

## The Inescapability of Significant Contextual Learning in Work Performance

PAUL HAGER & ERICA SMITH

University of Technology, Sydney, Australia

**ABSTRACT** Many countries have implemented versions of competency-based training in which competency standards or statements serve to provide standardized learning and skill development outcomes for vocational education and training. It seems that a main attraction that motivated the introduction of such competency-based systems was the assumption by some that they would be 'failsafe', in that achievement of the learning and skill development outcomes would guarantee that the learner was workplace competent. However there were always convincing conceptual reasons for denying that the achievement of standards-based learning and skill development outcomes would be equivalent to being workplace competent. This paper aims to explain these reasons, to provide empirical evidence of the scope of the gap between formal standardized training and workplace competence, and to address the implications of this gap for the improvement of vocational education and training. The assumption that the gap could be avoided overlooks the crucial importance of context and culture in workplace performance. It is argued that sound vocational education and training needs to take account of these features.

### Introduction

In the last decade or so, a rapidly growing number of nations have resorted to competence-based education and training as a mechanism for trying to improve skill formation outcomes generally. While the detail of these reform initiatives varies from country to country, competence approaches have been applied widely to training for trade and other non-professional occupations, where the qualifications commonly range up to advanced diploma level. However, the competence approach has not been confined to the vocational education and training (VET) sector. In many countries competencies have been developed for professional occupations such as nursing and teaching. Eraut (1994), for example, discusses the competency-based movement in teacher education in the USA during the 1970s, which has re-emerged more recently (e.g., Eltis, 1997). Piechotta (2000) describes various competencies in the caring occupations in Germany, and the American Society of Training and Development (1997) has produced competencies for human resource development practitioners. As well as 'technical skills' being a focus of competence approaches, there is increasing attention being paid internationally to generic skills or competencies, (also known as 'core' or 'basic' skills, or, more recently, as 'employability skills' (Smith & Comyn, 2003)). These are being used across education

systems including the university sector, where they are known by names such as 'graduate attributes' or 'graduate qualities'. This paper is concerned with one crucial way in which competence-based approaches are unable to deliver the kinds of outcomes that policy-makers desire. The discussion is centred mainly on Australian experience and research, but the findings are applicable to competence-based approaches across countries and educational sectors.

Australia's VET sector has implemented a system of competency-based training (hereafter CBT) in which industry-based competency standards serve to provide standardized learning and skill development outcomes for accredited training in the sector. These standards have been progressively introduced during the 1990s (Smith & Keating, 2003). Since 1997, a new system has seen the replacement of courses and curricula with Training Packages, which consist of competency standards (referred to in the singular as units of competency) packaged into qualifications, with no requirement for accreditation of curricula. This system is similar to some in other countries, such as National Vocational Qualifications (NVQs) in the UK (see Konrad, 2000). The emergence of Training Packages in Australia has led to an increased importance being attached to competency standards. Units of competency are made up of elements of competency, with associated performance criteria and range of variables statements. The latter describe the conditions in which performance might take place. There are also evidence guides, which include an indication of the underpinning knowledge needed to perform competently along with other assessment advice. As well in Australia, prescribed key (or generic) competencies are incorporated within units of competency, although the efficacy of such embedding is much debated (e.g., Down, 2000).

It seems that a main attraction that helped to motivate the introduction of the CBT system, and other sets of work-related competencies, was misguided. This was the assumption by some that such a system was 'failsafe' in that achievement of the learning and skill development outcomes would guarantee that the learner was workplace competent. However there were always convincing conceptual reasons for denying that the achievement of standards-based learning and skill development outcomes would be equivalent to being workplace competent. This paper aims to explain these reasons and to address the implications of this gap for the improvement of vocational training generally.

The reasons for the gap between standards-based learning and skill development outcomes on the one hand and workplace competence on the other, are discussed in two stages:

- Firstly, the conceptual basis for anticipating that there would be such a gap is outlined.
- Secondly, a range of empirical evidence is presented that illustrates the diversity of factors that, together, constitute this gap.

### **The Conceptual Arguments for Expecting a Gap Between Skill Development Outcomes and Workplace Competence**

#### *Role of Context*

In simple terms, context refers to the surroundings in which work is done and the possible influences that these surroundings have on the way that it is done. Much literature on CBT leaves only a secondary role for context, thereby denying that it significantly affects standards and their application. In the following, three views of context are considered. The role of context in shaping work performance gradually becomes more influential across these views.

