

Learning as peripheral participation in communities of practice: a reassessment of key concepts in workplace learning

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This article explores the strengths and weaknesses of Lave and Wenger's concept of 'legitimate peripheral participation' as a means of understanding workplace learning. It draws on recent ESRC-funded research by the authors in contemporary workplace settings in the UK (manufacturing industry and secondary schools) to establish the extent to which Lave and Wenger's theories can adequately illuminate the nature and process of learning at work. The new research presented here, which was located in complex institutional settings, highlights the diverse nature of patterns and forms of participation. Case study evidence is used to identify individual and contextual factors which underpin and illuminate the ways in which employees learn. The paper argues that whilst Lave and Wenger's work continues to provide an important source of theoretical insight and inspiration for research in to learning at work, it has significant limitations. These limitations relate to the application of their perspective to contemporary workplaces in advanced industrial societies and to the institutional environments in which people work. These complex settings play a crucial role in the configuration of opportunities and barriers to learning that employees encounter.

Introduction

A little over a decade ago in 1991, Jean Lave and Etienne Wenger published *Situated learning: legitimate peripheral participation*. This slim volume has strongly influenced thinking in the field of learning at work (see inter alia, Billett, 1998, 2001; Engeström, 1993, 2001; Guile & Young, 1999; Hutchins, 1999; Boud & Garrick, 1999; Evans *et al.*, 2002). It also provided an important theoretical starting point for

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our own research on workplace learning.¹ In this paper we assess the strengths and weaknesses of the central idea underpinning their perspective, namely ‘legitimate peripheral participation’ in communities of practice.

The paper is organised in four sections. Following the Introduction, we concentrate on Lave and Wenger’s (1991) development of a social practice or situated theory of learning and on their primary focus: the process by which new entrants to an activity or workplace gain the skills, knowledge and habits necessary to becoming ‘full participants’. We address the two main conceptual dimensions of their approach, namely ‘communities of practice’ and ‘legitimate peripheral participation’, and indicate how these concepts have helped them to formulate a situated and relational account of learning. We then present an overview of two recent research projects which we use to explore the usefulness of Lave and Wenger’s perspective. Next, we examine how evidence from each study is illustrative of the ways in which Lave and Wenger’s approach has been helpful in explaining diverse case-study data and the areas where it has fallen short. Finally, we argue that there are a number of reasons why Lave and Wenger’s book continues to provide an important source of theoretical insight for research into learning at work. However, our research has also identified the limitations of applying their perspective to contemporary workplaces in advanced industrial societies. We shall argue that such complex settings play a crucial role in the configuration of opportunities and barriers to learning that employees encounter.

Situated learning, communities of practice and legitimate peripheral participation

Lave and Wenger’s (1991) goal was to offer a conceptualisation of learning at odds with the then dominant theoretical perspective which Beckett and Hager (2002) have recently referred to as the ‘standard paradigm’. Lave and Wenger’s contribution was part of a growing interest, often by anthropologists, in theorising the meaning and processes of learning as part of social activity (see inter alia, Scribner & Cole, 1973; Lave, 1988; Brown *et al.*, 1989; Goody, 1989; Jordan, 1989). This has entailed a move away from the concerns of traditional learning theorists who had conceptualised the learner as a receptacle of (taught) knowledge, and learning as a discrete cognitive process that largely ignored its meaning in ‘the lived-in world’. From Lave and Wenger’s (1991) perspective, learner identity is viewed as being embedded in the context in which the individual is ‘co-participating’. In her introduction to a collection of papers developing alternative situated accounts of learning, Jean Lave suggests that their promise, ‘lies in treating relations among person, activity and situation, as they are *given* in social practice’ (original emphasis, 1993, p. 7).

The 1991 book, *Situated learning*, was inspired by the authors’ dissatisfaction with the asocial character of conventional learning theory and its inability to account for how people learn new activities, knowledge and skills without engagement in formal educational or training processes. Ethnographic research on craft apprenticeship in traditional societies, such as the Vai and Gola tailors in Liberia, had indicated that

conceiving apprenticeship simply in terms of ‘learning by doing’ provided an unsatisfactory account of the ordered way in which apprentices learned their craft. In addition, it did not do justice to what the authors were coming to perceive as the complex relational character of situated learning. Taking an anthropological approach to collecting and interpreting the empirical evidence on apprentices’ learning seemed to have facilitated a conceptual shift from the traditional view of ‘the individual as learner to learning as participation in the social world, and from the concept of cognitive process to the more-encompassing view of social practice’ (Lave & Wenger, 1991, p. 43). Whilst the study and explanation of apprenticeship learning was an important stimulus, their theoretical aim to provide a comprehensive theory of learning as social practice was broader and more ambitious: ‘In our view, learning is not merely situated in practice—as if it were some independently reifiable process that just happened to be located somewhere; learning is an integral part of generative social practice in the lived-in world’ (Lave & Wenger, 1991, p. 35). Lave and Wenger envisaged that their theoretical approach would be relevant to all areas of social practice, including schooling. From our perspective, Lave and Wenger’s ideas have served as an extremely useful theoretical resource in studying learning at work and have enabled us to explore their applicability in a range of contemporary organisational environments in the UK. Most importantly, we have been keen to consider the value and relevance of what Lave and Wenger (1991) term ‘legitimate peripheral participation’ in communities of practice to understanding and explaining our empirical data (see, for example, Fuller & Unwin, 2003a).

