

Looking inside the Russian doll: the interconnections between context, learning and pedagogy in the workplace

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Abstract

There is now much more awareness of the symbiotic relationship between workplace learning, the organisation of work, level of employee involvement, and organisational performance, and the broader economic, regulatory, and social context, within which organisations have to operate. This paper argues that we have to identify and take serious account of the contextual factors (external and internal) which affect all organisations as these are central to developing our understanding of the nature of pedagogical practice within any workplace setting. By closely examining the nature and impact of these contextual factors, we can gain greater insight into the phenomenon of why organisations adopt different practices and why they create such different learning environments. The paper draws on emerging findings from an ESRC funded multi-sector study and uses illustrations from two contrasting sectors to highlight the impact of context on pedagogical practice.

Keywords: Workplace learning; work organization; learning environments; workplace curriculum; pedagogical practices; curricula artefacts

Introduction

This paper explores the interactive relationship between context, learning, and pedagogical practices in the workplace. As Edwards (2005: 3) argues, “Once we look beyond the context of conventional sites for learning, such as schools, colleges and universities, allowing context to be extended into the dimension of relationships between individual learners and variously defined others mediated through a range of social, organisational and technological factors, then the limitations of much conventional pedagogy comes into sharp focus”. Elsewhere, we have argued that organisations differ in the way they create and manage themselves as learning environments, with some conceptualised as ‘expansive’ in the sense that their employees experience diverse forms of participation and, hence, are more likely to foster learning at work (see Fuller and Unwin, 2004a). This was seen to benefit both the organisation and the individual. In this

paper, we take those ideas further by bringing together the literatures on workplace learning, the organisation of work, and performance, to try and make better sense of the Russian doll like composition of workplaces. That is not to say that we see the tiny baby at the core as the answer to our questions, but rather we seek to understand the role and function of the various layers, which, only when brought back together result in a meaningful whole.

The paper draws on emerging findings and analysis from an ESRC funded, multi-sector project¹, which is employing a range of qualitative and quantitative methods in case study sites spanning both the public and private sectors in the United Kingdom (UK). Fieldwork is currently underway in organisations of different types and sizes in the following sectors: retail; higher education; food processing; automotive component manufacturing; construction; hospitality; hairdressing; leisure and fitness; software engineering; contact centres; and health visiting. We are endeavouring to capture the experiences and perspectives of all grades of employee, and in the interactions between and across grades. In line with our perspective that context is highly significant, we are developing profiles of the wider economic, political and social landscape in which our case studies are located. For the purposes of this paper, illustrations will be provided from hairdressing and automotive component manufacturing.

Now that workplaces have been recognised in both policy and research terms as sites for learning, the nature of that learning and the role of pedagogical practices such as instruction, coaching, mentoring, assessment and feedback in the learning process are the subjects of substantial enquiry across a range of disciplinary fields. At the same time, it is also accepted that workplaces are dynamic sites of enquiry, subject to different external and internal pressures, and extremely variable in terms of their performance (variously defined), their organisational history and culture, their organisation of the labour process, their treatment of employees, and their sense of identity (see, inter alia, Braverman, 1971; Darrah, 1996; Huys and Hootegem, 2002; Koike, 2002; Rainbird et al, 2004a; Fuller and Unwin, 2004a). In this paper, we explore the implications of those differences and the nature of their interaction for the study and conceptualisation of teaching and learning in workplaces. The primary function of any workplace is not learning but the production of goods and services and the achievement of organisational goals determined internally and/or shaped by others such as head offices, parent companies, and government departments (see Rainbird et al, 2004a). Furthermore,

¹ The project, *Learning as Work: Teaching and Learning Processes in the Contemporary Work Organisation* (RES 139250110), is funded under the ESRC's Teaching and Learning Programme. For more details, see <http://learningaswork.cardiff.ac.uk>

organisations in both the public and private sector exist within the boundaries of a political economy and, “face a set of coordinating institutions whose character is not fully under their control” (Hall and Soskice, 2001, p.15). Thus, at the level of national governments, Hall and Soskice (ibid) argue that the extent to which they can be said to operate a liberal market economy (LME) (e.g. USA, UK, Australia) or a coordinated market economy (CME) (e.g. Germany, the Nordic states, Netherlands), pushes organisations towards particular forms of corporate strategies:

To put the point in the most general terms...firms and other actors in coordinated market economies should be more willing to invest in *specific* and *co-specific* assets (i.e. assets that cannot readily be turned to another purpose and assets whose returns depend heavily on the active co-operation of others), while those in liberal market economies should invest more extensively in switchable assets (i.e. assets whose value can be realised if diverted to other purposes). This follows from the fact that CMEs provide more institutional support for the strategic interactions required to realise the value of co-specific assets, whether in the form of industry-specific training, collaborative research and development, or the like, while the more fluid markets of LMEs provide economic actors with greater opportunities to move their resources around in search of higher returns, encouraging them to acquire switchable assets such as general skills or multi-purpose technologies. (ibid, p.17)

Hall and Soskice (ibid, p.21) regard a third set of countries, including France, Italy and Spain, as occupying a more ambiguous position, “marked by a large agrarian sector and recent histories of extensive state intervention that have left them with specific kinds of capacities for non-market coordination in the sphere of corporate finance but more liberal arrangements in the sphere of labour relations”. For our project, we need to be very conscious of this wider canvas of political economy in order to try and capture the heavily nuanced character of the organisations and sectors we are researching. As will be discussed in the third section of this paper, the organisation of work in and the performance of most of our case study sites (in the private and, increasingly in the UK, public sectors) are affected on a daily basis by the nature of the national and international market economies in (and across) which they operate. Establishing the role that learning plays in the workplace and articulating the nature of that learning require, therefore, examination of a range of phenomena stretching beyond the day-to-day generation, acquisition and sharing of skills and knowledge, and, hence, pose considerable challenges for researchers.

The paper continues in four sections. The first section discusses the influence of context on learning (and vice versa), the second then broadens the discussion to consider the influence of context on pedagogical practices,

the third provides illustrations from two of our case study sectors, and the fourth offers some concluding remarks.

The rise of 'informality'

There is still a strong tendency on the part of UK policymakers, employers, and the agencies/providers that support workforce development, to conceptualise work-related or work-based learning as a linear, fixed-time activity, and to use qualifications as a proxy for job competence and skills (see Felstead et al, 2005). This is understandable for a number of reasons. Firstly, learning a particular task or the theoretical knowledge underpinning it can easily be confined to a 'lesson' in the formal education sense. Whether in the workplace or in an off-the-job setting, such lessons typically involve a 'teacher' and an individual trainee or group of trainees. Aside from these specific learning episodes, most employees engage in some form of induction process where they are 'taught' the basic skills and knowledge required to begin operating as productive workers. Whilst induction for some workers might last no more than a few hours, for others, particularly in technical and professional jobs, it might involve a considerable period of time in some form of training school (perhaps a university). Beckett and Hager (2002, p.99) refer to this as the 'front-end model of occupational preparation', a model which relies on what Schon (1983) termed 'technical rationality' whereby it is assumed that people can and will apply this learning to everyday problems and situations in the workplace. Secondly, for policymakers, conceptualising vocational learning in ways which mirror formal education, enables them to set standards for the design of vocational qualifications, allocate funding, measure outputs, and compile data on the volume of skills in the economy (see Felstead and Unwin, 2001; Felstead et al, 2005). Thirdly, given that for employers, learning in the workplace is not a first order concern, it is to be expected that they might prefer the acquisition of specific skills and knowledge to be organised in such a way so as not to interfere too much with the business of producing goods and services. Finally, it is much more efficient and cost-effective for those organisations which have a responsibility for organising and providing services to support workforce development to package their product into courses (or products of some variety) in the same way as say a college or university.