*Context as Minimally Influential*

The view that allows the weakest influence for contextual factors regards them as relevant only when they prevent a workplace or company from achieving optimum outcomes. That is, context is seen as having a negative effect on performance only if, for instance, the available equipment or resources is less than what is needed to enable expected work standards to be achieved. Examples might include unsafe equipment, lack of proper tools, or inadequate training.

On this view, as long as equipment or resources are adequate, context is irrelevant and standardized generic training outcomes are sufficient to ensure workplace competence.

*Context as Influential but Controllable*

This view allows more influence for context, but still consigns such influence to a secondary role. It treats contextual factors as mere data that can be plugged without difficulty into pre-determined standards. On this second view, context plays a more important role in determining which work actions or processes are best, but only relative to a set of outcomes that are not themselves context-dependent. Context only determines how the pre-set outcomes for the work should be fulfilled, but does not help to shape the outcomes themselves. Examples here might be range of variables statements as used in many Australian competency standards. In such cases performance criteria, for example, might need to be adjusted to take account of particular brands of machines or equipment without affecting the outcomes specified by the standards.

This has been the view of context that seems to underlie much of the competency standards development and implementation in Australia. On this view, standardized generic training outcomes are sufficient provided that training and its assessment takes proper account of the context in which those outcomes are achieved. However, there are good grounds for thinking that a still stronger view of context captures the happenings in actual workplaces.

*Context as Decisively Influential*

Stronger contextualist views argue that both the nature of work processes, as well as the standards that are applicable to those processes, are significantly shaped by contextual influences. According to these views the notion of *context* is itself very complex. Various theoretical approaches to understanding work, which emphasize the crucial role of context and its complexity, have emerged in the last fifteen years. These approaches have been particularly influenced by developments in sociology and psychology. One such approach is typified by sociocultural theorists—such as Lave and Wenger (1991), and Wertsch (1998). This approach focuses on processes rather than entities or structures, and stresses the inseparability of the individual and the social. Within this broad approach there are, of course, some differences in how particular theorists conceptualize the role of context. Equally influential but different theoretical approaches have been developed from activity theory, which was originally inspired by the work of Vygotsky and Leont'ov, and developed by Engeström (2001) and others. Activity theory produces dynamic accounts of human activity that emphasize its mediation by tools (understood in the broadest sense). Also crucial for this kind of theorizing are the differences between internal and external activities and the transformative links between the two. Activity theory is not monolithic in that various theoretical approaches can be developed from its main principles. Thus diverse accounts of context and its complexity are available from within activity theory (see

Engestrom et al., 1999). Our purpose here is not to argue for one or other of these various theoretical approaches, each with their somewhat different presuppositions. Rather, we wish to stress that a variety of theoretical resources is available to further explore the type of strong contextuality that this paper argues plays a decisive role in shaping work processes.

Taking a cue from the theories just mentioned, context is seen as broadly including a multiplicity of workplace-related factors such as the following:

- The specific history of a workplace or company.
- Its particular culture and norms.
- Its institutions and practices, e.g. work organization, career structure.
- Its economic and social environment.
- Its strategic needs.
- Its deployment of technology.
- The extent and intensity of change to which it is subject.

Hence this stronger sense in which context can influence work practice is one in which the outcomes or standards are altered by the details of how these factors are played out in the particular workplace context. In such cases, the general competency standards do not contain all that is needed to represent and describe the work. Parts of the standards need to be supplemented by details of the particular context in order to arrive at suitable descriptions.

#### *Some Good Reasons for Supporting Stronger Views of Context*

According to strong contextualist views of workplace competence, a plurality of such factors combine to shape work processes and standards that may well be unique to that workplace or company. The worry people have with a strong contextualist view is that it appears to make competence inherently specific rather than general, i.e., specific to the practices of the setting in which the performance takes place. If this is so, part of the initial motivation for adopting a standards-based system for skills development seems to be lost.

Some clear implications of outcomes being significantly workplace or company specific are:

- Standardised generic training schemes do not suffice to produce workplace competent staff.
- Further learning and skills development on-the-job will be necessary to produce such competence.
- Assessment processes will require assessors capable of judging competence in terms of the extent to which performance is suitably tailored to the features of the specific workplace.

However, none of these constitutes a sufficient reason for rejection of an outcomes-based approach. Rather, they recognize the complexity of real work situations.

