Investigating learning and work
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Abstract

All organizations, including VET providers are looking to find ways to achieve competitive advantage through the people they employ. Creating this advantage has a number of facets and most of these depend on the training/development of people and their ability to learn. At the same time the use of traditional training, as the key to improving individual and organizational capability is no longer regarded as sufficient in itself to satisfy the needs of the contemporary work environment. Problems of transfer, flattened organizational structures, financial and time constraints, commercial pressures and the changing nature of work itself have led to renewed interest in finding learning solutions rather than training solutions to workforce development; with learning conceptualised as a central, on-going and integral feature of contemporary work. This paper reviews the latest thinking and evidence from Australian and European researchers that investigates issues concerning learning and work and suggests what this means for VET providers in terms of the organization and management of learning for contemporary work in VET.

Introduction

Vocational Education and Training (VET) providers have a vested interest in understanding the ways in which they can better integrate learning and work. First, they operate in a highly competitive market in which industry clients are looking for VET programs that directly address their skill needs and are seen to add explicit value to the productive capacity of the business. At the same they must design programs that meet the needs and expectations of individual-learners who remain at the centre of VET delivery.

Second, VET providers are themselves organizations that must address their own skill development needs in ways that add explicit value to their own productive capacity and at the same time provide their employees with learning & development opportunities that contribute to their ability to undertake their work and future career development. This is of particular importance given that continuous change appears an inevitable feature of the VET landscape.

In Australia VET is now a well-established focus for educational providers, with schools, colleges, universities, private providers, industry and community organizations all offering education and training programs that are either directly or indirectly focused on providing learners with the knowledge skills and dispositions that enable them to gain and sustain employment in the contemporary labour market. However these same providers are coming under increasing pressure to change the way they do business as a result of contemporary changes to work and work organization, together with new ideas concerning knowledge, skill and learning. (Chappell et.al. 2003).
Employer-employee relationships are now more diverse as casual, part-time and contract employment become common features of the labour market landscape. Increasingly inter-organisational networks of production, supply chains and outsourcing arrangements characterise contemporary industry relationships - again complicating labour relationships.

The concept of skill has changed and the importance of knowledge generated at and through work is now regarded as an essential ingredient in developing agile and innovative enterprises. The concept of learning is now increasingly seen as not simply the responsibility of education and training providers but rather is regarded as an integral and on-going feature of the contemporary workplace. (Cullen 2003)

In the High Level Review of Training Packages-Phase 1, Chappell et al (2003) reported that there was overwhelming evidence that in the face of these changes teaching and learning practices in VET needed to become more learner-centred, work-centred and attribute focused. Further progress towards achieving this outcome depends on a critical re-assessment of the role, practices and contribution of education and training providers in developing a workforce with the necessary skills and abilities required in contemporary work. Within the context of this study a critical assessment of what this means in terms of the on-going development of the VET provider workforce is also needed.

Today’s VET work environment is increasingly characterised as being more diverse in terms of industry and community needs and less stable in terms of the work skills required in employment. It is characterised by non-standard rather than standard employment and is as interested in developing collective/organizational competence as it is in developing individual competence. These and other factors have led to renewed interest in better understanding the dynamics of workplace learning in order to find the most productive ways in which VET organizations can themselves encourage and support learning in their workplace. One of the more important challenges in this area is for organizations to understand the significant conceptual gap that separates learning that takes place in the classroom/training room contexts and learning that occurs at work. Without this, solving the problem of integrating learning and work becomes much more difficult

**Integrating learning and work**

Integrating learning and work has been the subject of intense thinking and research in recent times and in this section I outline some of the latest thinking in this area in order to give VET providers ideas about how they can conceptualise and design learning opportunities for VET staff that incorporate learning at work.

In a recent report, the OECD (2003) provides a useful contribution to discussions concerning contemporary teaching and learning practices. It offers a model of traditional practices in which the learner, teacher/trainer and knowledge (broadly defined as both theoretical and practical knowledge) are relationally located through three different albeit
related processes of teaching, training and learning. The report suggests that each of these relational processes bring with them a suite of practices supported by particular theories of learning (eg behavioural, cognitive, constructivist, etc.) which in turn have different assumptions about knowledge, learners and learning.

The report argues that until quite recently thinking in almost all sectors of education and training has focused on teaching and training processes rather than the learning process. This focus leads to the idea that the teaching and training processes involve the selection and implementation of strategies that lead to learners gaining the necessary knowledge and skills identified prior to learning and in subjects/modules, competency standards, programs and courses of study.

How this can best be achieved has been the subject of much theoretical debate. Behavioural and cognitive psychology, once the theoretical cornerstones of teaching and learning hold significantly different assumptions about learning and therefore promote different teaching and learning strategies.