The problems associated with the separation of the process of learning work-related skills and knowledge from the workplace context, as described above, and the advocacy of a more 'situated' approach, have been debated over many years (see, *inter alia*, Lave and Wenger, 1991, Engestrom, 2001, Beckett and Hager, 2001; Eraut, 2004a). This has led to a dramatic foregrounding of the so-called informal nature of learning in the

workplace, what Eraut (2004b, p. 247) refers to as, “the learning that takes place in the spaces surrounding activities and events with a more overt formal purpose”. As with all revelatory shifts in thinking, this realisation that the learning that takes place as part of everyday workplace activity might be equal to or even more important than learning which is formally structured (on or off-the-job) is sometimes interpreted and represented through a lens which obscures the contextual imperatives facilitating and/or impeding learning.

An example of this lens distortion can be found in a report from the Learning and Skills Development Agency (LSDA) entitled, *Learning without lessons – supporting learning in small businesses* (Doyle and Hughes, 2004). The report argues that, because workers learn best on-the-job, organisations (and training providers) should concentrate on developing coaching and mentoring skills rather than providing formal learning opportunities (defined as ‘lessons’). Research over a long period has shown coaching and mentoring to be necessary processes in the facilitation and maintenance of a learning culture in the workplace, and that the closer the synergy between what is needed to be learned and real work activity, the more likely it is that individuals will be motivated to respond. The LSDA report, however, implies that learning (and teaching) at work is solely a matter of human interaction and agency, a phenomenon which floats free of context. Problematically, it also presents learning at work as an entirely positive enterprise, beneficial to both employee and employer and, hence, part of a unitary process in which the interests of employees and employers are seen to be in harmony. Yet, as Rainbird et al (2004b:39) argue, learning at work has to be considered within “the context of the power relations which characterise the employment relationship”. The LSDA report also ignores the literature from the sociology of work which discusses the ways in which employees will sometimes actively acquire a very different set of knowledge and skills to that desired by the employer in order to subvert the labour process (see, inter alia, Bolton, 2004; Ackroyd and Thompson, 1999; Sturdy, 1992). Such learning arises out of employee antipathy to the ways in which work is organised, perhaps also to the organisation’s view of what counts as acceptable performance, and also to the workplace conditions (from the physical through to pay, holidays and so on). Such learning also certainly relies on well-developed skills in coaching and mentoring.

Early on in our own project, we were invited to include a module of questions on workplace learning as part of the National Institute of Adult Continuing Education’s (NIACE) 2004 Adult Participation in Learning Survey (see Felstead et al, 2005). Data gathered from a household survey of 1,943 employees revealed that they placed significant importance on the contribution that everyday workplace activity, including interaction

with and mutual support from colleagues, makes to the enhancement of work performance. They cited activities such as doing the job, being shown different approaches, engaging in self-reflection, and keeping one's eyes and ears open. To that extent, our findings would appear to sit happily with those of the LSDA, but they also revealed a range of factors which show that learning and teaching processes are not free floating but strongly anchored and manipulated by the nature of the context from which they emanate and in which they are allowed to exist. For example, our findings showed that employees in jobs classed as 'elementary' and 'machine operatives' felt much less likely to be able to improve their work performance through day-to-day interactions with colleagues, clients and the job itself because their tasks are tightly bounded and heavily prescribed. The findings from our work with NIACE emphasised the need for research that has concentrated on the relationship between individual dispositions and biographies with regard to learning at work (see, inter alia, Hodkinson and Hodkinson, 2004; Billett, 2001) to be brought together with research on the organisation of work. Ashton (2004, p. 45), building on the work of researchers such as Darrah (1996), Koike (2002), Scarborough et al (1999) and Lawler et al (2001), has argued that whilst the individual employee's "motivation to engage in the process of learning is seen as determined by their previous experiences...these interact with organisational constraints in four main areas: in the extent to which the organisation facilitates access to knowledge and information; in the opportunity it provides to practice and develop new skills; in the provision of effective support for the learning process; and in the extent to which it rewards learning".

