# VET and Practice Based Learning: Current models of integration

***Abstract*** – This paper will explore and describe some of the models used when delivering practice based learning in Vocational Education and Training (VET) courses and identify issues pertaining to delivery and assessment as a result of the integration of course work and workplace learning.

Over recent times there has been an increased reliance for trainees to acquire practical vocational skills in the workplace. Apprenticeship style training has been the traditional method of training over the years where trainees were provided with mainly practical skills and theory and knowledge was gained elsewhere usually through attendance at tertiary institutions. In particular for apprenticeship style learning, workplace learning is conducted and assessed at the workplace and students carry out full time work and study at a tertiary provider on a part time basis. This form of "on job" and "of job" learning requires a significant different approach in terms of learning and assessment and the alternative methods of applying "practice based learning" across the different student cohorts.

With the introduction of VET courses in various disciplines and levels being offered by tertiary providers as alternatives to apprenticeship training, industry placements and work experience and work practice have been introduced into certain courses to provide for a collaborative work/learning experience during course delivery.

For the purposes of this paper, 'Practice-Based Learning' may be defined as the engagement of student learning activities through the collaboration with a tertiary institution, industry partner and workplace learning. This includes although is not limited to, industry based placements, work based learning programmes integrated with the formal curriculum at a certificate level. Practice based learning has generated a great deal of debate and differing points of view from various researchers have been acknowledged. Indicated in the literature there are some identified issues with course delivery and workplace experiences providing continuing challenges for both employers and educators in delivering an incorporated system of vocational education at the workplace in partnership with a tertiary provider. However there is a general agreement amongst all stakeholders that practice based learning has developed and improved learners/employee's skills and vocational knowledge through positive integrated course work and workplace training.

*Keywords*- Vocational education and training, industry oriented, industry, workplace learning.

## Introduction

This paper will explore and discuss some of the models utilised when delivering practice based learning in Vocational Education and Training (VET) courses in New Zealand and Australia and identify issues pertaining to delivery and assessment as a result of the

integration of course work and workplace learning. A key question within this paper will be to determine what current features of practice based learning models are considered effective or ineffective? For the purposes of this paper, 'Practice-Based Learning' may be defined as the engagement of student learning activities through the collaboration with a tertiary institution, industry partner and workplace learning. This includes although is not limited to, industry based placements, work based learning programmes integrated with the formal curriculum at a certificate level. Workplace learning is multifaceted and is utilised in organisations in a variety of ways and is an essential component for effective employment-based training. Historically when VET programmes have been delivered the delivery has predominately relied on Lecturer directed instruction, however over recent times there has been an increased focus for trainees to acquire practical vocational skills in the workplace as pre-employment programmes have lacked the necessary practical hands on skills in preparation for employment in the workplace.With the introduction of VET courses in various disciplines and levels being offered by tertiary providers as alternatives to apprenticeship training, industry placements and work experience have been introduced into certain courses to provide for a collaborative learning experience during course delivery. Vocational education and training courses are designed to prepare people for the workplace, to extend their skills while at work and provide for positive change so that they are able to work in new or similar occupations.

**Workplace learning**

Research into the literature by various authors has brought about an increasing awareness by stakeholders i.e. employers, employees, tertiary educators and trainees that workplace learning has become an important aspect of 'informal' learning at the workplace. Previous studies indicate that learning at work is the most common way of learning for employees and by far exceeds learning in formal settings outside the workplace (Collin, 2002).

Research into how people learn show that most work related proficiencies are learned outside the formal classroom, and Greenagel and Lagay (2003) suggest that where the learning occurs and how it's used is closely associated to how adults learn. Workplace learning has been identified in the literature as an accepted and effective form of training and differing points of view from several researchers have been acknowledged (Billett 2001, Boud and Garrick1999, Brown 2003, Collin 2002, Harris, Simons and Bone 2003). There has also been general agreement amongst stakeholders that workplace learning has developed and improved employee's skills and vocational knowledge through positive workplace training. Various authors have defined workplace learning in a number of ways and Boud and Garrick (1999, p.2) stated that there cannot be just one definition … "many perspectives are needed not only because of the diversity of work and the differences which exist even within a single organisation but because learning in the workplace is so multifaceted".

