed in the educational institution based provision of their learning; and will have some capacity to autonomously integrate their learning from both workplace and educational experiences. It is assumed that the kind of skills sets likely to be the focus of this development are such that the kinds of duration issues arising for initial preparation are not as pertinent here. Also, current arrangements are most likely to be supporting individuals to secure higher vocational education and training qualifications (i.e. Certificate IV level and above). These tend to be less constrained by Training Packages. Indeed, given some of the specialist kinds of learning, certain educational provisions may well be offered by specialist and vendor training organisations, rather than VET providers. There is also a

stronger imperative here for the learners to exercise interest, discretion and agency in the conduct of their courses, thereby opening up the possibility for engaging in the components of preparation that are offered by the educational provider. This small autonomous form of practice, a move away from being wholly centred on enterprise need, also serves a more individual goal: that of elevating the standing of higher vocational education and training qualifications.

#### 5. *Extension model for further development*

This model of further development is intended for mature<sup>8</sup> workers (e.g. experienced manufacturing or child care worker) or those who already have completed their initial occupational development and have some experience. It is similar to model 4 (*extension model of entry level preparation*) described above. This model addresses further skill development for an occupation where a level of maturity of skill and capacity already exists. It suits individuals who need to find ways of balancing work and learning, other than through regular college attendance during the day. This model can meet the kinds of needs articulated by the Advanced Diploma in Engineering worker-learners in the manufacturing case study.

**Table I**      **Extension model of further development**

<b>Elements</b>	<b>Model specific requirements</b>
<i>Specific purpose of model</i>	This model seeks to provide further and/or specific skill preparation beyond initial occupational preparation. It seeks to provide a model of employment based training which enjoys both separation from the immediate needs of the workplace, with relevance to that workplace and meeting the longer term needs and aspirations of the learners.
<i>Duration</i>	Likely to be determined by the duration of coursework provisions.
<i>Levels of certification</i>	Certificate IV, Diploma and Advance Diploma.
<i>Specific requirements of model</i>	That the worker learners are able to engage in a programme of study which meets their personal and professional needs, yet is aligned also to the interests and activities of the current employment. It is likely that the worker-learners will be sufficiently mature and possess a level of educational achievement that will permit them to study in a relatively independent way.

Models 4 and 5 are for further specialisation and based on assumptions that participants are building upon their existing occupational knowledge; are mature in terms of age, interest and capacity to be self-directed for learning; and will have some capacity to autonomously integrate their learning experiences at the workplace and that offered by the educational institution. They could accommodate a more active role of learners in exercising interest, discretion and agency in the conduct of their courses. This would then open up the possibility for engaging in the components of preparation that are offered by the educational provider, and arranging for work experiences other than those required for their workplaces. This small autonomous form of practice will also elevate the standing of higher vocational education and training qualifications.

### Alignment with conceptual premises

These proposed models of EBT seek to address the overall goal of providing good preparation for worthwhile jobs and in doing so, address the kinds of characteristics required of effective EBT models. That is, these models are held to: (i) be pedagogically sound, (ii) lead to quality skill formation, (iii) have positive outcomes for both individuals and the straight enterprises, (iv) be operationally effective, and (iv) be effectively enacted and sustained over time. The alignment between these characteristics and the proposed models is briefly mapped in Table J.

<sup>8</sup> Maturity = personal maturity which is combination of age, and record in conduct of responsibilities and autonomy of action, which typically comes from adulthood or adulthood-like roles.