Both these theoretical positions are criticized by constructivist learning theorists for taking knowledge and skills as unproblematic givens in education. Implicit too is the idea that learning is essentially an individual activity. They also tend to assume a ‘transmission’ model of learning in which the teacher or trainer selects strategies that enable the effective transmission and unmediated accumulation by the learner of existing bodies of knowledge and skill.

While constructivist learning theories are by no means new there is continuing dispute within this theoretical field largely to do with the dynamics that exist in terms of the relationship between individuals and their social environment in terms of the construction of knowledge and skills. Nonetheless there is general agreement that learning involves the active construction of meaning by learners, which is context dependent, socially mediated and situated in the ‘real-world’ of the learner.

Many teachers, trainers and human resource developers use pedagogical strategies based on constructivist views of learning. Learning tasks are embedded as much as is practicable in ‘real-world’ contexts. Small group work, discussion, debate, practical problem solving, the presentation of alternative perspectives, sharing of information, reflective practice, cognitive apprenticeships, modelling, mentoring and coaching are all strategies that resonate with a constructivist orientation to learning. Adult learning, experiential learning, problem and project-based approaches, use teaching and learning practices based on the assumptions held by constructivist learning theory. Indeed the latest interest in situated-learning, work-based learning and ‘communities of practice’ suggest that constructivism is now a major contributor to understanding pedagogical practice in learning and development programs. Social learning theory highlights the importance of modelling. People form ideas about what to do by observing others and use these ideas in terms of meaning making and as a guide to action (Bandura 1986).
The work of Lave & Wenger (1991) extends this theory arguing that learning normally is a function of the activity, culture and context in which it occurs. Learning is thus always situated, involving social interactions, which in workplaces involve learners becoming members of a community of practice. Exponents of adult learning theory and experiential learning also emphasise the importance of praxis; that is the connection of learning with real life situations (Boud et al 1993). This position is reflected in the views of commentators who regard the workplace as the most ‘authentic’, relevant and ‘situated’ site for vocational learning (Marsick & Watkins 1990) particularly when work is organized to facilitate learning. Workplaces can structure and routinely provide learning experiences as part of everyday work activities and through guidance from other workers (Billett 2002d)

**Learning theories in VET**

In terms of VET workforce development it would be fair to say that many of these ideas have been taken up in terms of professional development. Initiatives such as Reframing the Future and the Flexible Learning Network have embedded constructivist learning practices in their activities. They include: action learning and other forms of problem solving and self-managing teamwork and a range of other learner-centred development techniques like action research, and mentoring, coaching and project based learning’ (Mitchell et al. 2001: 41). These initiatives also stress the importance of shared learning (via communities of practice), mentoring, reflective practice, and informal learning.

Research conducted by Stehlik & Simons et.al. (2003) confirms that informal learning, including learning from peers and colleagues, self-directed study, hands-on practice and individual reading are very important aspects of professional development in VET. While the work of Dawe (2004) indicates that at least in large enterprises the drivers of workplace learning include the need for innovation, technological change and the demand for quality assurance.

Hager (2003) however inserts a cautionary note, suggesting that much of our understanding of learning continues to be tied to the assumptions that underpin learning in formal educational settings. He suggests therefore that because we think of learning in this way we limit our understanding of learning at work in terms of the opportunities work provides for learning. This is consistent with the conclusions of Smith & Harris (2000) who suggest that the nature of learning is little understood when work placements are incorporated into vocational programs.

They argue that we need to consider the concept as consisting of many different types of learning which opens up the possibility of utilising a much wider range of learning theories and practices each underpinned by somewhat different assumptions. In some ways this is consistent with the findings of Chappell et al (2003) and the view of Cullen et al (2002:11) who point out that in education and training most of the theoretical debates are normative and value-laden; arguing for the primacy of one approach over another rather than the appropriateness of different practices to different settings and purposes. This position is also consistent with the research of Felstead et.al. (2004), who
write that the results of the learning at work survey in the UK suggest that learning by doing, workers organising and checking their own work, and, crucially, advice, understanding, coaching and counselling from line managers emerge as keys to the development of effective and productive staff.

Arguably, in Australia learning and development practices in VET, reflect this position. Professional development programs (in-house or external) draw on a mix of educational assumptions and theories about teaching and learning and a mixture of teacher and learner-centred approaches are often combined in these programs. In some senses then ‘good practice’ is now not tied to a particular educational theory (eg behaviourism, cognitivism or constructivism). Rather good practice has taken on a more pragmatic position in which ‘constructive alignment’ (Biggs 1999) or appropriateness to different purposes and settings (Cullen et al 2002) has become the key guiding principle of good practice.

