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 **Foresight**

**Mental Capital and Wellbeing:  
Making the most of ourselves in the 21st century**

**State-of-Science Review: SR-A2  
Learning at Work: Opportunities and Barriers**

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any Government or organisation.*

## Summary

**Learning and training at work has become a vigorous area of research in recent years, driven by the emergence of new forms of work organisation and the need to maintain a skilled labour force with the rise of the so-called 'knowledge economy'. Learning and training can take place both within and outside the workplace – a fact that needs to be fully appreciated when designing and evaluating teaching initiatives. UK employers need to take their responsibilities for training more seriously than hitherto. Currently, opportunities to learn vary considerably according to sex, full- or part-time employment, industry sector, age of learners and their occupation. Considerable changes in the socioeconomic context such as globalisation and the growing prevalence of multinational enterprises need to be taken into account when creating learning programmes. New methodologies such as e-learning and virtual tutors will play a progressively important role in meeting learners' many and varied future needs, but pose challenges regarding learner support. With the rise in the post-retirement-age workforce, special attention needs to be paid to the older learner.**

### 1. Introduction

Research interest in learning at work has been accelerating over the past 20 or so years, for three main reasons: first, new forms of work organisation have been viewed as potential catalysts for learning; second, the workplace is firmly recognised as a site for learning; and third, governmental concern to increase workforce skills and capacity for innovation to compete in the global marketplace and the so-called 'knowledge economy' (see, *inter alia*, Guile, 2003; Foray and Lundvall, 1996; Florida, 1995). These reasons are used as a framework for examining the barriers to, and opportunities for, learning at work. The study of learning at work now engages researchers across the fields of work psychology, labour economics, labour process, organisational studies, human resource development/management (HRD/HRM), and, more broadly, education and sociology. Much of the research remains, however, in strict disciplinary silos with limited cross-referral. There is also a methodological divide between qualitative, case-study based and quantitative surveys of training incidents and skill and qualification stocks (see Felstead et al., 2005). Some collaboration is taking place, but more needs to be done to ensure greater articulation between research findings, and to build interdisciplinary and methodological capacity.

### 2. Learning and training, on- and off-the-job

Learning at work arises from, and is embedded within, everyday workplace activity and the technical and social relations of production (Hoyrup and Elkjaer, 2006; CIPD, 2002; Billett, 2001; Lave and Wenger, 1991). It can take many forms, including structured training away from the site of production, instruction on-the-job, and the sharing of knowledge and techniques between colleagues. The degree of separation between on- and off-the-job varies, with some workplaces blurring the boundary through the use of methods such as e-learning, portfolio-building, and guided learning. It is estimated that three-quarters of employees in the UK, across a wide range of occupations, now use automated or computerised equipment (Felstead et al., 2007a), and, in terms of the population as a whole, access to the internet has increased most amongst employed people – from 68% in 2003 to 81% in 2007 (Dutton and Helsper, 2007). External regulation (including 'licence to practise') can promote learning, particularly in the professions (e.g. law, accountancy, medicine) where regular updating is required (Fuller et al., 2004). A different form of regulation that also affects learning relates to franchise arrangements, whereby companies license other businesses to sell their products or use their brand, for example, as occurs in fast food outlets and hairdressing salons, and health and fitness centres (Felstead et al., 2007c)

The longstanding attempt to categorise workplace learning as 'informal' in nature, in contrast to the 'formality' of classroom-based learning, has been strongly contested by educationalists who emphasise that aspects of formality and informality can be found in both settings (see Colley et al., 2003). Surveys show that employees, of all grades and job type, regard learning through 'everyday' productive activity at work as the most helpful for doing the job (Felstead et al., 2005). At the same time, however, employees in the highest grades, who are far more likely to have access to off-the-job training, are more disposed to rate this as useful.

Trying to measure and shed light on the learning that takes place as part of everyday activity is, however, notoriously difficult, hence, much policy-funded research tends to focus on the evaluation of formalised, structured 'training' events (Felstead et al., 2005; Skule, 2004). Current models of training evaluation are regarded as inadequate (Tamkin et al., 2002). This raises questions about the extent to which skills and business development policies are based on a partial understanding of what happens inside workplaces. A further problem is that research tends to focus either on the impact of learning on individuals or on organisational performance, rather than trying to connect one to the other.