An outcomes-based approach founded on a strong contextualist view underpinned the development of professional competency standards in Australia, for example for nurses (National Office of Overseas Skills Recognition, 1995) and specialist solicitors (Gonczi et al., 1994). These developments in the professions took place separately from the development of competency standards for the VET sector. The inclusion of context involved an integrated approach to competence. According to the integrated conception,

competence is conceptualized in terms of knowledge, abilities, skills and attitudes displayed in the context of a carefully chosen set of realistic professional tasks ('intentional actions') which are of an appropriate level of generality (Hager & Beckett, 1995). A feature of this integrated approach is that it avoids the problem of a myriad of tasks by selecting key tasks ('intentional actions') that are central to the practice of the profession. The main attributes that are required for the competent performance of these key tasks ('intentional actions') are then identified. Experience showed that when both of these are integrated to produce competency standards, the results did seem to capture the holistic richness of professional practice.

However, it was always accepted that professional judgment would be involved in matching the standards in an appropriate way to the contextual particulars of the given case or situation. This idea was frequently expressed as the contextuality needing to be taken into account in order to capture the holistic richness of professional practice. The resulting integrated professional competency standards need to be understood as being holistic in several important senses (Hager & Beckett, 1995).

- They are holistic in that competence is a construct that is inferred from performance of relatively complex and demanding intentional actions. The relative complexity of the actions can be gauged from the fact that a typical profession involves no more than thirty or forty of such key intentional actions.
- The holistic character of such competencies is due also to the fact that the tasks (or intentional actions) are not discrete and independent. For example, actual professional practice will often simultaneously involve several of these intentional actions.
- A further sense in which these kinds of competency standards are holistic is that the intentional actions involve 'situational understanding', i.e., the competencies include the idea that the professional performer takes account of the varying contexts in which they are operating. A more general cognitive perspective is called on to frame a skilled intentional action appropriate to the context.
- Yet another sense in which these kinds of competencies are holistic is that by integrating key tasks and attributes, i.e., integrating intentional actions with characteristics or qualities of individuals, competence is constituted by a relation between the professional and his/her work. Theories of expertise such as Dreyfus and Dreyfus (1986) discuss the intuitive way in which professionals, as a result of their experience, select appropriate strategies to deal with particular situations.

By being holistic in the above senses, these competencies are the opposite of any significantly atomistic approach, whether the atoms be tasks or attributes. In this way these professional competencies strike a balance between the misguided extremes of fragmenting the profession to such a degree that its character is destroyed by the analysis or adhering to a rigid, monistic holism that rules out all analysis. That this balance is a reasonable one is indicated by the fact that these professional competencies allow for professional discretion, i.e., they do not prescribe that all professionals will necessarily act in the same way in a given situation. Nor do they require that all professionals will have identical overall conceptions of their work, i.e., these professional competencies are quite consistent with one practitioner having, say, a strong commitment to social justice, while another is just as strongly committed to excellence of practice.

The result of incorporating context into our view of competence can be summarized as follows: work practice is holistic in that, in general, samples of practice are not equivalent to competencies (as set out in the standards). This applies both to the competency standards prepared for the VET sector and the broader competencies for

professional occupations. Rather a typical sample of practice integrates simultaneously several competencies. This situation involves context in that it is the details of the context that help to determine the particular combinations of competencies that need to be integrated in a given instance. Thus, while the general standards contain the broad outcomes, the details of context determine their particular features in a given case. This is why it has been argued that producing overly detailed criteria for assessment of outcomes is counter-productive (Hager, 1996, p. 15).

#### *Other Arguments for Strong Contextuality*

The above discussion around the conceptual bases of competence and CBT sets out a basic argument for strong contextuality. However, the work of various other writers, whose focus is not competence as such, also points clearly to a gap between skill development outcomes and workplace competence.

#### *Skills as Socially Situated*

Strong contextuality is a seemingly inevitable implication of theories that view skill formation as inherently social (see Lave & Wenger, 1991; Guile & Young, 1998; Waterhouse et al., 1999; Engestrom, 2001; Hodkinson & Hodkinson, 2003). If the social characteristics of a workplace shape the range and deployment of skills in that workplace, then there will be an inescapable mismatch with standardized competence descriptors. As Waterhouse et al. (1999, p. 37) put it:

Competencies, when carefully considered in context, are both subtle and complex in ways that may not be reflected in simple or generic descriptions. The social and collective nature of competence is also often not reflected in the individualistic approaches that underpin many training needs analysis and curriculum design processes . . . Yet without the mediating influence of wider industry, social and individual learner concerns even this finely contextualized and well-grounded focus could be short sighted. Learners also need to extend their horizons and stretch their capacities beyond the immediate context.

