

Enhanced training models for higher level VET qualifications

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Abstract

This paper is based on a research project¹ that explored effective training models at the VET Certificate III level and above in two industry areas as case examples: process manufacturing occupations (based in Victoria) and child care occupations (based in Queensland). In the case study industries higher level vocational education and training qualifications were being pursued through an “apprenticeship” or formal contracted employment based training arrangement along side the traditional vocational course approach. Customised skills sets also featured as did fast tracking options. Thirty three individuals including employers, employees/ apprentices, training providers, industry representatives and Training Package developers were interviewed to explore current concerns around each model and suggest arrangements that reasonably withstand limitations and issues surrounding employment based training for higher level VET qualifications.

The data for this project informed the development of a set of five ‘best-fit’ training models for higher level vocational qualifications to suit the process manufacturing and child care industries. These five models are expected to also be adaptable to other industry areas. The models include options for existing workers who already have a lower qualification and seek an upward movement in their careers, as well as ones for new entrants to the workforce who are seeking to enter at an intermediate level. The proposed models are expected to increase employers’ preferences for VET graduates particularly for a growing number of associate professional jobs.

Research rationale

The focus of the research was on VET qualifications at the Australian Qualifications Framework (AQF) Certificate III level and higher. It originated from a recent analysis by the Centre for Economics of Education and Training (CEET, 2006) mapping gaps in supply and demand for Australian workers with VET qualifications until 2016. The analysis showed significant current shortages at the Certificate III level, particularly in the traditional trades areas served by apprenticeships. The analysis also forecast the highest projected future growth areas to be at the AQF Diploma and Advanced Diploma levels, with some expected growth at the AQF Certificate III level. Table 1 illustrates the projected demand levels.

¹ Choy, Bowman, Billett, Wignall and Haukka, 2008, *Effective models of employment based training*, NCVER, Adelaide.

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Some measures have been taken since the release of the analysis by CEET (2006). For instance, in 2006 the Coalition of Australian Governments (COAG) activated measures to stimulate uptake and completion of traditional trade qualifications at the VET Certificate III and above levels. Existing employment based training models were varied and emerged in the form of fast tracking options; new skills sets qualifications; and alternative provisions for young people. Higher level VET qualifications are also supported by extending the availability of Commonwealth incentives for regulated contracts of training for the Certificate IV and Diploma levels.

Table 1 : Gap in the supply of and demand for persons with VET qualifications in the ten years to 2016, Australia (CEET, 2006)

Qualification level	Total number of persons with qualifications 2006-2016 ('000's)			Annual % increase to meet requirements
	Requirements to meet 2016 target	Supply at 2005 completions rate	Expected surplus (+) / shortfall (-)	
Adv				
Diploma	346	84	-262	27.2
Diploma	536	253	-283	14.1
Certificate IV	310	344	34	-1.9
Certificate III	911	799	-112	2.4
Certificate II	259	566	307	-14.9
Certificate I	111	186	75	-9.7
All	2,473	2,233	-240	1.9

Note: All data relate to 15-64 year-olds excluding overseas students.

Current levels of demand for skilled workers are placing pressure on the VET system to respond to workforce skills in high demand. Commencing in 2008, the national labor government will attempt to close Australia's skills gap by expanding publicly funded training places at the Certificate III level and above (Australian Labor Party, 2007). However research on higher level VET qualifications (Stanwick & Saunders, 2004; and Foster, Delaney, Bateman and Dyson, 2007) suggests the models need to be better constructed to suit the needs of worker/learners and employers. It was this imperative that our research concentrated on.

Literature review on higher level VET qualifications

Concern to increase participation in higher level VET qualifications is not new. In 1993, the Australian Employment and Skills Formation Council (1993) took up the issue and argued that high performance enterprises need to embrace technological change, move towards flatter organisational structures, and introduce work teams and greater accountability on the part of all workers. This meant that Australia had to expand the skills of the middle section of its workforce by extending beyond the entry level VET Certificates I to III qualifications to Certificate IV and above.

In 1998, the introduction of the national training system and Training Packages began with an emphasis on nationally portable entry-level skills at AQF Certificate levels I to III. Qualifications at Certificate IV and above were to be developed later.