Given that Lave and Wenger perceive learning as an integral dimension of social practice, it follows that participation in social (communities of) practice will inevitably involve learning. For them, the action of participating in social practice can be read as a way of belonging to a community. It is the fact of becoming a member that allows participation, and therefore learning, to take place. The processes, relationships and experiences which constitute the participant’s sense of belonging underpin the nature and extent of subsequent learning. Lave and Wenger have captured this complex notion in their term ‘legitimate peripheral participation’. They explain that, ‘each of its aspects is indispensable in defining the others and cannot be considered in isolation. Its constituents contribute inseparable aspects whose combinations create a landscape—shapes, degrees, textures—of community membership’ (1991, p. 35). Lave and Wenger also view ‘legitimate peripheral participation’ as referring to a process which is characterised by social structures and social relations:

Legitimate peripheral participation provides a way to speak about the relations between newcomers and old-timers, and about activities, identities, artefacts, and communities of knowledge and practice. It concerns the process by which newcomers become part of a community of practice. (Lave & Wenger, 1991, p. 29)

Paradoxically, this participatory approach shares one characteristic with the standard paradigm approaches to learning that it was set up to oppose. In placing the emphasis on learning as a progression from newcomer to full participant, Lave and Wenger focused their theory of learning on novices and largely ignored the effect on communities when they import ‘old timers’ from elsewhere. They seem to have

belatedly recognised this limitation, for towards the end of the book they refer briefly to Goody's (1989) study of the introduction of people with expertise to a community engaged in domestic production in West Africa. Lave and Wenger (1991, p. 117) note that this 'led masters to think more comprehensively about the organisation of their productive activities'.

This acknowledgement that communities of practice are not only subject to change through the involvement of novices leads Lave and Wenger to suggest that, 'everyone's participation is legitimately peripheral in some respect' (p. 117). Thus, a theory of learning that was developed to explain the learning of novices is stretched to encompass all learning situations. In a later book, Wenger (1998) claims that his more general approach covers legitimate peripheral participation as a variation of the ways in which communities of practice 'reproduce their membership in the same way as they come about' (p. 102), and that legitimate peripheral participation is simply 'catching up'. In both accounts, not enough attention is paid to ways in which the learning of experienced workers differs from that of newcomers. This leaves a significant theoretical gap. As membership of a community of practice is central to both versions, it implies that the type and nature of that membership, for example the extent to which it is 'peripheral', should be of considerable importance.

Lave and Wenger propose that, 'a community of practice is a set of relations among persons, activity, and world, over time and in relation to other tangential and overlapping communities of practice' (1991, p. 98). Through this conception Lave and Wenger want to stress that a community of practice is not merely a repository for the technical knowledge and skills entailed in the community's activity (e.g. tailoring or midwifery), rather they see it as 'an intrinsic condition for the existence of knowledge, not least because it provides the interpretive support necessary for making sense of its heritage' (p. 98). Put another way, they view the knowledgeable practitioner not only as someone who commands and can apply the necessary knowledge and skills but who, through their membership, has become a full participant in the cultural practices of the community. In this way, as Hodkinson and Hodkinson (2003) have pointed out, Lave and Wenger recognise the significance (though they do not explore this in detail), of locating the individual within communities of practice. For us, their approach conveys a general sense in which people learn through mutual engagement in an activity which is defined by the negotiation of meanings both inside and outside the community.

While the focus of this paper is on communities of practice, rather than activity systems, it is interesting to note that Engeström, one of the leading proponents of the latter concept, likens the two phenomena in the following way:

An activity system is a complex and relatively enduring 'community of practice' that often takes the shape of an institution. Activity systems are enacted in the form of individual goal-directed actions. But an activity system is not reducible to the sum total of those actions. An action is discrete, it has a beginning and an end. Activity systems have cyclic rhythms and long historical half-lives. (Engeström *et al.*, 1995, p. 320)

Engeström (2001) identifies how activity theory has evolved from its concentration on individuals to a focus on systems, which are conceived as having internal

contradictions, multiple perspectives and voices and as interacting with other activity systems in networks. A particularly strong feature of Engeström's approach is his emphasis on the role of 'horizontal interaction' and, specifically, how workers learn (and can create new knowledge) through the collective solving of problems. Recent work by Fuller and Unwin (2004) has built on Lave and Wenger's and Engeström's conceptual framework by analysing features of the organisational and skill formation context which influence the extent and quality of employees' learning opportunities and experiences in a range of organisations.

It is beyond the scope of this paper to discuss the ways in which communities of practice and activity theory both converge and diverge as frameworks for analysing learning at work. We would argue, however, that the relationship between the two frameworks is surprisingly underdeveloped and deserves attention.

Lave and Wenger (1991, p. 36) recognise that communities of practice are social structures involving relations of power, and acknowledge that the way power is exercised can make legitimate peripheral participation either an 'empowering' or 'disempowering' experience. Furthermore, they acknowledge that newcomers pose a threat to 'old timers' thus creating a dynamic tension between continuity (of the community) and displacement by the young of the old as, 'each threatens the fulfilment of the other's destiny, just as it is essential to it' (p. 116). However, in most if not all of the examples they give, communities are described as rather stable, cohesive and even welcoming entities. This emphasis on the benign character of community has been challenged by Gee *et al.* (1996, p. 65) who, whilst they 'are not damning of communities of practice', draw attention to the attractiveness of the concept to advocates of human capital theory and what they refer to as the 'new capitalism'. One of the defining features of this 'new capitalism' is the discourse on the need for workplace change and greater employee involvement, and the advocacy of new forms of work organisation such as self-managed teams, flexible working hours and flatter organisational structures. Given the shift from Fordist management practices that this approach entails, Gee *et al.* (1996, p. 65) argue that the core dilemma of the new capitalism is:

...how to control empowered units without a central authority ... What we are talking about here, in the end, is the way in which immersion into a 'community of practice' can allow individuals or units to internalise values and goals—often without a great deal of negotiation or conscious reflection and without the exercise of very much top-down authority.