In a discussion of different ways of understanding skills, Stasz and Brewer compare and contrast what they call two 'conflicting theoretical perspectives about skills' (1999, p. 14). The first perspective is a 'positivist' view which 'conceives of skills as unitary, measurable traits that individuals possess'. In other words skills are learned by, and attach to, the individual and can be transferred to different contexts. This kind of perspective seems to be implicit in the view that achievement of a set of competency standards equates with workplace competence.

The second perspective outlined by Stasz and Brewer is a 'situated' view, which 'assumes that skills are larger than the behaviour and cognitive processes of a single person. Rather, individuals act in social systems that help determine skill requirements, distribution of skills in the work setting, and other important factors. Direct transfer of skills from one setting to another is rare' (Stasz & Brewer, 1999, p. 71). This perspective obviously denies that achievement of a set of generic competency standards equates with workplace competence, since the skills are attached to the job rather than to the person. Stasz and Brewer go on to suggest that neither perspective provides a complete picture of the place of skills in work. If they are right in this assessment, then it seems that, in at least some cases, we need to view competence as 'situated' or contextualized.

A further important dimension to the viewpoint that skills are socially situated comes from writings that emphasize the roles of power and gender in the construction of skills (see Bradley, 1989; Butler, 1999). The main claim is that certain occupational groups succeed in having their work viewed as skilled irrespective of the nature or complexity of the tasks involved (see Shields, 1995). Interestingly, in Australia those professions that were quick to adopt competence approaches were usually predominantly female in their membership (e.g., nursing, dietetics, occupational therapy, and speech pathology). It seems that newly-emerging professions, with a lower status than the established and traditional male-dominated professions, saw competence approaches as a way of gaining wider recognition for the range and complexity of their skills and knowledge.

### *The New Workplace*

Further support for the inherent contextuality of competence in some instances comes from the increasing prominence of the 'new workplace' (Smith *et al.*, 2001). Here the focus shifts from the competencies of individuals to an organisational capacity to function in ways that effectively employ the combined assets of the organisation's staff and resources. So the new workplace is marked by skills that go beyond the technical, such as teamwork, innovation, taking responsibility, planning, solving novel problems, communicating effectively and creating new knowledge. These softer skills (Kearns, 2001) are required to be deployed in combinations that meet the demands of unique and continually changing work contexts. As such they require ongoing learning by workers that are adaptable, multi-skilled and flexible in the face of evolving circumstances. While traditional training to specified outcomes may be well suited to the imparting of technical skills, these softer skills appear to require continuing learning in novel work contexts. While there is a set of key competencies (or 'core skills') (Australian Education Council/MOVEET, 1993) which is supposed to be incorporated in Australian competency standards, in practice it is acknowledged that there are significant difficulties in developing them in students and trainees, and it is recognized that they are too narrow to represent the full range of soft skills (Kearns, 2001). Although these softer skills are often spoken of as if, once learnt, they can be applied readily in any situation, research findings are less optimistic. As Misko (1995) concludes, it is more realistic to view transfer as application of previous knowledge to new settings that result in learning of significant new knowledge.

From considerations such as these, Mulcahy and James have suggested that the contribution of CBT to the new workplace is necessarily limited (Mulcahy, 1996, 1999; Mulcahy & James, 1999). Their main argument can be summarized as follows: whereas competency-based outcomes can be pre-specified, outcomes in the new workplace cannot be pre-specified. Rather, outcomes are inescapably contextual as they emerge from unfolding work processes.

### **The Empirical Evidence for a Gap Between Skill Development Outcomes and Workplace Competence**

All of the discussion in the previous section might be dismissed as mere speculation were it not for the fact that its conclusions are strongly supported by empirical evidence that clearly shows the gap is real. A range of this empirical evidence is discussed in this part of the paper.

*Evidence from Soft Skills Research*

This section derives from research on the workplace role of 'soft skills' (variously called 'generic skills and dispositions', 'basic skills', 'core skills', or 'key competencies' in different countries). In particular, the focus is on the finding that there is significant variation in competence requirements across work sites within the one occupation. Such variation means that pre-specified skill development outcomes cannot meet all of the requirements of particular work sites. For example, in the USA Stasz *et al.* found differences in generic or soft skills needs across occupations, but also in the same occupation practiced in different organisations and work sites. They concluded (Stasz *et al.*, 1996, p. 102) that 'whereas generic skills and dispositions are identifiable in all jobs, their specific characteristics and importance vary among jobs. The characteristics of problem solving, teamwork, communication . . . are related to job demands, which in turn depend on the purpose of the work, the tasks that constitute the job, the organization of the work, and other aspects of the work context.'