Surveys continue to highlight the need for UK enterprises to take workforce development more seriously. It is estimated that 56% of organisations in the UK have a written learning and development strategy, and that less than 50% have mechanisms in place to evaluate the returns to training (CIPD, 2007). Employers regard workforce development as a third-order strategy, coming after decisions about product market and competitive strategy, and the organisation of work and job design (Keep and Mayhew, 1999). Hence, high skill levels are associated with high value-added product strategies (Mason, 2005; Green et al., 2003). Above all, it is workplace change, caused by the introduction of new products and services, and new technology that generates the demand for training and skills (see, for the UK, Green et al., 2003; Kitchin and Blackburn, 2002, and, for Australia, Smith and Hayton, 1999; Ridoutt et al., 2002). Mason (2005) reminds us, however, that there are still many UK firms who stick with their low value-added, low skill product strategies because: a) demand for their products and services remains strong; and b) they operate in markets (e.g. locally- or regionally-based) where competition is far less intense (see also Tamkin, 2005).

Ashton and Sung (2006) argue that, whilst workplace change does trigger learning, the process of causality is more complicated than an input-output measure can capture. They advocate a new conceptualisation of causality, based on the technical and interpersonal or social relations of production. In other words, employers need to consider how to organise work so that it enables people to contribute and use their expertise whilst, at the same time, ensuring that their employees have the necessary skills and knowledge to perform well. Essential to this model is that managers have to regard workforce development as central to their competitive strategy and, hence, the development of managers themselves is crucial. Eraut (2004a) argues, however, that management training does not focus enough on ways to support subordinates (see also Eraut et al., 1999).

Access to opportunities for learning at work varies by size of organisation, sector, and occupation, and by personal characteristics such as gender, job status, and prior educational attainment. The higher an individual's occupational status, the more likely he or she is to have access to both training and time for learning (Felstead et al., 2007a). Other key factors (SSDA, 2007) are:

- Women in full-time jobs are more likely to receive training than their male colleagues, though women in part-time jobs still have fewer opportunities than men.
- Levels of training vary dramatically between sectors, with 70% of individuals in public administration, education and health receiving job-related help compared to less than 40% in distribution, hotels and restaurants.

- The likelihood of participating in job-related training is boosted by: being under 30; having previous qualifications; working in a professional or associate professional occupation; and being a member of a trade union.
- Factors that decrease participation include: being male; being a machine operative; being single; being registered disabled; and living in Scotland.
- Most training (36%) occurs in the workplace, followed by employer's own training centre (20%), a private training centre (19%), and a further education college (18%).
- It is usually the employer who pays for training.

Some 50% of firms with fewer than five employees provide training for staff, compared with nine out of ten employers with 25 or more staff. The most commonly-cited reason for not providing training is that staff are already proficient in the skills required for the job. Most training is carried out in order to comply with health and safety regulations and for the induction of new employees (LSC, 2006).

Evaluations of recent government incentives to encourage employers to invest in training show that wage compensation (as provided in the Employer Training Pilots and Train to Gain) is effective, but that considerable effort has to be put into sustaining the initial momentum. The Union Learning Fund, set up in 1998, has also stimulated additional training, mainly in basic skills and the use of Information and Communication Technologies (ICTs), but it is not clear whether this has had an impact on organisational performance (Wood and Moore, 2005). Similarly, evaluation of strategies to improve adult basic skills shows benefits to individuals, but limited evidence regarding the impact on organisational performance (Ananiadou et al., 2003).