However this move is not occurring solely because of increased interest in including a wider range of learning theories in learning and development practices. A number of other socio-economic changes have unsettled the pre-eminence of educational institutions as privileged sites of learning and have at the same time led to questions concerning the utility of formal education practices to develop and sustain learning at work. As the OECD report (2003) suggests: Pedagogical questions now encompass everything the individual ‘actually’ learns, over and above the formal requirements of an educational program. Other commentators have argued that structural changes to workplaces outlined elsewhere (Chappell et al 2003) demands increased integration of learning and work (Bryans and Smith 2000). Indeed, the need for such integration for the good of both organizations and individuals has been the focus of increasing attention by researchers and decision makers over the past ten years (Ellstrom 2001, ANTA 2004). These commentators suggest that as organizations respond to market changes through flatter, more flexible structures, employees too must be able to respond in flexible ways.

This means that workers who are increasingly faced with novel and unpredictable work demands must be able to learn on the job as requirements emerge. As new technologies are introduced, new collaborations formed and new competitive challenges are faced, individual workers must be able to learn to adapt in situ. This calls for new learning concepts, strategies and practices that assist in greater integration of work and learning and as Boud (2001) suggests we may need to look beyond traditional education and training practices to achieve this integration.

He argues that traditional institutional forms of education and training has been highly successful in formalising much of social learning that once stood outside of education. This position in some ways mirrors the work of Bernstein (cited by Bonal & Rambla 2003) who creates the concept of the Totally Pedagogised Society (TPS) to suggest that we live in an era in which pedagogy is being introduced into all spheres of life, colonising all aspects of social learning that once stood outside of education and training. Boud (2001) proposes that this development has now reached a stage where educators must begin to consider what the limits of their traditional educational practices are in the
context of learning at work and what if any new practices can be invoked to assist this process. While Chappell et.al (2003:10) recognise this gap by suggesting that:

*If learning has become an integral part of working, arguably formal education and training systems would need to consider what new role they might play in the development of the workforce.*

**Bridging the gap**

A number of researchers have made contributions to our understanding of the gap that separates formal education and training programs designed to provide learners with the knowledge and skills required in workplaces and learning that takes place as a normal feature of working. For the most part this work has been undertaken in the service of improving learning embedded in VET programs that are designed for external clients. However the work undertaken in this area can also throw light on how VET providers can improve their own learning and development practices for staff.

1. **The experience of work**

In a useful contribution to our understanding of work and learning, Griffiths (2004) researched the ways in which work experience is operationalised in a six-nation European study. Five models of work experience were identified:

- Traditional – ‘launching’ students into the world of work
- Experiential –as ‘co-development
- Generic – as an opportunity for key skill assessment
- Work process – ‘attuning’ students to the context of work
- Connective – a form of reflexive learning

The study observed that all models were present in the sites that were the focus of investigation and each model brought with it particular assumptions about learning. This research also provides a number of insights into how the normal experience of work can be enriched to facilitate greater learning at work by employees in organizations including VET. For example the experiential model suggests that learning at work is facilitated when clear work objectives are set and the worker is involved in developing, monitoring and reviewing the work plan that is set.

The generic model suggests that while work plans are important elements that contribute to learning at work they lose a degree of authenticity if they are used to identify learning outcomes rather than work outcomes. Further the model suggests that outcomes must be couched in terms that are consistent with the business context of the employing organization. The work process model draws attention to the importance of contextual knowledge in learning at work. It suggests that knowledge of the organization including; product knowledge, organizational knowledge and the broad social context in which the organization operates can facilitate learning at work by staff. Finally the connective model of learning draws attention to the importance of connecting the organizational
context with work practices. It understands work as a social activity in which various groups of workers together shape the work practices of the organization. It suggests that learning at work is facilitated when human resource and management practices are designed to encourage individual workers to participate in existing ‘communities of practice’ that exist in the organization.

2. Learning-conducive work

Norwegian research conducted for CEDEFOP (Skule & Reichborn 2002) investigated learning taking place in Norwegian workplaces. Two types of data were used. The first involved informant interviews in 11 companies, the second, a questionnaire survey of 1500 employees mainly in the private sector. The study developed the concept of learning-conducive work and concluded that it is the properties of work or the learning conditions of work that are the most important in explaining the differences in the opportunity to learn through work. It identified seven different factors that promoted learning through work.

3. The “affordances” of the workplace

Stephen Billet has been developing a theoretical understanding of workplace learning based upon an extensive series of case studies in diverse workplaces (Billett 2001, Billett 2002a, Billett 2002b, Billett 2002c, Billett 2002d, Billett and Pavlova 2003). Through these studies, a central notion that has been developed is that a workplace offers both factors that constrain or inhibit learning and others that facilitate or enhance learning. The latter set he refers to as the “affordances” of the workplace and identified ten factors that influenced learning at work. These factors engage with a range of variables that recur in many analyses of learning in the workplace. They recognise that there are factors in the specific nature of the work that each worker engages in as well as factors that relate to the organization and structure of the workplace and to the interpersonal relationships that, deliberately or otherwise, operate in the workplace. The importance of Billett’s work is that he has repeatedly demonstrated the impact that these sorts of factors have on the learning that “naturally” occurs in real workplaces and has focused attention on the factors within workplaces that “allow” learning to occur.