The connection between the individual employee's attitude to and participation in learning and the wider context of their employment is a key (though still largely rhetorical) feature of the concept of employee involvement (EI), which, as Handel and Levine (2004, p.1) remind us, has been advocated in the management literature since "at least the 1930s". The advocates of EI argue that it will improve organisational performance, job satisfaction, and job quality. By the 1990s, EI could be said to have been 'sexed up', and began appearing under such titles as *high involvement working* and *high performance working* (see Lloyd and Payne, 2004). Essentially, EI had evolved into a set of management practices, which, it was argued, should be applied in 'bundles', including: team working and briefing; measures for continuous (e.g. quality circles); job flexibility; information disclosure; profit sharing/employee share ownership; better promotion prospects; and better job security. On their own, any of these practices would have far less chance of increasing EI. We emphasise that the connection between workplace learning and EI is largely rhetorical because, as yet, much of the EI research has only paid minimal attention to employee learning. Rather, the research has assumed that enhanced learning (usually categorised as increased skill levels) is a by-product of EI. This is a key area for

our project in that we are seeking to correlate managers' claims on EI use with employees' experiences, and with organisational performance. It should be noted, however, that EI practices originated in the landscape of manufacturing and, consequentially, large enterprises, and, hence, the vocabulary and assumptions of EI do not, necessarily, map easily onto other types of employment. We are trying, therefore, to determine the meaning and nature of EI across our case study environments.

In addition, and importantly, given the focus of this paper, both the discourse of EI and the nature of its implementation can look very different according to context. For example, giving employees increased task discretion does not, necessarily mean the abandonment of managerial control, rather, a subtle shift to 'controlled participation' rather than true empowerment:

In instances where employees have been entrusted with increased discretion it has not been accompanied with a relaxation in management control. Control remains as pervasive as ever, albeit organised in a different and sometimes more distant and immediate manner. To this extent, work has been re-organized, but within a context where the various elements of worker empowerment and management control have been reconfigured and recomposed. It has not been the case that empowerment has displaced management controls: it is not a story of either/or, but both/and (Edwards et al, 2002, p. 21).

In the same vein, the advance of the concept of knowledge management reflects an awareness by organisations that they might benefit from capturing the tacit knowledge of their employees and re-presenting it in a controlled manner: what Elmholdt (2004, p. 328) has described as, "to the right people at the right time".

Pedagogical practice in context

Given our argument that contextual factors shape the nature of learning at work, we are interested in the extent to which they shape the nature of formality and informality. This leads us to an examination within our case studies of the role of pedagogical practices, the concept of a workplace curriculum, and curricula artefacts and devices. The requirement for employees to acquire specific job-related knowledge and skills may be driven as much by external imperatives as internal ones and, hence, decisions about the balance between formal and informal approaches to learning have more complex roots than may first be apparent if the researcher's lens is focused only on certain parts of the workplace. Previous research by project team

members (see Fuller and Unwin, 2004b) in the steel and metals sector revealed that employees, including apprentices, were engaged in forms of instruction in the workplace covering a range of matters from disciplinary knowledge (e.g. mathematical problem solving) through to adjustment of manual performance (e.g. more effective use of a machine). This involved pedagogical practices between peers, between apprentices, and between apprentices and older workers. The extent of this varied from one workplace to another and depended upon four discernable and inter-related dimensions. Firstly, each of the companies in the study operated within parameters shaped by external contextual factors, including, for example, the nature of their product market and ownership, regulatory requirements set by government, the price and availability of raw materials, and so on. Secondly, each company had created internal structures and processes, characteristics and mechanisms which Billett (2002), building on the work of Gibson (1969), has referred to as 'affordances' operating in the workplace. Billett (ibid:462) conceptualises 'affordances' as the "invitational qualities of the workplace", which are "likely to determine how individuals are invited to participate in goal-directed activities and secure the guidance that will assist them to learn tasks that they would not otherwise learn alone, and also admit them to the practice of the workplace". Thirdly, these 'affordances' and the extent to which each company encouraged the sharing of knowledge and skills and recognised the learning of all employees appeared to be stronger in companies which were able to take a longer-term view of their business goals and were more able to withstand external forces or winds of change. Fourthly, the extent to which individual employees were able to and/or chose to take advantage of and even create learning opportunities partly reflected their own biographies and sense of worker identity. In one company, which had created what Fuller and Unwin (2003) refer to as an 'expansive learning environment', the continuation of apprenticeship training over a period of some 80 years meant that there was visible evidence of the company's strong commitment to the importance of substantive training for the long-term. In addition, a significant number of experienced employees (including senior managers) had themselves been apprentices. Apprentices were, therefore, positioned at the heart of the company's workforce development strategy and, hence, their knowledge and skills were valued by older workers. In that sense, the richness of the pedagogical activity found in this company reflects the view of Edwards and Nicoll's (2004) that, "Pedagogic practices are embedded in the actor-networks of specific workplaces".