Thus, even within the same occupation, job demands can vary so much between different companies or work sites that it makes little sense to try to specify the exact soft skills mix for a particular occupation. The high contextual sensitivity of soft skills requirements of work is further illustrated by the later research findings of Stasz and Brewer (1999).

Similar findings emerged from Australian research on the role of soft skills ('key competencies') in the workplace (Gonczi *et al.*, 1995; Hager *et al.*, 1996, 2002; Stevenson, 1996). Gonczi *et al.* found that hairdressing, for example, is practiced somewhat differently in different types of businesses, thereby creating diverse contexts within the industry. For instance, a hairdressing salon that was part of a flourishing small chain of salons saw itself as maintaining an edge on its competitors due to its significant investment in soft skills training. Hairdressing is an occupation that is typically entered via an apprenticeship, which, of course, includes a substantial component of on-the-job training. This chain of salons featured continuous training activities for all of its staff. Besides keeping up-to-date with the more technical skills of hairdressing, there was an ongoing emphasis of the importance of the softer skills that were seen as underpinning the business focus of the chain. This centred on the provision of a kind of service to customers that would bring them back regularly. The achievement of this end depended as much on the softer skills of the staff as it did on basic and advanced technical skills. This becomes evident from a consideration of how the staff went about their work.

Staff typically spent significant time in consultation with customers to establish their needs and offer a range of alternatives to help meet the identified needs. The emphasis was on formulating the various alternatives in a clear way so that customers could make informed choices. Customers often are not sure of what they want. The staff role was to formulate ways to make the customer look better and to present the options to the customer clearly so that they could make an informed decision. It was emphasized that staff must present options to the customer, not as a hard sell, but in a helpful, constructive way. As well as the initial presentation of options to the customer, staff also had to provide sound advice on post-treatment care. Advice on post-treatment care included recommending to the customer, and selling to them, products for after care.

As part of the normal service, staff were required to design a program for customers to manage their hair after the treatment. A copy of the care program that had been supplied to the customer was retained on the records, thereby enabling management to monitor ongoing staff performance in this area. Staff likened this part of their work to the responsibility of a doctor for sending a patient away with the correct prescription. Other aspects of planning/organizing were to ensure that customers were not kept waiting longer than necessary and that they were looked after, e.g., given coffee, newspapers, etc.



The general manager of this hairdressing salon reported that though graduates of the VET certificate possessed the requisite technical skills, they usually lacked the level of soft skills required by the business philosophy of this chain (Gonczi et al., 1995, p. 106). Thus for staff of this business, workplace competence included the capacity to make some very context specific judgments shaped by the company approach to customer service. It appeared that a significant level of in-house training was needed to achieve this.

Further evidence of variation in soft skills requirements between workplaces carrying out the same occupation was found by Hager et al. (1996). This study examined five occupational areas across 22 work sites.

#### *Evidence from Research into the Learning of Beginning Full-Time Workers*

The research outlined in this section identifies various kinds of learning that are important for competence within a particular work site, yet these kinds of learning are usually not covered by pre-specified skill development outcomes. Some of these 'missing' kinds of learning are relatively general, while others are more site-specific.

In a major study, Smith (2000) researched the learning that occurred in the first year of full-time work of eleven young people. The young people in her study consisted of four apprentices, four trainees, and three juniors (full-time jobs for school leavers not involving formal training). These young people were interviewed several times during the year, as were their managers/employers, parents, and, where applicable, teachers/trainers. The eleven case studies uncovered a rich and diverse array of learning, as well as highlighting major learning experiences and identifying what learning from their first year was most valued by the young people themselves.

Such was the range and diversity of the learning that Smith identified for the young people in their first year of full-time work, that she developed a classification of ten domains of learning (2000, p. 376). In the following, these ten domains of learning are divided into three groups that reflect an estimate of their relationship to the outcomes for typical competency-standards-based training programs.

#### I. Those definitely covered by the standards-based outcomes:

- Technical skills.

#### II Those partly covered by the standards-based outcomes:

- Generic competencies.
- Knowledge.
- Learning about the occupation.
- Learning about oneself.
- Learning about the industry.
- Learning about employee/industrial relations.

#### III Those not covered by the standards-based outcomes:

- Learning about the organisation.
- Job keeping and political skills.
- Learning about learning.