As the concept of 'communities of practice' is being embraced by a range of occupational fields (e.g. education, health and social care, management), it provides another useful vehicle by which the new capitalism can further its aims. There is a need, therefore, for case studies that explore more dynamic settings, where power relations and inequalities are more explicitly addressed. Our research has made some attempts to address this. In so doing, it tries to inject further empirical reality in to debates about how people learn at work, a reality missing from abstracted notions of communities of practice and activity systems, and from approaches which focus on patterns of continuity.

Given that 'community of practice' is defined as a set of relations, it follows that delineating the boundaries of the concept is likely to be imprecise. This implies that there is potential to configure or structure the learning environment by the extent to which participants have access to, or can cross boundaries to, other communities of practice within or beyond the organisation. Also, the issue of power is inherent in community relations. For example, the power to set and relocate boundaries which extend or deny opportunities for learning is unevenly distributed throughout the membership of a workforce (community). In some employment contexts, this power is likely to be highly stratified through a complex division of labour. It will also be influenced by the prevailing organisational culture, as well as the wider socio-economic and political climate within which the organisation is located.

Following the work of Becker (1972), Lave and Wenger (1991, p. 86) acknowledge that access to learning opportunities is subject to structural constraints and control, and that their case studies are 'on the whole silent' on this matter. In his later book, Wenger (1998) redresses this balance to some extent, by focusing his opening vignette on a modern insurance claims department. Our research provides a further opportunity to examine the value of Lave and Wenger's work in public and private sector settings where the community members studied are all employees. It also provides the chance to explore contexts where the ways in which work and production are structured and organised are likely to have an impact on the forms of participation, and therefore learning, available to individuals. The differing foci of these investigations have enabled us to shed light on the forms of participation engaged in by young people on the UK's Modern Apprenticeship programme and teachers in English secondary schools.

The research projects

The projects reported here are part of a wider research network, *Improving Incentives for Workplace Learning*, funded by the Economic and Social Research Council's (ESRC) Teaching and Learning Research Programme (TLRP) from 2000 to 2003. The location of both projects in the same network has facilitated a greater than normal exchange of data and ideas between the two research teams.

Fuller and Unwin's project is a study of workplace learning in the UK steel industry focusing on apprenticeship, the relationship between apprentices and older workers, and the broader learning environments they inhabit. For the purposes of this paper, we report findings from three companies in the steel industry which provide employment and training to young people under the UK's government-supported Modern Apprenticeship programme (see Fuller & Unwin, 2003b). Company A employs some 700 people and manufactures bathroom showers. It has had a well-established apprenticeship programme for many years which has been used to develop successive generations of skilled and qualified engineers and technicians. Many of the company's ex-apprentices have progressed to senior management positions. Of the company's current quota of five apprentices, three are following the Modern Apprenticeship framework in engineering, one in steel production and processing, and one in accountancy. Company B is a small family-run company of 40 employees providing

steel polishing services to other businesses. The vast majority of employees work on the shop floor as semi-skilled machine operators and work is managed by the production manager and two company directors. It offered its first apprenticeships only two years ago, under the Modern Apprenticeship programme, as a response to difficulties it was having in recruiting adults with relevant experience. The company has two apprentices following the steel processing framework. Company C is a steel 'stock holder' with some 80 employees buying and selling stainless steel. The workforce is organised into three areas: sales, administration/finance, and warehouse. This company has no recent experience of offering apprenticeships and has only become involved since the introduction of the Modern Apprenticeship programme. Its one apprentice is following the Business Administration framework.

Fuller and Unwin have used a range of methods (including interviews, observations, learning logs and company documentation) to investigate the opportunities for, and barriers to, participation (learning) for Modern Apprentices in the three companies. The case study evidence indicated significant differences in the forms and extent of participation available across the organisations. It also highlighted the importance of an in-depth case study approach for illuminating the diverse contexts within which contemporary apprenticeship is located. The three companies are subject to different external pressures related to their product market strategies, market competition, and ownership status. They also display different management styles, work organisation and distribution of skills.

Over the same research period, Hodkinson and Hodkinson (2002, 2003, 2004) have focused on how secondary school teachers in England learn at work. They have investigated four subject departments in two schools taking pupils aged 11 to 18. One is a rural comprehensive school, whilst the other has a mixed catchment within a city. The teachers in the four departments include heads of department, well-established teachers, newcomers, newly qualified teachers and student teachers. Each department has between three and five permanent teachers who have been observed during teaching and non-teaching time within their departments and schools, including time organised for their own learning. They have taken part in individual semi-structured interviews about their career histories and their learning as teachers. Documentary evidence related to teacher learning and development from individual teachers, from the departments, from the schools and from policy bodies, was also examined.

Although all four departments are successful, there are considerable differences between them in terms of their working culture. In the rural school, the art department consists of three women who have worked together there for 15 years. They remain enthusiastic and work closely together to keep improving their teaching. The Information Technology (IT) department, on the other hand, has had a rapid turnover of staff. Apart from one senior teacher, all staff including the head of department were recently qualified. This factor, along with the scattered nature of the teaching rooms, may have contributed towards the less collaborative culture and operation of this department.

In the second school, the teachers in the music department work collaboratively. They spend most of their time in school together and are comfortable going in and

out of one another's classrooms. Two have been there many years. The collaborative process is deliberately controlled by the head of department who sees as a major part of his role the development of himself and other teachers. The history department also has a mixture of old and new staff, but they are more loosely integrated, within a culture of working separately behind closed doors. The head of department likes the idea of closer collaboration but values more highly the right of each individual to work in his or her own way.