Where pedagogical practices are visibly encouraged and valued in workplaces, they may be underpinned by the codification of relevant knowledge and skills into a workplace curriculum. Typically, this will take the form of workbooks for apprentices, training manuals and other artefacts. Previous research by the authors

(see Fuller et al, 2003) showed that some organisations (for example an accountancy practice) use specific artefacts such as legal documents as vehicles for bringing workers together to generate new working practices and, hence, employ the curriculum beyond the level of formation training. In contrast, some organisations use the curriculum as a device for controlling the level of autonomy deemed appropriate for their employees. For example, in one car dealership, the manager kept the procedures for calculating the part exchange value of cars in a file in his office so that his sales staff had to go to him each time they needed to carry out this function on behalf of a customer. In this workplace, sales staff were actively pushed to compete against each other, to the extent that one employee referred to the ‘dog eat dog’ nature of the work environment and described how sales staff would deliberately not share their ideas for best practice in winning sales with colleagues.

In the case of the car dealership, the sales staff were certainly learning all the time, despite the fact that their access to the knowledge they would need to exercise greater discretion in terms of completing sales with customers was denied. Lave and Wenger (1991) argue that access to information, resources and opportunities for participation is key to becoming a full member of a community of practice, and, hence, to being skilled in a particular occupation. Felstead et al (2004) point to the way in which there has long been an assumed connection in the management and broader social science literature between increased levels of skill and the ability to exercise discretion. Yet, as Felstead et al (ibid) revealed, through their comparison of the results from the British 2001 Skills Survey with previous surveys dating back to 1986, this may be an illusion. They found that, between 1986 and 2001, despite the fact that discretion is positively correlated with skill, and despite many jobs becoming more complex, there had been a considerable decline in the number of employees reporting that they had a “great deal of choice in the way they did their job. (ibid:163) In addition, between 1992 and 2001, there had been a “marked decline in employees’ perception of their influence over each of the specific aspects of the work task”. (ibid) These findings held true for men and women, though women who worked part-time had experienced a greater reduction in their ability to exercise discretion than women who worked full-time.

Felstead et al’s (2004) research is important to this discussion because it reminds us that workplaces are different to formal educational settings in that employees are not, necessarily, afforded the identity of learners. In professional occupations, the notion of continuous learning is part of the historic fabric of community life, but in many other occupations, learning is regarded as an activity to be undertaken during the induction

period, after which the focus must be on productive work. Even as these words are written, however, it must be acknowledged that the traditional rarefied notions of professionalism are being eroded in both the public and private sectors due to increased pressure to meet targets and deliver greater outputs. The point here is that pedagogical practices may be shared by educational settings and workplaces, and may produce increased levels of skill and knowledge, but it does not, necessarily follow, that workplaces will combine increased learning with increased opportunities for employees to exercise judgement and take greater control over their work.

Illustrations from a broad canvas

In this section, we draw from on-going fieldwork in two contrasting sectors: hairdressing and automotive component manufacturing. For each sector, we attempt, within the confines of a paper, to identify the multi-layered nature of the workplaces we are studying, and hence, indicate the conditions within which learning and pedagogical practices exist, operate and battle for survival and influence. The two vignettes display the complexity of the interplay identified by Edwards (2005:6) between the way in which learning is both dependent upon and the creator of the context in which it takes place: “In other words, learning contexts are practically and discursively performed and performative. They co-emerge with the activities by which they are shaped and vice versa”.