### **3. Work organisation and the changing socioeconomic context**

Given the points made in the previous section, any attempt to understand learning at work has to consider the wider context in which a particular workplace exists. The primary function of any workplace (in both the private and public sectors) is not learning but the production of goods and services (Rainbird et al., 2004). Furthermore, organisations have to function within the boundaries of a broader political economy (Unwin et al., 2007; Hall and Soskice, 2001; Ashton, 2004). These factors influence the extent to which organisations feel they are more or less constrained in their approach to workforce development, including, for example, whether they should commit to long-term programmes such as apprenticeships. Such considerations pose considerable challenges to national vocational education and training (VET) systems which rely heavily on the sustained participation of employers.

In a discussion of the impact of globalisation through such practices as relocating production from the developed to emerging economies, Brown et al. (2004) argue that policy-makers still have choices to make in the way they react to the strategies of businesses, including multinational companies (MNCs). For example, they suggest that, in Germany, globalisation might be treated as a threat to its long-established dual system of apprenticeship, whereas the UK would further champion the need for flexible labour markets. The extent to which the training and development strategies of MNCs align with the values and cultural nuances of national VET systems has implications for the personal development needs of individual employees. In the later stages of the 20th century, Fordist and Taylorist approaches to work organisation, designed for the mass production of goods, were increasingly seen to be inadequate in the face of the challenges facing advanced industrial economies, including, for example, rapid technological development, growing consumer demand for choice and quality, and the competitive pressures of globalisation (Piore and Sabel, 1984). Organisations needed to reconfigure their work processes and management styles so as to engender much greater emphasis on employee involvement, the development of higher levels of skill and knowledge creation, and their capacity to innovate. The concept of High Performance Working (HPW)

practices (e.g. team-working, appraisal, total quality management, and reward systems) is a response to this challenge (see, *inter alia*, Guest et al., 2004; Ashton and Sung, 2002; Appelbaum et al., 2000; Keep and Mayhew, 1999). It has been promoted by the OECD since that organisation first coined the phrase in 1996 (OECD, 1996), and subsequently by the European Commission and the International Labour Organisation. Much of the evidence base for the benefits of HPW is in the form of case studies. More longitudinal research is required to assess the extent to which causality can be established in the light of the considerable number of variables involved and the different interpretations of the actual practices themselves (see Wall and Wood, 2005; Vidal, 2007). Evaluation is also problematic due to the differing lists of the practices and their adoption in an *ad hoc* incremental manner (see EEF and CIPD, 2003). A distinction needs to be made between high-performance work organisations (HPWOs) and high-performance work practices. The former implies the integration of the practices as opposed to using them in a more piecemeal way, without the level of integration and mutually-reinforcing properties found in HPWOs.

There is, however, a general consensus that, given that HPW practices promote greater employee involvement and discretion supported by intelligent and supportive management strategies, their implementation can contribute to reduced staff turnover, increased innovation, improved product quality, and better all-round business performance (see Ashton and Sung, 2002). In that regard, these practices can help to stimulate and sustain learning in the workplace. Thus, it could be argued that they also contribute to employee wellbeing, though the research literature on HPW does not, as yet, address this. We emphasise that the impact of these practices may be experienced by workers in positive or negative ways, depending on the nature of the change and the extent to which employees themselves are involved in change processes. Several commentators have argued that, far from being replaced, Fordism morphed into 'neo-Fordism' as organisations sought to benefit from, and cope with, the demands of the neo-liberal economic climate (see, *inter alia*, Belanger et al., 2002). Employee involvement and flexible working are seen to mask increasing work intensification, reduced job security, and, due to outsourcing and subcontracting of central services, a decline in the conditions of many low-grade workers (Rainbird and Munro, 2003; Lloyd and Payne, 2006). The scope for subversive learning at work is, therefore, considerable. Employees have always devised 'work-arounds' enabling them to bypass perceived flaws in procedures, managers' views of acceptable performance, or ways to lessen the pressures of targets (see Hennessey and Sawchuk, 2006; Ackroyd and Thompson, 1999).