The lens of apprenticeship

The UK's Modern Apprenticeship (MA) programme, introduced in 1994, departs from the highly regulated, social partnership models found elsewhere in Europe (see Fuller & Unwin, 2003b). Each occupational sector designs its own MA 'framework' specifying the minimum government requirements in terms of qualification outcomes and any other sector-specific outcomes. At local level, this framework is translated into a formal (though not legally binding) document which specifies the amount of time the apprentices will spend in on- and off-the-job settings, the qualifications they will pursue, and the arrangements for supervision and monitoring. Apprenticeship experience, therefore, differs greatly, with some apprentices learning entirely on the job whilst others have access to considerable periods of off-the-job learning. Fuller and Unwin (2003a) have pointed out that a situated account of learning underplays, or even casts as detrimental, the role of formal educational institutions in the newcomer's development. Their research shows the value of 'expansive models' of apprenticeship which embrace formal and informal learning within the provision of a range of opportunities for on and off-the-job provision.

As legitimate peripheral participants, the apprentices in Fuller and Unwin's case studies are given the opportunity to learn by engaging in activities and work processes alongside more experienced employees. In this regard, their situation is similar to that of other new entrants who are enabled to learn jobs and become mainstream members of the workforce. Lave and Wenger propose that 'peripherality, when it is enabled, suggests an opening, a way of gaining access to sources for understanding through growing involvement' (1991, p.37). They go on to acknowledge that the extent and quality of such access relates to the 'social organisation of and control over resources' (p.37). It follows that the nature and scope of what a 'full participant' constitutes and means will vary according to the way relations within the relevant community of practice are structured.

Fuller and Unwin's data indicated that apprentices' experience of legitimate peripheral participation varied widely and bore little resemblance to each other. In Company A, participation over time (four years) and in many internal communities of practice is built into the structure of the programme. Engineering apprentices spend their first year 'off-the-job' in the workshop at the local college of further education. Here, they learn basic engineering theory, operations and craft skills alongside apprentices from other companies and, in so doing, become members of a college-based community of practice defined by the practice of learning and being taught 'engineering', and by gaining a new identity as an engineering apprentice. In

the subsequent three years of the programme, the apprentices continue to attend college on a day-release basis, whilst the rest of their time is spent in the workplace. The company's apprenticeship enables the apprentice to move around most of its departments on a secondment basis, each of which can be interpreted as a community of practice.

There are other ways in which Company A's apprentices engage in activities which take them beyond the boundaries of the workplace. They take part in residential courses to develop team-working skills and, through the company's 'apprentice association', get involved in charity fund-raising, and contribute to projects in the local community such as visiting local schools to talk to pupils about engineering and the apprenticeship route. There is also inward boundary crossing when the apprentices are visited by an external training provider who is charged with regularly reviewing their progress on the mandatory qualification requirements of the Modern Apprenticeship programme.

The experience of apprenticeship in Companies B and C is very different. In Company B, the apprentices (Barry and Carl) have primarily been involved in one community of practice which centres on the operation of steel polishing machines in a shop-floor environment.² They have learned from engaging in the practices of the shop floor with other more experienced employees, and have become full participants in the community of practice in under a year. Subsequently, they have been called upon to train more recent and older entrants on the various machines. Given the speed of their trajectory to full participation and the limited scope and goal of their learning at work (and under the MA), their identity as apprentices was relatively weak in nature and short-lived. Access to participation in communities of practice beyond the workplace for Company B's apprentices is limited but does include the opportunity to attend a series of half-day, off-the-job courses on 'steel industry awareness' organised by the training provider who also looks after the bureaucratic elements of the MA for the employer.

In Companies A and B, the aims of the apprenticeship are clear. Company A uses the continuity of its established system and processes (into which it has integrated the requirements of the MA) to develop well-rounded 'experts' who understand the product, how the business works and how the activities of the various departments fit together and can be developed. Elsewhere, Fuller and Unwin (2003a) have conceptualised this company's approach to apprenticeship as *expansive*. In contrast, they have conceptualised Company B's approach as *restrictive*. This firm has used the MA as a vehicle, and possibly as a one-off strategy, to address recruitment difficulties. The apprentices' completion of the MA and its specified qualifications has low priority. From the organisation's perspective their learning has only been important insofar as it has enabled them to become productive workers. Hence, their access to learning opportunities has been controlled accordingly. The principal aim of the apprenticeship has been to create narrow experts (albeit full participants) in the role of machine operators who can contribute effectively to the smooth execution of production. Where this requires apprentices to spend all their time operating and becoming competent in running the machines, this is what has happened. The

apprentices, therefore, have enjoyed a much less sheltered introduction to productive work than their peers in Company A.

In Company C, the aim of the apprenticeship is less clear. The apprentice in this company was advised by his external training provider to follow an apprenticeship in Business Administration as this provided a general framework for gaining competence in administrative activities through learning on the job. For several months, the apprentice (John) was able to do this. However, his training and development was very loosely planned and supervised, with no off-the-job provision, and he had little opportunity to make formal progress towards the qualifications specified in his MA framework. During a period in the quality assurance department, John was pleased to be offered a permanent job there, believing that this would enable him to become fully skilled and integrated into this area of the company's practice. The downside was that he would not be able to move around other departments and so would have less access to learning in other internal communities of practice. At this point, John stopped seeing himself as an apprentice on the grounds that he now had 'a proper job' and, because of this, a new status and identity (as a full participant). Within a few weeks of his appointment, however, John was moved to another part of the company, where he was required to process the routine paperwork generated by the warehouse and transport function of the business. From the company's perspective, his status as an apprentice meant that it was easier to relocate him than other 'permanent employees'. In Lave and Wenger's terms, he had been uprooted from a trajectory where he was well on the way to full participation and relocated back to the periphery of a different department. Although it can be argued that, as a result of the change, he had access to a new community of practice and its learning opportunities, the fact that he had no control or choice over the move was a reflection of the weak institutional position that apprenticeship status conferred. From John's perspective, his expectations were dashed, making it much more difficult for him to interpret the move as a learning opportunity, whilst also leaving him confused about his role in the company.