**Table J Alignment between conceptual premises and proposed models**

<b>Characteristic</b>	<b>1. Traditional' entry level training model</b>	<b>2. 'Accelerated' entry level training model</b>	<b>3. Internship entry level preparation model</b>	<b>4. Extension model of entry level preparation</b>	<b>5. Extension model for further development</b>
Pedagogically sound	Sequenced integration of experiences in work and educational settings.	Sequenced integration of experiences in work and educational settings, but carefully calibrated to assist effective skill development in shorter time span.	Sequenced integration of experiences in work and educational settings, in both earlier accelerated program and through opportunities to hone and extend skills in internees' final year.	Provision of experiences in work and educational settings. Learners play a key role in the direction and integration of experiences, particularly those in the educational setting.	Provision of experiences in work and educational settings. Learners play a key role in the direction and integration of experiences, particularly those in the educational setting.
Quality skill formation	Skill formation over time and through support in both workplace and educational settings.	Skill formation over time and through support in both workplace and educational settings, and careful management of experiences and monitoring of accelerated learning.	Skill formation over time and through support in both workplace and educational settings, and careful management of experiences and monitoring of accelerated learning, and internship year.	Skill formation over time and through support in both workplace and educational setting.	Specialising through further skill formation over time and with support in both workplace and educational setting.
Quality outcomes for individuals and enterprises	Development of industry and enterprise-level skills that provides learner with employability and industry adaptable outcomes.	Development of industry and enterprise-level skills that provides learner with employability and industry adaptable outcomes.	Development of industry and enterprise-level skills that provides learner with employability and industry adaptable outcomes.	Development of industry and enterprise-level skills that provides learner with employability and industry adaptable outcomes.	Development of industry and enterprise-level skills that provides learner with employability and industry adaptable outcomes, with a particular emphasis on personal and professional development.
Function effectively	Traditional model well accepted in many industries.	A model that some enterprises have requested to be introduced.	A model requiring the commitment of enterprises to secure outcomes, and support the level of competence they are requesting.	Traditional model well accepted in many industries, which relies on the maturity of the learners.	Traditional model well accepted in many industries.
Effectively enacted and sustained	Demonstrated capacity for it so be enacted and sustained.	A model requiring the commitment of enterprises to secure outcomes, and support the level of competence they are requesting.	A model requiring the commitment of enterprises to secure outcomes, and support the level of competence they are requesting.	Demonstrated capacity for it to be enacted and sustained	Traditional model well accepted in many industries.

A further step in assessing the strength of these models against the fundamentals (pedagogically sound, quality skill formation, quality outcomes for individuals and enterprises, operationally effective, effectively enacted and sustained) would entail a similar mapping exercise against the features and subsequent elements listed in the section *Effective features of EBT* in this report.

## Minimising limitations in the proposed models

The five models proposed in this report were derived from an analysis of literature on EBT and data that was collected from a sample of apprentices/employees, employers, VET providers, industry bodies, Training Package developer in the process manufacturing sector and the child care sector. Feedback from other stakeholders and members of the AVETRA Researchers Network for New Apprenticeships were also deliberated. These models could be considered as “best fit” for the process manufacturing and child care industries. However, their implementation would require adjustments to suit the needs of individuals, specific occupation or enterprise. In some instances, changes to systemic operational matters are also warranted. For instance, changes to key issues (eg. regulatory environment, education and training delivery, workplace/employment relations) discussed in this report will minimise the limitations of the models. Added to these, generic issues and localised industry/enterprise specific matters will need to be reviewed to optimise the outcomes from the particular EBT model that is adapted for implementation. The nature of partnership between apprentices/employees, employers, VET providers, government bodies and other supporting agents, and sharing of respective roles and responsibilities will underpin the achievement of better outcomes using EBT models. It is necessary to consider carefully the unintended consequences that might arise, such as those associated with Group Training Schemes providing a platform which allows local enterprises to lessen their responsibilities to contribute to skilling and the development of the Australian workforce. Hastily enacted reforms may be difficult or impossible to overturn quickly to minimise risks and losses.

# Conclusions

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The findings from the case studies confirm a need to revisit and revise models of employment based training, yet retain and extend the effective features of existing models. Certainly, both case study sectors are seeking more from existing models of employment based training. In both manufacturing and child care, there are concerns about improving the quantum of the available and appropriately skilled workers expeditiously and also developing and credentialing a higher level of skills. For process manufacturing, the concerns are about improving the level of high end technical knowledge and broader occupational competence of workers. For child care, the concern is to develop the capacities for caring, safe and educative child care experiences, and governance of child care facilities. Yet, the history and character of the skill development provision for the two industry sectors raises distinct challenges. For process manufacturing, it is about utilising more effectively and extending existing employment based training provisions, including engaging more effectively with off the job provisions. For child care, it is about establishing effective employment based training models across the workforce from child care assistants to centre directors. In many ways it is about securing the kinds of arrangements long enjoyed by the process manufacturing sector. This includes the acceptance by employers of their role in supporting and sustaining the development of viable entry level systems of vocational education for all levels of workers, because this provision has not previously existed.