The basis for placing an item in the second category was that while some components of that learning domain would almost certainly be included in the standards-based outcomes, there were others that just as certainly would be unlikely to be included. For

instance, while many CBT programs cover relating to customers, few, if any, deal with relating to managers. The latter proved to be a major factor in the workplace performance of many of the young people in Smith's study. Likewise, standards-based outcomes are underpinned by the technical knowledge that is common to all or most workplaces, but not by important contextual knowledge that is vital in a particular workplace, such as product knowledge.

A key finding from Smith's case studies was that much of the learning in group III, as well as the learning in group II that was not covered by the standardized outcomes, was crucial to work performance. So, it seems from Smith's research that much of the learning that is relevant to work performance is omitted from standards-based outcomes that shape entry-level training courses. Thus it appears that further learning, most of it contextual in one way or another, would be needed before a new recruit from a standard pre-service training course could become workplace competent. This conclusion was further reinforced when each young person was asked to nominate the most important things that they had learnt during their initial year. While some of what they nominated is covered by the standards-based outcomes (such as 'names of equipment'; 'answering the phone' and 'wear your safety glasses'), much of it is outside of their scope. Examples of the latter include: 'do the right thing by the employer'; 'don't get too confident'; 'get noticed and get on'; 'stay calm when under pressure'.

Another strong indication of a gap between skill development outcomes and workplace competence was the low opinion that the trainees studied by Smith had for the concept of 'ticking off' outcomes or competencies from workbooks or training records. Quite simply, these lists of outcomes were seen by the trainees as a 'thin' account of their work experience and learning (Smith, 2000, pp. 346–347). This echoes Mulcahy's (1996, p. 54) observation of cookery teachers' contempt for the ticking boxes approach. Similarly one of the present authors (Hager) noted, when working on an earlier project (Gonczi *et al.*, 1995), that there was strong hostility towards 'tick and flick' approaches to training. This project found that 70% of work sites studied said they used such workbooks. But more significant for the author was that the 30% who admitted neglecting them often included firms that were clearly providing good training. The reasoning here seems to be that the holism of real work situations is such that long lists of outcomes are seen as but pale representations of the real thing. So, thoughtful training arrangements lead people to go beyond this approach. These findings obviously have significant implications for delivery of training at a distance, which seems to encourage 'tick-a-box' approaches. Certainly, amongst Smith's case studies, the formal class attendees were much happier with the off-the-job component of their training than were those studying at a distance.

#### *Evidence from Research into Learning in the New Workplace*

The challenge posed to the adequacy of pre-specified skill development outcomes by the 'new workplace' was argued in the conceptual section. The research outlined in this section provides evidence that this challenge is a serious one.

Mulcahy and James (1999), drawing on data from a national evaluation of CBT, conclude that CBT is successful in skilling the workforce for current dominant labour patterns, but strongly doubt that it is suited to the emerging knowledge economy. They argue that the capacities required in the 'new workplace', such as continuous learning, innovation and knowledge creation, are inevitably left out of CBT approaches. With reference to the social, organisational and political aspects of work, which are central to the 'new workplace', they quote (Mulcahy & James, 1999, p. 101) the research-based conclusion of Childs and Wagner (1998), that CBT:

Underestimates the complexity of knowledge, skills and experience required by a functioning workplace at all levels. Whilst easily identifiable operational skills form the centrepiece of most CB-training programs and more generic skills are captured by the concept of key competencies, the social, organisational and political skills of each member of the workforce go unrecognised unless they form part of a given job specification.

Likewise, Mulcahy (1999) reports further similar evidence of the limitations of CBT in 'new workplaces', based on eight case studies of CBT in practice and approximately 200 telephone interviews with training managers (or their equivalents).

On the basis of their automotive industry research project, Sefton *et al.* (1995) also note a gap between cross-industry standards and the demands of particular workplace contexts, especially those seeking to become 'new workplaces'. They also view the inescapable contextuality of workplace performance as raising questions about the value of some generic training programs. They point to:

The need for a great deal of the training (on topics such as company policies, enterprise technology and equipment, company work systems, new enterprise products, customers and suppliers of the company and the introduction of new technologies into the workplace) to be highly contextualised and enterprise specific. However, there are some areas that could benefit from generic curriculum resource packages, such as occupational health and safety, rights and responsibilities of employees, industry or business context, etc. However much of this material would also need to be contextualised to the specific workplace. It would appear to be counter-productive to send people to class to learn generic curriculum if the aim is for the workplace to become an effective learning environment. (Sefton *et al.*, p. 179)

As Sefton *et al.* suggest in the last sentence, a focus on pre-specified outcomes contrasts starkly with the 'new workplace', in which new outcomes are designed and tailored to meet each specific case.