#### **4. The workplace as a site for learning**

Given the stress in the previous sections on the importance of context, it is clear that workplaces create different types of environments for learning (for a discussion of the changing spaces and places for work, for example, homeworking and the increasing amount of work taking place while people are on the move, see Felstead et al., 2005). To use Billett's (2001) phrase, workplaces 'afford' different levels and types of learning activities. The extent to which individuals and groups of employees choose to engage with these 'affordances' will depend on their personal dispositions to learning, the existence of incentive structures, and their overall sense of involvement in the organisation's goals and values (see also Hodkinson and Hodkinson, 2004; Evans et al., 2006). Older workers may be more resistant than their younger colleagues to new forms of work organisation and the use of new technologies (Tikkanen and Nyhan, 2006), whilst survey work by Felstead et al. (2007b) suggests that younger workers value social relationships in and outside the workplace more than older workers (see also Newton et al., 2005).

Fuller and Unwin (2004) have characterised this diversity of environments in the form of an 'expansive-restrictive continuum' which encompasses approaches to work organisation and to workplace pedagogical practices. An expansive feature would regard workforce development as a vehicle for aligning the twin goals of developing individual and organisational capability. In such environments, effective pedagogy (on-the-job) treats learning as part of work, supported by supervisory and managerial processes such as

mentoring and coaching, and embedded within appraisal and other review procedures (see, also, CIPD, 2002). Off-the-job training has variable success depending on the perceived relevance and on the extent to which employees feel they have been 'sent' for either 'punishment' or 'reward' reasons. E-learning (broadly defined as the use of connected ICTs) is promoted as central to widening access to learning in the workplace. Wright (2006) has argued, for example, that in relation to the National Health Service (NHS), involvement in e-learning could help to 'anchor' the learner in workplaces that are highly dynamic, stressful, and fragmented. The use of 'virtual tutors' and mechanisms such as e-portfolios and blogs would make it easier for learners to record evidence for accredited courses and to relate to other learners through virtual communities of practice. The increased availability and use of ICTs in the workplace and in everyday life may mean that employees are increasingly more likely to accept e-learning than in the past. Interestingly, in terms of workplace practices to promote wellbeing, teleworking (using technology to work more flexibly, including from home) has been shown to be the most commonly used (Fauth, 2007). Yet, research shows that e-learning has not been used as widely as was forecast for work-based learning. There is evidence that learner satisfaction correlates strongly with the quality of materials and support, but research sample sizes are regarded as too small for robust conclusions to be made about e-learning's overall effectiveness (Lain and Aston, 2005). For e-learning to become more widely used and to increase an individual's effectiveness, it has to be integrated with wider management and business strategies in the same way as any approach to workplace learning (see Wyncarczyk, 2005).

We also need to understand more about the nature of the learning in which employees are engaged. Here, the research evidence is much more limited. Work organisation and job design affect the extent to which employees have access to knowledge and are able to create new knowledge in the process of their work (Boreham et al., 2002; Applebaum and Batt, 1994; Nonaka and Takeuchi, 1995). Activity theorists such as Engeström (2001) have developed the concept of *boundary crossing* as a means for employees from different professional backgrounds (e.g. in the health and finance sectors) to acquire new levels of professional knowledge by collaborating on a horizontal level (within and between agencies and organisations in the same sectors), rather than regarding the acquisition of new knowledge as a process of *vertical* advancement. Thus, knowledge is not just deployed, but is also acquired and created in workplaces (see also Eraut, 2004b). The use of so-called 'soft' skills and emotional labour, particularly in the personal services sectors, demands new thinking about the meaning of vocational knowledge (Hughes, 2005). Also, new theories reflecting the relationship between knowledge creation and innovation in the contemporary workplace are required (for a detailed review, see Guile, 2003).

## 5. Questions about the future

1. How will changes in the production process affect opportunities for learning? Will increasing pressures for leaner production and greater use of technology lead to deskilling and employee resistance to learning, or provide opportunities for more knowledge-intensive jobs?
2. How might the increasing use of alternative spaces for work (e.g. on trains, planes and in homes) be configured to encourage learning?
3. To what extent can new technologies form the mediating tools required to stimulate new learning as an integrated part of work activity?
4. Given the pressure on people to work beyond the traditional retirement age, how might older workers be encouraged to continue learning?
5. To what extent will the workforce development approaches of multinational companies relate to, and/or put pressure on, national education and training policies?

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