1. Hairdressing

The hairdressing sector in the UK is characterised by small, single owner establishments who operate in a market which stretches from the quick and cheap haircut supplied by the men’s barber shop (average £5) to the lengthy and very costly (minimum £100) service supplied by salons in major cities where the selling of products increases the client’s bill way beyond the cost of the initial haircut. According to the Hair and Beauty Industry Authority (HABIA 2002), there are approximately 36,000 hairdressing salons in the UK employing a quarter of a million staff, which, in combination with beauty-related industries, generate an annual turnover of more than £4 billion. Our fieldwork has concentrated on two franchise organisations in England. These organisations comprise a head office, which supplies central services such as marketing, information technology and accounting to as many as 30 individual salons. They can be categorised as ‘business format franchises’, characterized by highly standardized, controlled and regulated relationships (Felstead 1991: 52). Franchised chains have a reputation for high fashion and are well known for their innovations in both

hairdressing techniques and styles (Drucker *et al*, 2002). They also have a reputation for investing heavily in training, many running their own ‘in-house’ training schools for apprentices, both inside and outside of the organisation (Mintel, 1999).

In terms of the organisation of work, franchise chains differ as to the amount of latitude they give to salon managers. Our case study franchisors exhibit a very ‘top-down’ culture and exert considerable control over the amount of inter/intra salon knowledge sharing and transfer. The use of the metaphor of the ‘family’ is common, with salons expected to conform to head office defined quality standards, extending to such factors as the design of the salon. The head offices not only dictate the physical environment of the salons, but also issue documents, in the form of booklets, that prescribe, in detail, the conduct and behaviour of salon staff in all aspects of social interactions with clients. Monitoring of these practices includes the use of mystery shoppers by franchisors and customer satisfaction questionnaires.

In terms of performance, one of our case study organisations employs a “batting averages” approach for comparing the individual salons. This involves measuring stylists’ performance in terms of the number of clients they retain (a stylist with a transient client base will be viewed with concern), the amount of products they sell over and above the cost of the hair procedure, and the complexity of the hair procedure (colouring is a key way to earn higher returns). The daily pressures of meeting business targets and the maintenance of the standardization of the service across the salons has created a highly structured approach to learning and pedagogical practice both on-the-job and in the off-the-job training sessions. There is a strong emphasis on continuous teaching and learning (for all grades of staff) in relation to codified knowledge (including the procedures set out in the booklets referred to above) as new products are constantly being introduced, and new procedures invented as fashions evolve in a sector where the customer base is notoriously fickle. Learning to read customer behaviour, retain their loyalty, and persuade them to spend beyond the basic hair procedure is also part of the considerable knowledge and skill base of every stylist. The physical environment of the salons is key to the way in which learning and pedagogical practices are facilitated. Staff of all grades and functions are open to observation (and, surveillance) by all co-workers and clients, enabling comments on, and corrections of work practices to flow freely. One experienced stylist commented:

Some of the youngsters are brilliant. I like learning new things. I mean often they'll go on courses and they'll come back and they'll say: "Oh you should see what I did" ... you know, they show you. I think that's the nice thing about the job, especially working for a big salon.

A newly qualified stylist commented:

... my techniques are a lot newer than some that have done the training ten years ago. So if they have like a younger client in, that wants something a bit more trendy, it's, like, a more up to date technique that can be used. ... It's nice because everybody asks each other for advice. I can go to somewhere and asked them about a more classical haircut and they can come to me and say "I've got somebody young and they want something a bit more... how would you go about it?" ... And nobody's too busy to stop what they're doing to come and help you out.

Experienced stylists appear take their teaching responsibilities very seriously and, as the following comment reveals, they are able to conceptualise teaching as a reflexive process:

I've found that I've learnt an awful lot when I'm actually teaching somebody. Because it makes me stop and think again: "How am I going to put this over to this person?". So it makes me remember the information I've been given in the past. And sometimes somebody will come out with something that makes me learn from a comment they've made or the way they've approached something. So sometimes you can actually almost re-educate an existing member of staff but by them being the one that's teaching.