So, across both sectors, there is evidence of the need to retain and sustain many of the features of the existing model of employment based training. In particular, for younger workers and for the development of occupational knowledge of a significant form (i.e. that which leads to sustainable job outcomes and good wages) there is need of support for learning both from within and outside the workplace, and also a period of preparation which is long enough for younger workers to both mature personally, and, professionally, for their occupational capacities to mature. Consequently, initiatives to accelerate skill development in high achieving apprentices need to include the range and duration of experiences provided through more measured forms of initial skill development. Similarly, those provisions for developing further the capacities of experienced workers currently performing work tasks need to include support from both within and outside of the workplace. In advancing models of employment based training, there is a distinction between those for initial preparation for the occupation (i.e. entry level) and those for further or more specialised forms of development, beyond initial occupational skill development. Five model(s) for each of these purposes are presented in the main report *Effective models of employment based training*.

The proposed models focus largely on arrangements to achieve a balance between learning in educational institutions and in the workplace. These five models are considered “best fit” for the process manufacturing and child care sectors, and have potential for customisation and implementation in other occupations, sectors and industries. The proposed models do not claim to address all the issues identified and summarised in this report hence need to be adapted and tested within the case study sectors (process manufacturing and child care) as well as in other occupations, sectors and industries. The adoption and adaptation of these models will need to look into the implication of issues that limit their effectiveness, such as regulatory environments; education and training delivery; and workplace/ employment relations. These issues play out differently by industry/occupational and enterprise area. The nature of the partnership between apprentices/employees, employers, VET providers, government bodies and other supporting agents will also underpin the achievement of better outcomes from EBT models. The suggested models need to be adapted and tested within the case study sectors (process manufacturing and

child care) as well as in other occupations and industries. The adaptations are expected to lead to a bigger compendium of EBT models.

It is necessary also to consider carefully the unintended consequences that might arise, such as those associated with Group Training Schemes providing a platform which allows local enterprises to lessen their responsibilities to contribute to skilling and the development of the Australian workforce. Hastily enacted reforms may be difficult or impossible to overturn quickly to minimise risks and losses. At no expense should the selected EBT model limit the level of challenge in the training activities and create a sense of ‘dumbing down’. This will not only lead to discontent in apprentices and trainees and lead to non-completion, but also compromise the quality of EBT and subsequent skills of the workforce.

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# Appendix 1

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## Interview questions for employers in the manufacturing industry

### A Context

Improving workforce skills can take the form of informal skill development like how to use a piece of equipment right through to a training program that results in a qualification. We are interested in the latter in this research.

- 1 Have workforce skills been an issue for the company?
- 2 Have past efforts to raise workforce skills (through training and other measures) actually led to improvements in your company's performance?
- 3 What are the skill level requirements in your workplace (from entry to specialist worker)? Is the training system currently catering for what you need?

### B Experience to date with EBT

Employment based training (EBT) can broadly be described by the terms apprenticeships, traineeships and cadetships.

- 4 What experiences have you had with EBT?
- 5 Did this EBT meet your expectations?
- 6 Has the EBT been more effective at some levels than others? (Was it perhaps more effective for entry level training than for more advanced levels requiring customisation and/or specialisation?)

### C. What doesn't work?

- 7 What features of employment based training are an issue and why?

(By features we mean the time taken to complete the training; the style and quality of the VET delivery; the regulation issues relating to apprenticeships, traineeships and cadetships; and the associated work arrangements and/or pay conditions.)

### D What works?

- 8 Has your current competency been sufficiently taken into account?
- 9 What are the features of an EBT training program that you consider might work for you to improve effectiveness?

(For example, is current competency sufficiently taken into account? Would more upfront classroom tuition before employment/ongoing training help? Is there room for new qualifications based on skills sets to be developed? Will you use the recent government incentives for higher skill level EBTs? What about school-based EBT's?)

10 If you thought about a 'best possible world' scenario of EBT you would use, both now and into the future, what would it look like?

(For example, are there different types of EBT needed for young entry level workers compared to older existing workers "upskilling or new-skilling" and/or at the different qualification levels for example at higher technical levels? (Diploma levels compared to the Certificate levels).

## E Summation questions

11 What issues would need to be addressed in your industry to achieve your "best fit" EBT model?

12 Are there other occupations/industries where your "best fit" model may also be applicable?

## Interview questions for apprentices in the manufacturing industry

### A Context.

Please choose a category and age range? <25, 25-35, 35-45, >45

- ◆ Entry level worker from school
  - ◆ Entry level worker from other employment
  - ◆ Existing worker
1. How important to you is getting training while working as opposed to training separately from employment?

### B Experience to date with EBT.

Employment based training (EBT) can broadly be described by the terms apprenticeships, traineeships and cadetships.