Almost eleven years later there are 214 Certificate IVs, 496 Diplomas and 106 Advanced Diploma qualifications listed on the National Training Information Service (NTIS) (Foster, Delaney, Bateman and Dyson, 2007). However, the uptake of these high level qualifications is surprisingly lower than expected. The reasons for this were explored by Curtain (2004), Stanwick and Saunders (2004) and Foster et al. (2007).

Curtain's (2004) survey with enterprises revealed that in many cases there was no direct link between workers at the middle-level and corresponding qualifications:

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 and similarly, middle level qualifications for supervisory occupations are often in competition with non-accredited tailored short courses or specific models from accredited training programs... (p.4).

Curtain (2004) concluded that the challenge was for VET providers to offer a middle-level skill product that better suited the needs of students and employers. Stanwick and Saunders' (2004) research showed that Diplomas/Advanced Diploma graduates were not a major skill source for professional and associate professional² occupations, even though these are the specified qualifications for these jobs. They noted that associate professional employees have a wide range of qualifications. About 13% of professionals and associate professionals are qualified to the Diploma/Advanced Diploma levels, 20% possess a university degree or postgraduate qualification. Only about 18% are qualified at the Certificate III/IV levels and a further 9% at Certificate II level (see Attachment 1 for details). Foster et al's (2007) research also showed that the demand for associate professionals is not matched to the corresponding demand for training at higher levels of VET. Their analysis revealed that participation levels in higher level VET qualifications declined between 2000 and 2005, contrary to the growth in skill needs in the labour market at these levels.

Based on their findings, these researchers (Curtain, 2004; Stanwick and Saunders, 2004; and Foster et al., 2007) concluded that VET qualifications at Certificate IV, Diploma and Associate Diploma levels require adjustments to meet the needs of employers and employees.

Curtain (2004) 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) proposed five possible options for regulated employment based training

² The Australian Bureau of Statistics (2006, p. 1) defines associate professionals as those who perform complex technical and administrative support functions which require an understanding of the underlying theories and methods of a particular field and significant practical skills. Tasks are often performed in support of professionals.

contracts at the Diploma levels after consultations with employers in six industries. Some of the options were validated in our research and are explained later in this paper. Foster et al (2007) suggested three actions- relaxing the tight specification of Training Packages to job roles to enable emerging roles and skills to be readily incorporated into higher level VET qualifications; developing broader qualifications that integrate knowledge and skills across job roles and streams within the industry and have a greater emphasis on generic employability skills and business with high order specialised knowledge as electives; and increasing the work and industry experiences within the Diploma level training program. These suggestions were considered when we came to proposing effective models for high level VET qualifications.

Methodology

Our study examined a variety of employment based training (EBT) models that can respond to current issues and concerns, and minimise the limitations of existing EBT models, at the same time reasonably withstand potential issues that may arise in the future. Five research questions were explored to propose effective models of employment based training:

- ✧ 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?

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

- are keen on higher level VET qualification levels at the VET Certificate III and IV, Diploma, and Associate Diploma levels.
- have activities in alternative training models at these levels, and
- have future employment growth and good job prospects at these levels.

Following consultations with stakeholders in industry and the VET sector, occupations in the process manufacturing industry and child care occupations in the community services and health industry were selected for this study. The case study for the process manufacturing occupations was based in Victoria and the child care occupations case study in Queensland. The researchers relied on the accessibility and availability of the sample. Thirty three individuals, representing employers, employees/apprentices, VET providers, industry bodies and Training Package developers participated in the study. Although the sample size is small (seventeen participants representing the process manufacturing industry and sixteen from the child care industry) and may not be representative of the stakeholders, the issues and views expressed by those interviewed are consistent with what was found in the literature review.

Separate sets of questions guided data collection from employers and other stakeholders, and from employees in training. The interview questions explored their experiences with Certificate III and higher level VET qualifications in terms of the capacity of various models to produce quality outcomes and be functionally operative.

The interviews included discussions around

- formal education opportunities to engage with knowledge about the vocation
- experiences of vocational practice in the workplace, or the enactment of the occupation for which they are preparing
- opportunities to engage with experts who can guide the learner, monitor their progress and provide direct assistance for things they will not learn through discovery alone
- duration of the training and whether it was long enough to learn and practice the repertoire of vocational knowledge and skills required, and
- assessment and certification practices.