The three contrasting case studies indicate how the apprentices, all legitimate peripheral participants, are engaged in very different models of participation with respect to the scope, length and aim of their respective apprenticeships. In particular, the 'restrictive' mode of participation offered by Company B reminds us that its relatively tightly bounded community of practice enabled apprentices to complete a swift journey to full participation, but at the expense of moving beyond its parameters to encounter new learning possibilities. In Company C, the ambiguous purpose and trajectory of the apprenticeship served to undermine the learning process, even when the apprentice was ostensibly given the opportunity to participate in a new community of practice within the company. The learning horizon for apprentices in both Companies B and C was curtailed by the lack of opportunities built in to their apprenticeships to belong to communities outside the company (e.g. at college) and they were disadvantaged by being apprenticed to companies where there was no tradition of apprenticeship provision or what Wenger

(1998) calls 'shared participative memory'. Moreover, unlike in Company A, there was no clear post-apprenticeship career route available.

The apprentices in the case studies are employed by the companies, but the terms and implementation of their employment status varied, affecting their participation, sense of belonging and identity. The employment and salary status enjoyed by apprentices in Company A was transparent and unambiguous. The apprentices had a contract of employment which recognised their position as employees but also their learning identities as apprentices. They were initially paid a relatively low annual salary which was increased by set increments for each year of the apprenticeship. At the end of the apprenticeship term, successful apprentices were likely to be offered a job which took them on to the mainstream salary grades of the company, thereby confirming their full participation and productive status.

In contrast, apprentices in Company B were paid a much lower wage than other recruits, the differential being rationalised on the grounds of age: the apprentices were 16 years old on entry whereas other recruits tended to be in their mid-20s. When the apprentices reached the age of 18, their salaries were doubled and brought in to line with other employees doing similar jobs. This caused resentment, however, as, ironically, the apprentices had in fact trained these older recruits. This use of apprentices as 'old timers' whilst they were still formally classed as peripheral participants is a marked departure from the practices described in Lave and Wenger's case studies where novices embark on a slow period of protected maturation.

As an apprentice in Company C, John started on relatively low pay but was awarded salary increases as his worth to the company became apparent. For example, he was given rises when he was offered a 'permanent position' in quality assurance and when he was transferred to the office in the warehouse. From the employer's perspective, John's ambiguous status is advantageous in the sense that the flexibility which characterises it can be used to serve organisational ends. This happened when John, rather than another 'permanent employee', was transferred to the job that had arisen in the warehouse. On the other hand, the company's lack of institutional norms on apprentice pay mean that John can benefit from *ad hoc* increases which reward his individual performance and which can discourage him from leaving the company at moments when he becomes frustrated. Again, the 'stop-start' nature of John's apprenticeship contrasts with the stable and reverential concept of the journey from peripheral to full participation portrayed by Lave and Wenger.

The lens of schoolteachers' workplace learning

Hodkinson and Hodkinson's four subject teaching departments fit comfortably into the notion of working communities of practice. All contain people with differing degrees of expertise and power who set out to achieve similar objectives in terms of teaching pupils to achieve certain knowledge and level of ability. Most of the teachers also operate within other and wider communities within and beyond the school, but for day-to-day working it is the department which is most significant.

Within these departments there are clear examples of experienced teachers learning from one another through their normal work practices. However, much of this learning is not easily described as legitimate peripheral participation. The art teachers had worked together for 15 years. All are therefore 'old timers', and none can be described as peripheral, except in the most superficial of ways. They were continually developing and refining their courses whether or not there is an outside requirement to do so. They spend most breaks and lunch-times together involved in discussions about problems and developments. They see the work being produced in one another's classrooms. They take on one another's ideas and develop them further to suit their own styles of teaching (Hodkinson & Hodkinson, 2003). This sort of learning can happen more easily in closely collaborative departments. Thus, encouraged by the head of department, music teachers will also share their best ideas, talk through possible ways of solving problems, and invite others into a class to share particular problems or successes. Talking and working together during non-teaching times is part of their working practice. In this department, there was more of a mixture of established 'old timers' and 'newcomers', but the overall learning practices in the department resemble those of art (Hodkinson & Hodkinson, 2002).

In the more loosely integrated departments informal learning processes still occur, involving experienced staff. Particular initiatives and problems will be discussed by colleagues, who value one another's advice, though they may have to seek one another out deliberately or wait for a chance for a discussion since they don't automatically meet each other when they're not teaching. In addition they learn to expect to learn more by working with a class of pupils behind a closed door. In all four departments, processes such as using books and the Internet to find information, and occasional attendances at courses, are also a normal part of the job. Several teachers commented that it was important to have time to practise or use what had been thus gained, if it was not to be lost. Learning is an integral and often unconscious part of their lives within their working communities (Hodkinson & Hodkinson, 2002). In all these departments, such learning was a mark of full membership of the departmental community, rather than a movement from the periphery.

This study has also produced a number of fairly straightforward examples of legitimate peripheral participation as 'novices' establish themselves in the departmental communities. In the IT department, two newly qualified teachers (NQTs) had recently been recruited and were there for the two years of the research fieldwork. Another NQT joined the history department in the second year. In addition a teacher of several years' experience joined the music department from another school, with the deliberate intention of learning from working in a department with an excellent reputation. There were also student teachers in history, art and music, whom we were able to interview. Although they spent less than a term in any one school, they had to learn to belong, and also learned through becoming fuller members.