The hairdressing salons we are studying employ a dynamic workplace curriculum that has evolved over time to ensure that standards can be maintained and business targets achieved. There are formal structures in place to deliver this curriculum both on-the-job as part of everyday working practice, and off-the-job through formal instruction. It is clear from our data that the commitment to learning throughout the salons is sustained by an organisational culture in which business (and hence employee) success is deemed to be the result of constant vigilance with regard to cross-salon standards. Employee agency is part of the recipe in that stylists aim to be as high up the batting list as possible and to do that they have to keep learning new

techniques, but, at the same time, they know that they will learn more effectively by sharing ideas with colleagues.

2. Automotive Component Engineering

The components sub-sector of the automotive industry employs some 200,000 people in around 2,000 businesses in the UK and supplies parts of vehicles (e.g. wheels, cylinder heads, panels etc) to the major manufacturers who assemble the vehicles (SMMT, 2002). In recent years, vehicle manufacturers have been attempting to reduce their in-house costs by out-sourcing as many parts as possible to first-tier suppliers (see, *inter alia*, Doran, 2004). The struggle to compete in the global market has brought many production and industrial relations' changes to the automotive sector, and for Western owned companies the most challenging revolution has been the adoption of Japanese inspired 'lean' manufacturing and quality management approaches (see West, 2000). In our project, we are investigating two first-tier suppliers, one in England, which makes parts for a German car manufacturer, and one in Northern Ireland, which is owned by a French company and which makes parts for French and American car manufacturers. Both case study organisations suffer the same pressures common to all suppliers, namely meeting the evermore exacting demands of their customers in terms of achieving high levels of quality and efficiency for as little cost as possible.

The case study organisation in Northern Ireland comprises a large factory divided into two main areas: one makes wheels and one makes cylinder heads. The workforce is divided along traditional manufacturing lines with a small senior management team responsible for four business units, which in turn employ production managers, technical engineers, maintenance staff, supervisors, and operatives. At the start of our research, the factory employed almost 1,000 people, but 18 months later, the workforce has been reduced to around 600 in order to reduce operating costs. It is expected that the wheels division may only last another four years due to increasing competition from Eastern Europe. The manufacture of cylinder heads is far more complex than wheels and, therefore, it is expected that, for the time being, this part of the business will remain in the UK. This, then, is a learning environment in which the spectre of globalisation stalks the factory floor on a daily basis.

Over the past ten years, the introduction of new production technologies has led to a re-configuration of the jobs of operatives in the wheels division of the factory, requiring them to spot and solve problems as part of

their daily activity and have a more holistic understanding of the production process. In order to improve operatives' skills, the company's training department identified 95 operatives to be trained as 'tutors' to the rest of the operative workforce. The tutors were given intensive off-the-job training, part of which involved them in the design of tutor packs containing basic, step by step, information describing the production of wheels. These packs were then placed on the various work stations round the factory floor so that operatives could consult them. The packs are much more than standard training manuals. They are designed to be 'live' artefacts. Operatives and their supervisors are encouraged to draw on their everyday experiences in order to adapt the packs by adding new information and better ways to describe the different stages of production. Thus employees engage in a collaborative process where learning crosses role boundaries and takes place on several levels. The packs are not limited to being mechanisms for training new recruits, but have evolved into vehicles for the consideration of how work is organised, how knowledge can be shared, and, importantly how new knowledge might be created.

The tutor pack approach meant the company could develop what one supervisor called, a "vocabulary for production staff", which enabled employees to talk about the different types of skills and knowledge used on the factory floor. As a result they are enabled to become much more engaged in discussions about learning and training. As with the hairdressing booklets, the packs contain the factory's workplace curriculum, though in this case, the document has been promoted as a much more interactive tool for learning.

Operatives, supervisors and managers all commented on the importance of the tutor packs and the approach to on-the-job learning that underpinned their use. However, whilst the initiative demonstrates a creative and inclusive approach to pedagogy, it is now struggling under the pressures of the stark business context. One of the tutors explained how he has less and less time to support the on-going learning operatives in his team as, ironically, he was having to train operatives from other parts of the factory in order to make the workforce more flexible:

I don't feel sometimes we're doing enough...we're really under pressure, so I'm not actually getting to go through the tutor packs again with the guys that I should be going through it again. You know, there's quite a lot of cross-training, which means the guys on the platform doing casting, need to be trained up in our department as well. So it means not only have I the five or six people, the four or five people that I'm working with directly, but I also have all the casters as well to do. It's just at the moment with the pressures, I can't get those people freed up to do that and I can't be freed up either to do it.