The Australian National Training Authority (ANTA, 2002) defines workplace learning as learning or training undertaken in the workplace, usually on the job, including on-the-job training under normal operational conditions, and on-site training, which is conducted away from the work process (e.g. learning centre).

The Australian Bureau of statistics (NCVER 2003) defines formal training as "all training activities which have a predetermined plan and format designed to develop employment related skills and competencies", whereas, informal training is defined by "training activities that are instigated by the individual or occur in an ad hoc fashion". Harris, Simons and Bone (in NCVER 2003) argue that informal training is not merely an ad-hoc process, but part of a deliberate strategy that takes into account the work that requires action and the skills needed to do the work.

Skill New Zealand (2001) defines workplace learning as the formal acquisition of skills and knowledge in the workplace. Two possibilities of learning may occur at the workplace, firstly the learning may be either 'employer based', where the learner is an employee working and learning at their place of work, or secondly it may be 'work-based', where someone who is not an employee of the company is there for the purpose of work experience or work based learning. The formalisation of knowledge and skills in the workplace are obtained through assessment and the achievement of a national qualification. Workplace learning may be supported by additional education and training on a regular or occasional basis (Skill New Zealand, 2001).

Billett (2001) argues that workplace activities are structured by historical, cultural and situational factors and these factors influence the kind and quality of learning that occurs through work. He critiques earlier assumptions regarding workplace learning and in particular determines that by describing workplace learning environments and experiences as 'informal' is incorrect. He states that by "describing workplaces as 'informal' learning environments is negative, inaccurate and ill-focussed and it does little to assist the understanding about workplaces as learning environments" (Billett, 2001, p1-3).

In my view for effective practice based learning to occur the learning that occurs in the workplace is an essential component of the formal learning process and has to be fully integrated with the vocational education courses. The experiences gained at the workplace cannot be replicated effectively outside the workplace and adds enormous value to the achievement of a valid qualification.

**Co-operative education**

Co-operative education is a process of learning that is used to integrate the content of a course with productive work experiences in a field related to the learners' academic, personal

and career goals. It has been effective in providing closer relationships between tertiary institutions and industry by integrating the curriculum into a meaningful process of learning through productive work experience: - students gain the opportunity to combine their academic knowledge with the practical skills necessary to secure future work prospects. Several examples of work based learning programmes have been identified in the literature, and numerous institutions predominately in the higher education sector have utilised co-operative education programmes extensively as the preferred choice of an integrated learning and practical experience. Co-operative education programmes are also being delivered in the VET sector as an alternative option to courses that do not include a work based component. Co-operative education programmes consist of some form of work related experience where students are required to arrange a work placement with an employer where an agreed period of time is spent at the workplace. A student will normally be required to arrange a learning contract with the academic supervisor together with the work-based supervisor prior to spending their time in industry. The work experience component can be completed alongside the academic requirements prior to graduation whether by studying full time or part time. The learning contract will normally be used as part of the assessment requirements. There are variations to the work experience component where students may be required to attend multiple work placements over a set period of time and gain non specific experience or there may be a portion of the programme that occurs at the workplace that is carried out as a project based course under the supervision of an industry supervisor and an academic supervisor. Industry placements have been used as alternative methods of learning options with tertiary education providers for some time linking education programmes to a real work environment, and generally the two main objectives of industry placements either provide for students to gain hands on work experience, or for students to earn academic credits within an academic programme (Hodges & Coolbear, 1998).

**Work-based learning (WBL)**

Work-based learning (WBL) according to Brown (2003) represents the integration of workplace experiences for students studying in technical education curriculum. It goes beyond the traditional co-operative education model to include a range of activities more aligned to vocational education and learning such as apprenticeships, service learning, job shadowing and internships. WBL involves students in the building of underpinning knowledge by engaging them in real workplace tasks that "create a context for creative decision making in uncertain situations" (Harnish & Wilke-Schnaufer 1998, p. 22, as cited in Brown, 2003).

Connor (2005) believes that it is important to distinguish *work-related learning* from *work-based learning* as they relate to quite different activities particularly in higher education studies. They also relate to different associated policy implications and issues to be addressed. *Work related learning* - is learning from study or experiences in or related to the world of work; usually where students are encouraged to reflect and report on the work-relevant skills they have developed (e.g. in work experience placements) and *Work based learning* - is much more focused on learning in the workplace, derived from work undertaken for or by an employer (i.e. in paid or unpaid work). It involves the gaining of competencies and knowledge in the workplace. It may include learning undertaken as part of workforce development (Connor. 2005, p.6).