4. Expansive learning environments

In the UK a long-term research program managed by Lorna Unwin and Alison Fuller has been seeking to identify the factors within “apprenticeship” that are of importance to the learning that is meant to be central to this long-standing model (see, eg., Fuller and Unwin 1998, Fuller and Unwin 2002). The two authors initial work identified sets of factors that were specific to the individual work contexts they were studying but soon noticed that a pattern could be observed in which they could assign workplaces along a continuum they came to describe as “expansive/restrictive”.

Expansive workplaces were characterised by an environment in which learning was valued and planned into the work process, where the nature of the work required the
apprentice to draw on and use a wide variety of knowledge and where there was a culture of sharing knowledge and expertise.

In an article that encapsulated their case study research program on apprenticeship (Fuller and Unwin 2003), they identified three inter-related themes as underpinning their expansive/restrictive continuum — participation, personal development and institutional arrangements. Moreover they described in detail the end points of their continuum. Their notion of “participation” draws heavily on the similar conception developed by Lave and Wenger (1991) and includes such work organization practices as job rotation, secondment and involvement in activities that take the learner out of their workplace to engage with other workplaces, suppliers or customers. A key notion they explore is that of “boundary-crossing” — activities that draw the learner out of their typical frame of reference and challenge them with new perspectives and/or demands.

They also identify a number of specific features of the workplace that are responsible for enhancing the “personal development” of the learner: the provision of opportunities to reflect on practice; the ability to envisage and experience long trajectories and careers; and opportunities to develop new identities through belonging to multiple communities of practice.

Finally, their notion of “institutional arrangements” incorporates the explicit recognition of the employment relationship within apprenticeship as a critical feature of an expansive environment wherever it overtly and explicitly defines the apprentice as simultaneously a worker and a learner. Importantly these arrangements need to give value and status to the learning and to include the creation, maintenance and provision of learning resources as a central part of the company’s relationship with the employee.

5. The Koike/Darrah model

Within the tradition of Human Resource Development, Ashton (2004) tested a learning at work model based upon earlier by work by two other authors (Darrah 1996, Koike 2002) through conducting a case study in a large multinational corporation in South-East Asia.

He identified a number of factors that impacted on the availability of knowledge and information for learning including feedback, opportunity for job rotation, shadowing, managerial support for learning and reward systems

What does all this mean?

While couched in very different terms, there appears to be substantial overlap in the conceptual bases that underpin the approaches highlighted by these researchers. Our initial analysis suggests that an organization’s learning environment can be clustered around four areas.
The:

- **Work environment**
- **Work process environment**
- **Social interaction environment**
- **Managerial environment**

Almost all of characteristics identified by the above researchers as influencing the ability of people to learn fit into these four categories.

This suggests that the *work environment* found in VET providers can either facilitate or impede learning at work. Quite diverse factors such as the degree to which work has clear work objectives, the degree of exposure to change and the extent of feedback provided, contribute to ways in which staff experience their work and their ability to learn.

Second, the *work process environment* also contributes to learning at work. Factors such as having an understanding of the context in which the organisation operates together with an appreciation of the business objectives as well as experience in working in different areas of the business all influence the extent to which learning occurs at work.

Third, the *social interaction environment* includes the extent to which work groups experience and shape the work of the organisation, the degree to which individuals are exposed to professional contacts outside the organisation and the value the organisation places on the work of the individual. All of these factors influence the degree of learning that takes place at work.

Fourth, factors in the *managerial environment* of the RTO also influence the degree to which learning occurs at work. These include the managerial support given to learning, managerial rewards and recognition, the extent to which managers provide useful feedback and the degree to which organisational knowledge is made available to individual workers.

**The next step for this research**

The complexity of the characteristics, the number of factors involved and the composite interplay of these factors, are such that it is difficult to see how hard-pressed learning and development staff can operationalise these insights without further assistance. In order to provide this assistance our aim in the next stage of this research activity is to produce a diagnostic tool that will enable VET providers to identify those aspects of the work, work process, social interaction and managerial environments that facilitate learning at work and those where improvements can be made. With this information the provider may then be in a position where it can change operational and managerial aspects of the organization in ways that encourage all individuals to experience a working environment that maximises learning at work.
References


Bonal & Rambla (2003) Captured by the Totally Pedagogised Society; teachers and teaching in the knowledge economy, *Globalisation, Societies and Education* v1, n2