Other issues that impact on functional aspects of the models were also explored such as regulations, administrative and licensing arrangements, and aspects of workplace employment relations including wage rates and their links to work situations.

Data was collected through face to face and telephone interviews and via emails from seventeen participants representing the process manufacturing industry and sixteen from the child care industry. We relied on the accessibility and availability of the sample during the period of data collection. Although the sample size is small and may not be representative, the issues and views expressed by those interviewed are consistent with what was found in the literature review.

Key findings from the case studies

Employment based training models at the Certificate III and IV, and Diploma and Advanced Diploma levels in the two case studies included examples already described in recent literature. However, some variations to current models to suit age and experiences of the worker/learners, were suggested. For each of the models, there was a strong preference for a combination of 'on and off' the job training components. This result echoed the findings and recommendations of other researchers (Curtain, 2004; Stanwick and Saunders, 2004; and Foster et al., 2007).

Process manufacturing industry (Victoria)

Australian manufacturing industry has a long history of training and is in the process of changing further its training options to remain competitive. There is a strong need and desire for faster, smarter trades training outcomes and for higher level skills in manufacturing. The new Competitive Manufacturing Training Package articulates qualifications ranging from Certificate II to Advanced Diploma levels. The Technology Cadetship extends opportunities for some. It is a contract of training arrangement, aimed at young new entrants, that is being implemented at the AQF Certificate III and IV levels and is to be expanded later to the Diploma and Advanced Diploma levels. Furthermore, there are post trade courses and custom built training options for existing workers to move to specialised roles and to the technician level.

Both employers and employees who participated in our study supported the new Competitive Manufacturing Training Package and Technology Cadetship. Employers believed that the fast tracking option for Certificate III trades qualifications could be delivered in less than the traditional four years for existing mature age workers who already have well developed technical skills. However they recommended the four year duration for young people to develop to the point where they can operate autonomously. Overall, employers favoured fast tracking provided a quality assurance process is in place. That is, the potential candidates are tested for suitability for fast tracking and/or higher levels skills training before this option is offered. They suggested an offer of the fast track option perhaps at the six month point into their training for Certificate III so as to maximise their investment in training.

In the manufacturing industry, Certificate IV qualifications are often undertaken by tradesmen as part of post trade training in specialist areas such as plant maintenance and leadership/ supervisor. Some employers support only a customised skills set instead of a full Certificate IV qualification at this level as better suiting their purposes. However, employees expressed a preference to learn more than that required to meet the purposes of their employers in order to expand their opportunities in the labour market.

Existing workers pursuing a Diploma or Associate Diploma qualification to obtain technician level jobs were doing so through institution based courses, often at their own expense. They suggested that the courses should be improved through the addition of in industry components to 'back up the theory', and went on to proposed practical "shop" demonstrations or site visits. Existing workers were not convinced that the contract of training arrangement for a Diploma or Associate Diploma was a suitable option for them. They did not want employer control over what they learnt. They were not concerned if the theory they were learning did not directly align with their current employment. Their intentions were to broaden their knowledge and skills beyond what was needed for immediate application and in specific workplaces. None of them saw their current place of employment as their ultimate goal, and were using their studies to 'move up and on'. Older workers had already done the 'hard yards' of study at night and were less keen on more of this mode of learning. Those relatively young (mid 20's) were prepared to spend time at night for learning but wanted more certainty that their investment of time would pay off in pay scales and career development.

Employers were generally pursuing specialised skills sets training as alternatives to Diplomas and Advanced Diplomas (especially for existing workers with trade qualifications). They observed that Registered Training Organisations (RTOs) offer models of delivery for post-trade training and full-time Diploma and Advanced Diploma level training that is not connected directly to workplace practice or assessment. This adds to their perceptions that staff in RTOs are not 'up to speed' on the way things are done in industry. Industry also demands highly credible 'cutting edge' trainers who, they believe, do not exist in government funded RTOs.

Specialised skill-sets to meet the specific needs of the manufacturing industry are a growing currency, although some are not easily characterised at an AQF level. Employers who offer training for specialised skill-sets use the job description as the

basis to begin training and work back to map against relevant parts of Training Packages, mixing and matching from different packages and AQF levels (e.g. some from Diploma level, some from Certificate IV level etc.). Employees regard new qualifications based on skills sets as an option but they didn't like the idea of too many 'mickey-mouse' subjects offering small niche areas of knowledge without the proper grounding in the basics. Trade Graduate Vocational Certificates and Diplomas were also being considered for existing workers with trade skills.