One type of WBL at the VET level that utilizes the *work experience* model has the requirement of attendance at the workplace either at the end of or during an academic programme. Students are sent or have to arrange their own work placement and the work placement is usually additional but may be included in the academic programme. The main difference with this arrangement is that there is no requirement to include assessment tasks

and to incorporate academic credits into the learning programme. However there may be a requirement for the students to complete some form of log or report of the experience gained at the workplace.

Another method of WBL is integral to the academic programme and students earn academic credits from their work placement. This type of placement is well used in certificate level courses and in particular at trade based courses where ‘on the job’ assessment is carried out as students work towards achieving competency standards in a particular discipline.

Alternative models that incorporate the practice based learning methodology are identified where employees who work full-time carry out structured learning within the workplace and also spend time away from the workplace to carry out formal learning at a tertiary intuition. Apprentice or trainee programmes that have been developed under a New Zealand Industry Training Organization (ITO) usually incorporate the “on the job” “off the job” methodology across an industry. When programmes are offered in this way the employees are registered under a training agreement with the employer and the ITO (Hodges & Coolbear, 1998).

Practice based learning is also used where specific courses are designed to enable project based learning in conjunction with industry for instance vocational courses delivered in the Bachelor of Applied Technology at Unitec Institute of Technology the courses are directly linked to industry through focusing on industry products where the design for teaching and learning is through a project based philosophy. Instead of traditional work practices, students will focus on approved research topics and an industry project and complete their projects through working in conjunction with industry both on the job and off the job (Qi & Cannan, 2004).

Several authors argue that a desired outcome from experiential learning through WBL programmes can complement learning in the classroom and together students, industry, and

lecturers work together to produce learning that is a more holistic and tripartite endeavour and one that provides the students with 'work readiness' Eames, and Cates, (2004). Brown (2003, p.3) indicates that "work-based learning helps students to integrate knowledge and experience to gain a broad perspective of the learning and skill development that is required to make successful transitions from school to the workplace or further education" .

**On-the- Job and off-the- Job**

Traditional apprenticeship training utilises on-the- job and off-the- job training methodologies in New Zealand and across the western world for an extensive period of time. It was only recently in the late 1980's to early 1990's that governments of the day started to look at alternative ways of improving education and training within the trades and across vocational based industries. The trade training system in New Zealand was seen to have several weaknesses due to being centrally regulated, sluggish and unresponsive and the numbers of apprentices were declining (Green, Hipkins, Williams & Murdoch, 2003).

The Industry Training Strategy was introduced in the 1990s in New Zealand to introduce changes into the way that apprentices and trainees were being trained. There was an identified need to expand training initiatives to other sectors of the community beyond the traditional trades into the provision of equitable opportunities for others for instance older people taking up new skills and career paths, women training in non traditional employment and indigenous people. (Green et al, 2003)

One major outcome of the Industry Training Strategy resulted in a new competency- based training system being introduced into New Zealand away from an achievement based and time served apprenticeship system that made the biggest impact on the way that training had occurred in the workplace. Industry Training Organisations were formed to represent industry and a main task amongst many was to produce and moderate qualifications comprised of unit standards that determine the delivery and assessment requirements and the integration of the learning and

assessment at the workplace and also off- job at a tertiary institution (LaRocque, 2007). In comparison to the New Zealand model Australia has undergone similar reforms as New Zealand and there have been significant changes there with upgrading the apprenticeship system. Some of the changes instigated from the reforms have included the introduction of competency-based training and training packages, changes in the training frameworks to include all age groups and an array of financial incentives for employers to encourage new trainees (Callan, 2008).