The problem here is that a short-term approach to training is now pushing out the time and space for the nurturing of newly acquired skills and knowledge. In addition, the business pressures have also had an impact on the opportunities for operatives within one section to rotate their jobs and, hence, experience a more varied working day.

CONCLUDING REMARKS

This paper has argued for a more holistic approach to the conceptualisation and exploration of learning in the workplace. Such an approach positions learning in context and requires researchers, practitioners and policymakers to pay much closer attention to the dynamic nature of the workplace environment. The paper does not seek to ignore the importance of individual agency, rather it argues that individuals in the workplace are part of an organic enterprise, one that they both help to shape and are shaped by and one to which individuals bring pedagogical expertise formed as part of their learning biographies. As our research proceeds, we are examining the role of agency and the formation of worker and learner identities within our case study settings (see Felstead et al, 2006).

All learning and pedagogical practice in the workplace, as in formal education institutions, will be influenced by a range of factors and shaped by external as well as internal imperatives. The combination of those factors and imperatives will differ according to the nature of the goods and/or services being produced, the type of ownership and culture of the organisation, its viability and status in its product market, and the extent to which outside forces (including government regulation) can interfere in its activities. At the same time, organisations will differ in terms of the range and capabilities of the staff it can utilise for specific pedagogic roles (e.g. trainers, mentors, coaches, workplace assessors, supervisors, line managers). However, the workplace has an advantage over formal educational institutions in that pedagogic activity is likely to be spread across a much broader range of people. Those organisations, like the case study examples referred to above, that recognise the pedagogic potential of their employees are able to promote a stronger learning culture than those that conceptualise the transmission of skills and knowledge as a hierarchical, top-down process. This does not mean, however, that pedagogical good practice can overcome the power of context, although case study managers discussed here would argue that the maintenance of robust and appropriate learning activities helps an organisation to withstand the winds of change.

A key challenge for our current research is to examine the extent to which the learning and pedagogical practices we are observing and attempting to capture across the diverse workplace and sectoral settings are only understandable when analysed within the confines of the contextual features discussed earlier in this paper. Our arguments about the importance of context could be highly restrictive in the sense that, ultimately, the context overpowers any sense of the transferable or transcendental potential of the learning. Edwards (2005:9) suggests that, "...it may be the patterns of participatory process that are transferred rather than simply knowledge". This would require researchers to move from "a generalised notion of learning transfer to an understanding of the diverse specifics of a context that may be mobilised...To focus on learning per se may not be helpful therefore" (ibid). This causes us to think harder about the ways in which the hairdressers and the workers in the automotive plant are learning about how to (at the same time) adapt to and overcome the contextual features of their workplaces, as well as the everyday skills and knowledge that enable them to perform their job-specific tasks.

Regardless of their purpose, all workplaces are complex environments in which learning takes many forms and in which pedagogical practice can include the full range of activities normally associated with educational settings. The extent of pedagogical variety and the nature of the learning opportunities available to and created by employees exist within a set of contextual relationships that shift and change with time. In order to develop a better understanding of the pedagogical nature of workplaces, we need to build detailed maps of those relationships, ideally within a longitudinal research framework. This will require greater use of collaborative, multi-disciplinary research studies in which the organisations being studied play a much more active role in the collection and analysis of data. In his classic ethnographic account of two American factories, Darrah (1996:33) rightly cautioned against misguided notions that there can be a "comprehensive, foundational description of the workplace", for, as he added, "The diverse understandings of work are extraordinarily complex, reflecting assumptions about the self, its relations with other people, hierarchy, knowledge and causation". We would argue, however, that light needs to be shone on as wide a variety of workplaces as possible (including educational workplaces such as schools, colleges and universities) in order that we might learn more about the teaching and learning that occurs day in day out and which, for the most part, remains invisible.

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