The NQTs all made very significant progress over the period of the research. Those in the IT department had clear, though not always accurate, documentation

for all their courses and a fortnightly 'mentoring session' with the head of department. He also offered assistance with practical problems (e.g. taking difficult pupils out of classes). The school management also provided induction sessions for all new teachers. One NQT, Kim, commented on how the mentoring sessions with the head of department changed gradually from a full hour of wide-ranging discussion to brief sessions dealing with specific current tasks. Kim's three interviews indicate a steady growth in confidence, both with regard to subject matter and more particularly concerning dealing with pupils. She also moved from taking advice mostly from the head of department to consulting the senior teacher and former head of department, whom initially she had found intimidating. By the end of the two years' research, Kim was a highly valued full member of the department taking responsibility for many tasks beyond basic classroom teaching. She then applied for and got a head of department job herself in a different school. One factor in such stories is the relevance of advice and occasional instruction, particularly important where a problem or new situation arises.

The new music teacher, Jake, had applied for the job because he knew the department had a good reputation and he hoped to improve his own teaching by working with them. He chose to become a legitimate peripheral participant again in the hopes of eventually becoming a better teacher. His existing knowledge of how to teach, learned elsewhere, helped him to establish himself reasonably quickly. The very clear and detailed documentation provided by the head of department allowed him to find out what was required of him within the department. He fitted in with the practice of staying within the departmental area during non-teaching time, thus becoming part of the social network and so able to benefit from the opportunities to seek advice and clarification. In addition, he brought with him some skills which the existing music staff did not possess, so they were also able to learn from him. This process of existing community members learning from skilled newcomers is not covered by Lave and Wenger's theory.

The music department regularly took trainee teachers from the local university. The rationale for this was both that the trainees can benefit from working in a successful department and that the established staff can benefit from new ideas and skills brought by the trainees, and benefit by the reflection on their own practice which often occurs instinctively as they try to help the trainees to improve. The student teachers are legitimate peripheral participants. They are invited into this department in pairs with the aim of helping them to feel less isolated. This brings part of another community, the community of trainee music teachers from the university, into the school department. There is an established system of induction for the students with all requirements and sample lessons documented. They have time set aside with the head of department every week where lessons can be planned and problems sorted out incorporating the trainees' ideas alongside established plans. This is in addition to the social time within the department where the same things can happen less formally. The department is 'close-knit' but not closed. Newcomers who show a willingness to fit in are welcomed. The trainees are encouraged to take part in as many music activities as they want and to make use of

any particular strengths that they have. They are marked out as learners but able to move towards behaving as much as possible like the other teachers in the department. The process by which the established members of the community can also learn from newcomers is deliberately promoted here, but it happened in other departments as well. Students and young teachers are widely expected to have more skills in relation to computers and new technology that older teachers can learn from. In music and art particularly, any specific subject expertise was also exploited.

The research also revealed a situation where, at the same time, a teacher is both a newcomer and expected to be an expert. Sam, the head of history, had only recently taken on that position. Like Jake in the music department, he came as an experienced teacher from another school and thus from a different community of practice. He had even taken on the responsibilities of head of department at his previous school, but in a familiar setting where he knew the systems and the people and was not expected to make changes as the position was temporary. When he moved schools, he had to learn the different systems that operated there; he had to learn to work with and manage the other history staff, a group of strangers one of whom had also applied for his job. At the same time, he wanted to make changes to bring the department up to the standard he wanted, which was also expected of him by the school's managers. He was looking for help in the form of a significant amount of formal introduction to the school. There was virtually none for an experienced teacher. He had hoped for some kind of forum of heads of department to discuss how things were done both in the school and in other departments. Everyone was friendly but help tended to be reactive, in the form of responses to problems. The same was true of senior management. When something had not been done as they wished they would come and ask how they could help! He would have liked some off-site courses providing advice on running a department. There was one half-day course, which he found very useful, but contrasted this with the amount of advance training which is now on offer to head teachers. As a newcomer, he was peripheral to the school and departmental communities of practice, yet he was appointed because he had expertise and was expected to give leadership from the start. In the end, he says he learnt the job by doing it as he went along, adapting the expertise he already had to the existing history community and changing that community by his presence and his initiatives (for example, new text books and a new curriculum for 14–16-year-olds were welcomed).

Another teacher whose experiences present a different perspective on the theory of learning as legitimate peripheral participation was Jasmin, a history teacher. At the start of the research she was successful, enthusiastic and ambitious. She had joined the school two years earlier, at the same time as Sam, the head of department. She was his preferred confidante on work matters, appearing central to the department's operation. She had temporary additional responsibility for pastoral care, and was elected by the staff onto the school's governing body. However, a series of incidents, inside and outside school, created problems in her professional life. She became ill, appeared to lose confidence, and moved from full-time to part-time working. Sam progressively came to see her as a teacher he needed to support, and consequently

consulted her rather less, and others more. By the end of the research period, Jasmin was more marginal to the department than at the start. This was a learning process which impacted upon her sense of identity, and the nature and working of the history department as a community of practice.

Jasmin's story, like others in our data, highlights the significance of the developing biographies of individual workers, as members of communities of practice. Lave and Wenger (1991) recognised this issue, but never fully addressed it in their work. Their prime concern was with the ways in which individuals construct their own identities through membership of communities of practice, and the ways in which communities are reproduced, as one 'generation' of workers displaces another. Our research highlighted the fact that individual community members, like Jasmin and Sam, brought to work dispositions formed partly outside that community. These dispositions could be modified through community membership and other life experiences, and also contributed directly to the form and nature of that community. Thus, the working and learning practices in the four school departments could only be understood in the light of the sometimes complex interrelationships between members, each with their own dispositions, and differing positions and influence within those departments (Hodkinson & Hodkinson, 2004).