**Issues with VET course delivery, assessment and incorporated workplace experiences**

Recently reports on apprenticeship training within Australia from state departments including the Department of Education and Training (2005); the Department of Employment and Training (2005); Victorian Department of Education and Training (2006); Western Australian Department of Education and Training (2005)and research by Harris, Simons & Bone (2006) have all indicated that employers highlight the need to rethink the way that training is conducted as there is evidence of problems with current training models. Indications from these reports have alluded to issues for instance as high non-completion rates across various states in Australia and difficulties in attracting and retaining apprentices in response to skills shortages across a diverse group of industries (Callan, 2008). Issues with the delivery of courses with workplace experience component indicate that there are continuing challenges for both employers and educators. Some issues identified include the following:

- Four-year time-based apprenticeship versus competency-based learning, can delay apprentices who have reached competency in becoming qualified workers.
- Concerns by employers around a genuine competency-based training and assessment procedures for trainees and a lack of understanding with on-job assessment.
- High non-completion rates of trainees and difficulties for some employers to attract and retain apprentices in response to skills shortages.
- Where on-the–job training occurs within a single specific workplace there is the risk of too narrow skills achieved by the trainee at that workplace.
- Reduced time for trainees to study away from the workplace with off-the-job training leading to difficulties in achieving the required learning outcomes.

- A perception by some that upfront pre-employment training may occur without employment-based skills leaving trainees without relevant practical capabilities prior to entering the workforce.
- Tension with some training providers who have concerns about on-the-job assessment conducted by employers, particularly in cases where apprentices are deemed competent even though they did not gain skills and experiences in some activities.
- Overall lack of quality with the provision of training on- job and off-job and training that does not meet skills needs in industry.
- Difficulties with the size of companies and the availability of suitable supervisors for training at the workplace.
- Difficulties for students engaged in full time employment not having time to complete theory and off-job training i.e. night class and block courses.
- Lack of general support for apprentices and trainees from agencies for instance Industry Training Organisations ITOs.

With continued discussions regarding methods of education and training in both countries due to new technologies and changing workplace requirements there have been difficulties in retaining existing skilled staff and attracting new apprentices and trainees into the various industries. Alternative training measures have been implemented to include other VET programmes involving employment-based training that have been offered in Australia that include: “non-regulated training, such as labour market programmes involving training and work experience; secondary school ‘work experience’ placements; and cooperative education and service learning programmes for students” (Choy, Bowman, Billett, Wignall, Haukka, p.13, 2008).

One key factor that emerged from the various discussions was the need for more accelerated forms of apprenticeships across Australia which will shorten the timeframe that trainees normally take to complete their training. Some of the benefits identified with accelerated models of training include a reduced time for trainees away from the workplace for off-the-job training, professional development training in new technology for existing staff, the ability to provide more tradespersons at the workplace in a quicker timeframe and where

licensing regulations are necessary the ability to apply improved compliance measures. (Western Australian Department of Education and Training, 2005)

Employers have indicated that there are certain concerns relating to the accelerated completion and that some of the benefits may be offset by some indentified issues, for instance apprentices may complete their training in a shorter timeframe and reach higher pay scales but they may not necessarily have the skills and experience required which could jeopardise investment recovery for businesses. Employers supporting accelerated learning prefer that the trainees will work on their theory study outside normal working hours (Minerals Council of Australia 2006). Many employers have concerns around a genuine competency-based training and assessment procedures for trainees and have a lack of understanding with on-job assessment requirements

There are also some concerns in Australia with the “intensive up-front model (off-the-job training in a VET institute) combined with industry-specific on-the-job training in a dedicated workplace leads to work readiness for minimally skilled participants entering the workforce”. This form of training works well for pre-employment training however, if the on-the–job training occurs within a single specific workplace there is the risk of too narrow skills achieved by the trainee at that workplace. Alternative training through a group training company, together with allocated employers, can “facilitate opportunities for rotations between workplaces in order to provide broader experiences”. (Choy, et al, p.15, 2008). Other concerns that employers purport to have with upfront pre-employment training is the issue that this form of training may occur without the employment-based practical skills as contrasted with the traditional method of training where theory is combined with practical skills on-the-job. (Minerals Council of Australia 2006).

In New Zealand particularly in the engineering and trades' area there are an increasing number of employees and trainees involved in workplace learning. This is carried out in various forms and the need for structured practice based learning is clearly required to ensure that the quality of the learning is maintained. Through recognized and approved pre-employment programmes school leavers rather than enter straight into the workforce as a traditional apprentice learning on-job with a work supervisor to gain some knowledge and experience of a particular trade, can enroll into an accelerated programme that provides students with the relevant underpinning knowledge and skills prior to becoming an employee at the workplace. At the tertiary level it has become a preferred method of training by students and employers as the trainees are more prepared and work ready by the time that they enter into employment .When students have opted for a pre-employment programme they have the advantage of gaining their off-job training component in a much quicker time and are able to concentrate on their education learning theory and practical skills without the distraction of having to work simultaneously. For students that attend pre-employment courses the off-job component counts as credit requirements only and students will also be required to achieve work experience as WBL with an employer but at this point are not required to gain any credits or practical assessments towards a qualification. The main advantage for this method of WBL is for students to become familiar with work activity at the workplace and gain an on job experience prior to gaining employment. (Cannan, 2008).