During the interviews, the main workplace relations issue related to pay rates. Qualifications are aligned to job classifications with various degrees of formality in manufacturing areas. There are accepted award training wages for those in training as well. For older workers pay reductions during training were not acceptable because it impacted on family commitments. However, there were examples of supplements (eg. bonuses and other rewards) to overcome issues with wages during training. Some "good" apprentices/learners who performed well were paid above the award training wages.

Child care industry (Queensland)

The child care industry is less affected by technology and resulting work changes than is the manufacturing industry. Child care is a growth sector with skills shortages and prescribed qualifications for practitioners that prove difficult to adhere to because of the hands on nature of the work and mandated staff to children ratios.

The Queensland legislation allows 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).

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. In terms of VET qualifications, an assistant requires a certificate 111 qualification, a group leader a Diploma and a director an Advanced Diploma. The qualifications are within the Community Services Training Package.

A Certificate III qualification can be started while in school through a traineeship and allows a student/ employee to work as an assistant one day a week so long as they are 17 years old. An employment based apprenticeship is the alternative.

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.

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, other apprentices preferred time during working hours to complete

learning tasks. However, 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. Also 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.

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. 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 of high quality.

To allow experienced, unqualified workers to meet the qualification requirements for Group Leader and Director it was suggested that sets of skills could be grouped for recognition. There was a view by some that experienced unqualified workers could be attracted if their learning was focused around skills sets. However, there was a strong view about the importance of having a full qualification eventually.

An issue with workers at the Director level enrolled at the Diploma is that they do not have other staff to supervise them. This contravenes the conditions of training for an apprenticeship.

Those interviewed suggested several requirements of a "best fit" model to achieve successful training outcomes. The features included; integration of theory with on-the-job activities where apprentices can work with qualified staff and learn from them; practical and less academic learning resources; provision of the required study time in the workplace (and without a drop in wages) whilst at the same time maintaining the required staffing level on the floor; and assessors to have the necessary knowledge of the industry; and improved recognition processes to reduce the duration of an apprenticeship.

Overall we found the current 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

The other key issue was pay rates. They were considered too low for the kind of work done and when compared to other industries. This is why employment based contract of training approaches were preferred in place of course based training in own time for a VET qualification at and above Certificate III. The offer of apprenticeships in Diploma of Children's Services is expected to boost higher level skills and qualifications of child care workers.

Proposed effective training models for higher level VET

Our analysis of existing training models and the key drivers for change and issues arising alluded to five fundamentals for effectiveness. Effective EBT models we concluded need to be pedagogically sound; functionally operative; provide quality skills; have utility and be sustainable; and address requirements for quality outcomes. These dimensions formed the conceptual framework for selecting best fit models for higher level VET.

An effective EBT model that is pedagogically sound and provides quality skills outcomes has three main features. First, vocational experiences should comprise an integrated on and off the job training and employment arrangement. Learners should be allowed graduated access to vocational experiences of the kind to be learnt to gain competency. Also the learning needs to be based on competencies in Training Packages. Second, expert support needs to be made available to provide opportunities for learners to engage with experts who possess the knowledge to be learnt, who can guide the learner, monitor their progress and provide direct assistance. Experts also need support and time allocation. Third, the duration of the vocational experiences should be long enough to provide a repertoire of experiences that secure learning of the scope of the vocational activities to be practised. While learners should be assessed when considered ready, the assessment should be in ways which show that the learner can practice their vocation in circumstances other than just where it was acquired.

Two main functional features make EBT models effective. The first relates to clearly stated roles, responsibilities and costs for learner, employer, government and other stakeholders (often stated in the training contract). Agreements around these will enable learners to participate in learning while earning and allow employers to be competitive. The VET providers (RTOs) will also be able to maintain flexibly the arrangements, as supported and regulated by government. The second functional feature relates to access to User Choice³ arrangements.