The strengths and weaknesses of Lave and Wenger's theorising

In this paper, we have focused on the theoretical approach developed by Lave and Wenger (1991) and its ability to explain workplace learning in diverse contexts. The application of their conceptual framework to our research data has certainly been useful. As the following discussion shows, some aspects of Lave and Wenger's thinking are particularly insightful and relevant to understanding the instances of learning at work referred to above, but others are less so.

The departments within the organisations we studied could easily and usefully be understood as communities of practice. The nature of the boundaries of these communities was a matter of empirical investigation and heuristic value judgement, confirming our earlier observation that such boundaries are necessarily imprecise. Hodkinson and Hodkinson found it most helpful to see subject departments as the key communities of practice in their study. Though cases could also be made for the school, or the wider communities of subject specialist teachers, it was the subject department that seemed of prime concern to the teachers in the research. For Fuller and Unwin, the acute differences between the nature of apprenticeship learning in the companies required an examination of the wider organisational and external policy context in which that apprenticeship took place. Hence, for them, the fact that some apprentices inhabited several significant communities, whereas some were restricted to only one, was central to forming an understanding of workplace learning. In all our examples, organisational structures and the working of power relations within the organisations were of central significance in determining the existence of communities of practice, their nature and their boundaries.

The notion of production and reproduction of communities of practice through generation cycles is a useful but only partial way of understanding continuity,

conflict and innovation in the workplace in relation to learning. Sometimes, established members of a community change practices, without the impact of a new generation. Also, many of the forces responsible for the on-going evolution of the communities we studied came from external pressures, in the wider organisations where they were located and from national and even global sources. This could be seen, for example in the changing global markets for steel products, and in the changing government legislation affecting English schools and teachers (Helsby, 1999; Tomlinson, 2001).

Lave and Wenger's focus on participation in social practice and in social relations, as a prime determinant of workplace learning, fits well with much of our data and legitimate peripheral participation helps us to understand why the newcomers in our projects did, or did not, become full participants. It is also helpful in understanding the processes of learning entailed in becoming full members. However, further dimensions need to be added to Lave and Wenger's original account. For example, our research has demonstrated that experienced workers are also learning through their engagement with novices, and that part of the process of legitimate peripheral participation for many novices is to help other workers to learn. This insight is of significance as it helps undermine the view of communities of practice as unchanging. It also challenges Wenger's (1998) view of legitimate peripheral participation as 'catching up', placing greater emphasis on change through cultural reproduction. Where things work well, bringing in newcomers is a valuable strategy in enhancing the on-going learning in a community of practice. This is interesting in the case of apprentices who, unlike their predecessors in times past, arrive in the workplace with a range of skills (derived from part-time work experience as students, from leisure use of IT, and from longer periods spent in general education), which can be immediately applied (see Fuller & Unwin, 2002). Fuller and Unwin were also able to collect data (through the use of a structured 'learning log') revealing how apprentices are engaged in passing on their skills and knowledge to older workers as part of everyday workplace activity. Thus the 'novice' becomes the 'expert' for periods of time. Similarly, we have seen how learning in the music department was enhanced through the skills and interests that student teachers brought.

We have also shown how legitimate peripheral participation can be used to help understand the learning that takes place when a more experienced worker changes jobs. Sam's story demonstrates that moving from novice to full member is more complex in this circumstance. In one sense, as head of department, he was a full member, and a relatively powerful one, right from the start. However, he still had to establish himself as part of this new community and fit into the wider community of the school. He felt that this was made more difficult because there was no discrete community of heads of department to which he could belong. His story reveals aspects of legitimate peripheral participation that are consistent with Lave and Wenger's (1991) overall relational approach. That is, the extent of peripheral status can vary for the same person, even at the same time. This was further illustrated in the case of Jasmin, who was 'learning' to become more peripheral in the history department.

This relational nature of Lave and Wenger's (1991) theorising, including the focus on embodied persons, makes it possible to incorporate issues of worker/learner identity and dispositions, and wider social, economic and structural factors. Both here and in our other publications (Hodkinson & Hodkinson, 2004), we have demonstrated that this requires attention to the specific circumstances, rather than a more generalised approach. Our work supports Lave's (1996, pp.161–162) assertion that, 'There are enormous differences in what and how learners come to shape (or be shaped into) their identities with respect to different practices ... Researchers would have to explore each practice to understand what is being learned, and how'. Wenger (1998) seems either not to agree with this insight, or to ignore it, with his focus on Ariel as a cypher for many workers, and his emphasis on a series of generalised dualisms, rather than specific workplace relationships.

As well as identifying enduring strengths in Lave and Wenger's approach, the paper, particularly through its analyses of case study data, has identified limitations in their approach that can be usefully addressed and developed. We now present four key areas for attention.

First, Lave and Wenger's (1991) attempt to stretch legitimate peripheral participation to cover all workplace learning is unconvincing. The projects reported here provide examples of employees who continued to learn even though they had achieved full membership of their respective departments many years ago (Hodkinson & Hodkinson, 2004; Fuller & Unwin, 2004). On the other hand, legitimate peripheral participation is a useful component of any comprehensive explanation of how people learn at work. Our research suggests that it sheds considerable light on the processes involved when people newly enter a community, as in the case of apprentices, or as experienced workers engaged in changing jobs, as in the case of Sam.