For those students that prefer to directly enter into the workforce there still remains that option as the qualifications have been designed by the Industry Training Organizations (ITOs) to incorporate formal training to be undertaken at the workplace (i.e. on-job-learning) and for the theoretical and practical underpinning to be carried out through a learning programme with a tertiary provider (i.e. of-job-learning. However some ITOs for instance the Electrotechnology ITO and the Motor Industry ITO have recommended that all level 2

qualifications to be conducted with a tertiary provider through a pre-employment course prior to students entering the workforce. However there is a perception by some that upfront pre-employment training may occur without employment-based skills leaving trainees without relevant practical capabilities prior to entering the workforce

The current trend for Institutes of Technology is to work collaboratively to develop learning delivery programmes that provide for both the learning and assessment to be concurrently delivered both off-job and on-job. When students are employed at the workplace the practical component of the unit is conducted there and the unit is practiced until the student is deemed competent, and once the student has reached that stage the practical assessment can be completed. There may be tension with some training providers who have concerns about on-the-job assessment conducted by employers, particularly in cases where apprentices are deemed competent even though they did not gain skills and experiences in some activities.

To ensure that quality control is provided for with the provision of training on- job and off-job and training there is a rigorous process in place to make certain that the assessor at the workplace has the skills to enable the assessment to be completed. All on-job assessors are required to undergo a training programme to become a qualified assessor, and if certain workplaces do not have trained assessors due to the size of companies and the availability of suitable supervisors for training at the workplace then the training providers can step in and carry out or validate on-job assessments. Once the assessments at the workplace have been completed it is up to the supervisor to report the result to the National Qualification Authority (NZQA).

Research carried out by the Australian Industry Group (2005) has shown that training and assessment to be very disjointed even with a national training system using the training packages and there are high rates of non-completion of apprenticeships and traineeships

through employment-based training. It's also noted that about a third of the trainees leave their employment within the first six months.

Further research by Snell & Hart (2007) indicates that employers and industry feel that that there is a lack of interest in trainee and apprenticeships due to a perception that they may be of a lower status and being non-university based.

Other research indicate that a "number of quality issues such as use of apprentices and trainees as cheap labour, fully on-the-job training, narrowing of skills, lack of proper training and poor regulation of quality standards have implications for the quality of skilling through employment-based training". (Choy, et al, p.18, 2008).

Research by Stanwick and Saunders (2004) indicated that there were pressures on trainees to do the off-the-job component of the apprenticeship in their own time, and demands for the increased use of pre-apprenticeship courses night classes and flexible delivery options by some employers (Stanwick & Saunders 2004).

**Conclusion**

As highlighted through this paper and through information gained from the literature there are some identified issues with course delivery and workplace experiences that provide continuing challenges for both employers and educators in delivering an incorporated system of vocational education both at an institution and the workplace. However through the different models of incorporation of VET courses with employment based training it is clear that this form of training has the general agreement amongst stakeholders that workplace learning has developed and improved employee's skills and vocational knowledge through positive workplace training. As determined by Choy, et al, (2008) through recent research into employment –based training models in Australia in the manufacturing and child care industries that with "key drivers for change by governments and other stakeholders and core

features of current models of training there are necessary features for employment-based training models to be effective they must have five main dimensions.

They must:

- be pedagogically sound
- operationally effective
- provide quality skills
- have utility and be sustainable
- address requirements for quality outcomes”

  (Choy, et al, p.36, 2008).

From other researchers for instance Curson, p.17 (2004) indicates that “finding the right kind of training to suit the needs of business and the trainees can be a challenge. There is no single formula which suits everyone and different approaches will be called for depending on the needs of the enterprise and the characteristics and skill needs of the learner”. Choy ,et al (2008) concludes that “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 practice-based training modes”.

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