## Conclusion

There are weighty conceptual reasons, supported by diverse empirical evidence, for concluding that that a gap between skill development outcomes and workplace competence is inevitable. The influence of contextual factors is such that, in actual workplaces, they partly constitute competence. Hence, the learning required for competent workplace performance is normally much greater than the learning that can occur in formal pre-service courses based on standardized training outcomes. It seems that some context-specific learning, that can only occur from the actual practice of an occupation, is a vital part of competence. Nor is this learning necessarily directly transferable to practice of the same occupation in a different context. These important determining features of competence-based approaches do not appear to have been recognized sufficiently in the wide implementation of such approaches in many countries. Inevitably, then, these new initiatives will disappoint somewhat as they fail to deliver fully workplace competent graduates.

If suitable workplace learning and experience occur simultaneously with standards-based learning and achievement of skill development outcomes, as in a well-structured apprenticeship, then a workplace competent employee can result. This is the ideal situation

in an effective apprenticeship (Harris et al., 1998). However if the employee moves to a different job, a further period of workplace learning and experience will likely be needed to attain competence in the new situation. It needs to be recognized, though, that in typical cases where standards-based learning and achievement of skill development outcomes occur in a pre-service mode, based on competency standards, graduates of such courses will inevitably be 'workplace ready' rather than 'workplace competent'. In fact, before Training Packages were introduced in Australia, the public provider of VET in some States had begun to acknowledge this by stating that graduates of their courses had simply passed the course but had not yet achieved workplace competency (Smith & Keating, 2003). Training Packages, however, explicitly state their goal as the achievement of workplace competence—a difficult task when most VET students are not employed in the industry in which they are studying.

The insufficiency of standards-based programs widens the range of sites for vocational learning beyond traditional training rooms and workshops to include workplaces, as well as life experiences, community activities, and the like. Broader experiences outside work may well be important contributors to, for example, the acquisition of soft skills. Since some significant and genuine on-the-job experience is needed for workplace competence, training practices that are found to facilitate achievement of workplace competence once on-the-job experience is available need to be supported.

*Correspondence:* Paul Hager, Professor of Education, Faculty of Education, University of Technology, Sydney, PO Box 123, Broadway, NSW 2007, Australia.  
Email: Paul.Hager@uts.edu.au

## References

- AMERICAN SOCIETY OF TRAINING AND DEVELOPMENT (ASTD) (1997) *Models for Human Performance Improvement: roles, competencies and outputs*, St Paul, MN, ASTD Press.
- AUSTRALIAN EDUCATION COUNCIL/MOVEET (1993) *Putting General Education to Work: the key competencies report*, Canberra, Australian Government Publishing Service.
- BRADLEY, H. (1989) *Men's Work, Women's Work. A Sociological History of the Social Division of Labour in Employment*, Cambridge, Polity Press.
- BUTLER, E. (1999) Technologising equity: the politics and practices of work-related learning. In D. BOUD & J. GARRICK (eds) *Understanding Learning at Work*, London & New York, Routledge.
- DOWN, C. (2000) *Key Competencies in Training Packages*, Brisbane, Australian National Training Authority.
- DREYFUS, H.L. & DREYFUS, S.E. (1986) *Mind Over Machine: the power of human intuition and expertise in the era of the computer*, Oxford, Blackwell.
- ELTIS, K. (1997) Workforce competencies of teachers. In H. O'Neil (ed.) *Workforce Readiness: competencies and assessments*, Mahwah, NJ, Lawrence Erlbaum.
- ENGSTROM, Y. (2001) Expansive learning at work: towards an activity-theoretical reconceptualisation, *Journal of Education and Work*, 14, 1, 133–156.
- ENGSTROM, Y., MIETTINEN, R. & PUNAMAKI, R.L. (1999) *Perspectives on Activity Theory*, New York, Cambridge University Press.
- ERAUT, M. (1994) *Developing Professional Knowledge and Competence*, London, Falmer.
- GONCZI, A., HAGER, P. & PALMER, C. (1994) Performance based assessment and the NSW Law Society Specialist Accreditation Program, *Journal of Professional Legal Education*, 12, 2, 135–148.