Two key features reflect the utility and sustainable nature of effective EBT models. Firstly, such models should meet skilled labour requirements. That is, meet skills shortages, allow apprenticeship diversification from mainly regulated trades to other industry areas, and be available for up-skilling or re-skilling of the whole workforce. Secondly, they should meet the needs of changes in how work is organised through outsourcing, casualisation and for specialisation. Such models should offer long term solutions, withstand future skilling needs, and add to national skills development.

Research by Bowman et al. (2005) identifies three main features of EBT models that lead to quality outcomes. These are: high level of employer support and commitment to the apprenticeship/ traineeship; compliant with legislative and regulatory requirements for the occupation; and minimum administrative burden on employer. Bowman et al. (2005) advocate a good working relationship between apprentice/trainee and employer. Quality outcomes are achieved when the workplace supports the development and maintenance of a positive learning culture, and where experts in the workplace are given time to conduct the training. Adequate structure in the training at work also provides good employment outcomes. Legislative and regulatory requirements for the occupation include a good training plan, application of Recognition of Prior Learning, provision for assessment when apprentices/ trainees

³ User choice = Employers have a choice in selecting a registered training organisation (public or private) for the off the job component of the EBT. They can also negotiate the content, method of delivery and sequencing of training.

are ready to be assessed, teachers and workplace trainers with appropriate level of skills and expertise who are also aware of contemporary workplace changes. Models that engage Group Training Company minimise administrative burdens on employers.

Drawing on the data collected in the two case studies and considering the features of effective training models we proposed five models for higher level VET qualifications. Clearly, a “one size fits all” approach is a thing of the past. Three of the models are associated with new entrants and initial preparation for the occupation, and include two models proposed by Stanwick and Saunders (2004). The other two models are associated with higher than the base certificate III to provide further or specialised training among existing workers. We provide a table 2 that compares the five models at the end of this section.

A. Three entry level models

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. RTO) 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 settings, and advising about appropriate workplace pedagogies to facilitate learning.

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. Perennial limiting factors such as inconsistent regulatory arrangements, non-compliance by employers and RTOs, 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.

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, the 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 meet student and workplace requirements. In this instance, leadership for managing the effective integration of experiences in the

workplace and educational setting needs to be shared and collaboratively regulated. The bridging of knowledge and skills gained at the two sites will rely heavily on the nature of partnership arrangements between educational institutions and the workplace. 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.

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-learners 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 recognize 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.

B Two existing worker models

The next two models are 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 have some capacity to autonomously integrate their learning experiences at the workplace and that offered by the educational institution. This would then open up the possibility for engaging in those components of preparation that are offered by the educational provider, and arranging for work experiences other than those required for their workplaces. A move away from being wholly centred on enterprise need, also serves a more individual goal: that of gaining a holistic set of skills and elevating the standing of higher vocational education and training qualifications.

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). It 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-learners in terms of how the learning is organised and recognised. 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 institutions. For instance, child-care centre directors are seen as having their needs met by this model of entry-level preparation.

5. Extension model for further development

This model is similar to model 4 (extension model of entry-level preparation) described above. It 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. The model can meet the kinds of needs articulated by the Advanced Diploma in engineering worker-learners in the manufacturing case study.

The above 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. 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 functionally operative, and (iv) be effectively enacted and sustained over time. The alignment between these characteristics and the proposed models is briefly mapped in Table 2.

Conclusions

Our research shows that worker/learners want to play a role in the design of higher level VET qualifications. They want a proportion of off and on-the-job training in their preferred options and to gain knowledge and skills across job roles and streams within the industry, and not just their own enterprise. The five models described in this paper attempt an equilibrium between work based and institution based experiences. The models include options for existing workers who already have a lower qualification and seek an upward movement in their careers, as well as ones for new entrants to the workforce who are seeking to enter at an intermediate level. These models are expected to increase employers’ preferences for VET graduates particularly for a growing number of associate professional jobs.

The proposed models need to be tested more widely in the two case study as well as other industries around identified issues in the regulatory environments; education and training content and delivery; and workplace/ employment relations. These issues play out differently by industry/occupational and enterprise area.

Table 2 Alignment between conceptual premises and proposed models

Characteristic	1. Traditional' entry-level training model	2. 'Accelerated' entry-level training model	3. Internship entry-level preparation model	4. Extension model of entry-level preparation	5. Extension model for further development
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.
Functionally operative	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.

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