2. Are you in a contract of training (EBT) arrangement now? What qualification will it result in?
3. If no? Would you like to be? What stops you from so being?
4. Are you interested in pursuing higher level qualifications within your field?
5. If yes, why do you consider this important? If not, why not?

### C What doesn't work?

6. What are some of the features of EBT that you consider need changing in order to make them a better option for workers?

(For example is the length of the training an issue? Are there TAFE or private training college delivery issues? Are there regulation issues? Or work pay arrangements and/or conditions?)

### D What works?

7. In the case of the EBT you have participated in - what is/was good about these arrangements and why?

E. Some alternative EBT models under consideration that we would like your opinions on.

8. Has your current competency been sufficiently taken into account?
9. Would more upfront 'in the classroom' tuition before employment/ongoing training be good?
10. Will you or your employer use the recent government incentives for higher skill level EBT's?
11. (For those in <25 category) What about school based EBT's? Special Trades schools etc?
12. Do you see room for new qualifications based on skills sets to be developed?

F. Summation question

13. What would be your "ideal" EBT arrangement and would it differ depending on the level of qualification you were undertaking?

# Appendix 2

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## Interview questions for employers in the child care sector

1 I would like to hear what you think about apprenticeships in children's services. Tell us about training in your industry.

- ◆ Have workforce skills been an issue for the service?
- ◆ What are the skill levels requirements in your workplace?
- ◆ Is the training system currently catering for what you need?
- ◆ Have past efforts to raise workforce skills (through training and other measures) actually led to improvements in your service's performance?

2 Tell us about your experiences with employment based training – apprenticeships, traineeships, cadetships.

- ◆ What experiences have you had with EBT?
- ◆ Did this EBT meet your expectations?
- ◆ Has the EBT been more effective at some levels than others?

For example compare entry level to more advanced skills

3 Tell us about time taken, style of training, quality of training, regulation, work arrangements - pay & conditions.

- ◆ What features of employment based training are an issue and why?

4 Tell us about what could work.

- ◆ How could the CHC50302 Diploma of Children's Services be improved as an EBT?
- ◆ Ideas such as:
  - ◆ Recognition processes at start up?
  - ◆ Do we need a new qualification as skills sets only?
  - ◆ More up front class-based tuition?
- ◆ Will you use the recent incentives announced by the government for higher skill level apprenticeships? Explain your response.
- ◆ What do you think about school-based traineeships in child care?
- ◆ Ideally, now and in the future, what would the best EBT model you could use in your service - what would it look like?
- ◆ Ideas such as:
  - ◆ EBT for young entry level workers compared to older existing workers
  - ◆ “upskilling or new-skilling” - different qualification levels for example at higher technical levels (Diploma levels compared to the Certificate levels).

5 Tell us about what could work for the child care sector and in other sectors and industries.

- ◆ What issues would need to be addressed in your sector to achieve a “best fit” EBT model?
- ◆ Are there other occupations and industries where this “best fit” model may also be used?

6 Have your final say.

- ◆ Is there anything you want to add?

# Interview questions for apprentices in the child care sector

What is your age range (years): <25, 25-35, 35-45, >45

1 How would you describe your employment in the child care sector?

- ◆ Entry level worker from school
- ◆ Entry level worker from other employment
- ◆ Existing worker

2 How important to you is getting training while *working* as opposed to training *separately* from employment?

Tell us about your experience while training.

- ◆ What experiences have you had with your apprenticeship?
- ◆ Did this apprenticeship meet your expectations?
- ◆ What has been good about your apprenticeship?
- ◆ And what has been “not so good”?
- ◆ What could be done to make it better?

3 Tell us about time taken, style of training, quality of training, regulation issues, work arrangements - pay & conditions.

Looking at the list -

- ◆ What part of the apprenticeship was a problem?
- ◆ Why was that a problem?

4 Tell us about what could work.

- ◆ How could the CHC50302 Diploma of Children's Services be improved for apprenticeship?
- ◆ Ideas such as:
  - ◆ Recognition processes at start up?
  - ◆ Do we need a new qualification as skills sets only?
  - ◆ More up front class-based tuition?
  - ◆ What is your view about school based EBTs?
- ◆ Ideally, now and in the future, what would the best apprenticeship model for you - what would it look like?

5 Tell us about what could work in other sectors and industries.

- ◆ What would the best kind of apprenticeship in children’s services look like?
- ◆ Are there other occupations and industries where this “best fit” model may also be used?

6 Have your final say. Is there anything you want to add?

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