- GONCZI, A., CURTAIN, R., HAGER, P., HALLARD, A. & HARRISON, J. (1995) *Key Competencies in On-the-Job Training*, Sydney, University of Technology.
- GUILLE, D. & YOUNG, M. (1998) Apprenticeship as a conceptual basis for a social theory of learning, *Journal of Vocational Education & Training*, 50, 2, 173–192.
- HAGER, P. (1996) What's general about education and training? *Unicorn*, 22, 3, 11–19.
- HAGER, P. & BECKETT, D. (1995) Philosophical underpinnings of the integrated conception of competence, *Educational Philosophy and Theory*, 27, 1, 1–24.
- HAGER, P., GARRICK, J., CROWLEY, S. & RISGALLA, R. (2002) *Generic Competencies and Workplace Reform in the Australian Construction Industry*, Sydney, University of Technology.
- HAGER, P., MCINTYRE, J., MOY, J., COMYN, P., STONE, J., SCHWENKE, C. & GONCZI, A. (1996) *Workplace Keys: piloting the key competencies in workplace training*, Sydney, University of Technology.
- HARRIS, R., WILLIS, P., SIMONS, M. & UNDERWOOD, F. (1998) *Learning the Job: juggling the messages in on- and off-the-job training*, Adelaide, National Centre for Vocational Education Research.
- HODKINSON, P. & HODKINSON, H. (2003) Individuals, communities of practice and the policy context: school-teachers learning in their workplace, *Studies in Continuing Education*, 25, 1, 3–21.
- KEARNS, P. (2001) *Generic Skills for the New Economy*, Adelaide, National Centre for Vocational Education Research.
- KONRAD, J. (2000) Assessment and verification of national vocational qualifications: policy and practice, *Journal of Vocational Education and Training*, 52, 2, 225–242.
- LAVE, J. & WENGER, E. (1991) *Situated Learning: legitimate peripheral participation*, Cambridge, Cambridge University Press.
- MISKO, J. (1995) *Transfer: using learning in new contexts*, Adelaide, National Centre for Vocational Education Research.
- MULCAHY, D. (1996) Performing competencies: of training protocols and vocational education practices, *Australian & New Zealand Journal of Vocational Education Research*, 4, 1, 35–67.
- MULCAHY, D. (1999) Training for new times: changing relations of competence, learning and innovation, *Studies in Continuing Education*, 21, 2, 217–238.
- MULCAHY, D. & JAMES, P. (1999) Knowledge-making at work: the contribution of competency-based training, *Australian & New Zealand Journal of Vocational Education Research*, 7, 2, 81–104.
- NATIONAL OFFICE OF OVERSEAS SKILLS RECOGNITION (1995) *The Implications of the Implementation of National Competency Standards in the Professions: final report*. Research paper No. 9, Canberra, Australian Government Publishing Service.
- PIECHOTTA, G. (2000) *Weiblich Oder Kompetent?* Bern, Huber.
- SEFTON, R., WATERHOUSE, P. & COONEY, R. (1995) *Workplace Learning & Change: the workplace as a learning environment*, Victoria, National Training Board for the Automotive Industry.
- SHIELDS, J. (1995) A matter of skill: the revival of apprenticeship in early twentieth-century New South Wales, *Journal of Industrial Relations*, June, 236–262.
- SMITH, A., OCZKOWSKI, E., NOBLE, C. & MACKLIN, R. (2001) *New Management Practices and Enterprise Training*, Adelaide, National Centre for Vocational Education Research.
- SMITH, E. (2000) *Young people's learning about work in their first year of full-time work*. Unpublished PhD thesis, University of Technology, Sydney.
- SMITH, E. & COMYN, P. (2003) *The Development of Employability Skills in Novice Workers*, Adelaide, National Centre for Vocational Education Research.
- SMITH, E. & KEATING, J. (2003) *From Training Reform to Training Packages*, Tuggerah Lakes, NSW, Social Science Press.

- STASZ, C. & BREWER, D.J. (1999) *Academic Skills at Work: two perspectives*, Santa Monica, CA, Rand Education (reprinted from the National Center for Research in Vocational Education).
- STASZ, C., RAMSEY, K., EDEN, R., MELAMID, E. & KAGANOFF, T. (1996) *Workplace Skills in Practice*, Santa Monica, CA, Rand/National Center for Research in Vocational Education.
- STEVENSON, J. (1996) *Learning in the Workplace: tourism and hospitality*, Brisbane, Centre for Skill Formation Research and Development, Griffith University.
- WATERHOUSE, P., WILSON, B. & EWER, P. (1999) *The Changing Nature and Patterns of Work and Implications for VET*. Review of Research Monograph Series, Adelaide, National Centre for Vocational Education Research.
- WERTSCH, J.V. (1998) *Mind as Action*, New York, Oxford University Press.