Second, Lave and Wenger (1991) are overly dismissive of the role 'teaching' plays in the workplace learning process and of learning in off-the-job settings. Other writers have begun to address this limitation by focusing on workplace pedagogy and the creation of strategies and environments to support it (see for example, Engeström, 1994; Billett, 1998, 2001; Fuller & Unwin 1998, 2002). These are likely to include approaches which enable employees to participate both on and off the job and in so doing, experience the pedagogic benefits of engaging in communities of practice within and beyond the workplace. Overall, the research is beginning to show that employees in a variety of workplaces are involved in 'teaching' a wide range of knowledge and skills. This finding extends Lave and Wenger's work in two ways. While it supports their conception of learning as participation and as a social enterprise, it also draws attention to the role of teaching in the workplace learning process, and signals that apprentices as well as more experienced employees may have areas of 'knowledgable skill' which they are capable of sharing with others.

Furthermore, Lave and Wenger's (1991) dismissal of formal education, mirrored in other texts such as Brown *et al.* (1989), is probably rooted in their opposition to the standard view of learning which was predominant at the time when they were

writing. Beckett and Hager (2002) assert that what they term a holistic, embodied view of learning is superior to the older standard paradigm and that formal education/training is merely a special variant of embodied learning. Thus it becomes possible to see structured courses as merely another form of participatory learning. As our research makes clear, this sort of learning can sometimes form an integral part of wider learning within a community of practice, but it works best when it is accepted as a legitimate activity, for novices and full members, in the community of practice concerned.

Thirdly, although Lave and Wenger (1991) acknowledge the significance of learner identity, they never fully develop this idea in relation to particular learners. Where they do address it (see also Wenger, 1998), they focus almost exclusively upon the ways in which belonging to a community of practice helps form a person's identity. But equally important is what the worker brings to that community, from outside. Lave and Wenger (1991) implicitly treat their newcomers as *tabula rasa*. Yet, paradoxically, their overall position is consistent with the view that people come to a workplace already formed, with beliefs, understandings, skills and attitudes. In other words, with what, Hodkinson and Hodkinson (2004), following Bourdieu, term 'dispositions': to life, to work, and to learning. This is clear for Sam, who brought to his new department a strong identity as a history teacher, and well-formed dispositions towards his teaching, his own learning and the ways in which he felt he could or should attempt to enhance the learning of his new departmental colleagues. It is not so much that workers like Sam, and, indeed, the apprentices in Fuller and Unwin's study, simply bring skills and transfer them into a new location. Rather, prior learning, including education, has helped construct the whole person who arrives. This embodied person learns to belong in their new setting, adapting, developing and modifying their whole person in that process. Furthermore, as Lave and Wenger (1991) acknowledge, by bringing their whole selves into the community, new members change the nature of that community in ways which depend upon the specific interrelationships between person, community and wider context.

Fourth, Lave and Wenger acknowledge, but never fully explore, the significance of conflict and unequal power relations as part of their theorising on the internal operation of communities of practice and its relationship with the wider context. The issue of power has emerged as relevant to understanding the opportunities and barriers to learning experienced by participants in all our case studies. We discussed earlier in the paper how the control and organisation of work will affect employees' opportunities to learn. Those with control over such resources can exert their power to create or remove barriers and boundaries which facilitate or inhibit participation. Our case studies have provided examples of organisations where learning is central to the organisational or departmental culture as well as those where opportunities for learning are rationed.

In conclusion, we would argue that the concepts of legitimate peripheral participation and communities of practice provide important insights in to the nature of apprenticeship and workplace learning more generally. However, our case

study research into complex institutional settings suggests that patterns and forms of participation are highly diverse. Further in-depth studies of workplace learning in a wide a range of contexts are required if all the issues affecting learning and their inter-relationships are to be fully understood and theorised.

Notes

1. The Phase One Research Network, 'Improving Incentives to Learning in the Workplace' award number L 139 25 1005 includes five projects focusing on different contexts for workplace learning.
2. All names have been changed to preserve anonymity.

References

- Becker, H. (1972) A school is a lousy place to learn anything in, *American Behavioural Scientist*, 16, 85–105.
- Beckett, D. & Hager, P. (2002) *Life, work and learning: practice in postmodernity* (London, Routledge).
- Billett, S. (1998) Constructing vocational knowledge: situations and other social sources, *Journal of Education and Work*, 11(3), 255–273.
- Billett, S. (2001) *Learning in the workplace: strategies for effective practice* (Crow's Nest, NSW, Allen & Unwin).
- Boud, D. & Garrick, J. (Eds). (1999) *Understanding learning at work* (London, Routledge).
- Brown, J. S., Collins, A. & Duguid, P. (1989) Situated cognition and the culture of learning, *Educational Researcher*, 18(1), 32–42.
- Engeström, Y. (1993) Developmental studies of work as a testbench of activity theory: the case of primary care medical practice, in: S. Chaiklin & J. Lave (Eds) *Understanding practice: perspectives on activity and context* (Cambridge, Cambridge University Press).
- Engeström, Y. (1994) *Training for change: new approaches to instruction and learning* (Geneva, International Labour Office).
- Engeström, Y. (2001) Expansive learning at work: towards an activity-theoretical reconceptualisation, *Journal of Education and Work*, 14(1), 133–156.
- Engeström, Y., Engeström, R. & Karkainen, M. (1995) Polycontextuality and boundary crossing in expert cognition: learning and problem solving in complex work activities, *Learning and Instruction*, 5, 319–336.
- Evans, K., Hodkinson, P. & Unwin, L. (Eds). (2002) *Working to learn: transforming learning in the workplace* (London, Kogan Page).
- Fuller, A. & Unwin, L. (1998) Reconceptualising apprenticeship: exploring the relationship between work and learning, *Journal of Vocational Education and Training*, 50(2), 153–172.
- Fuller, A. & Unwin, L. (2002) Developing pedagogies for the contemporary workplace, in: K. Evans, P. Hodkinson & L. Unwin (Eds) *Working to learn: transforming learning in the workplace* (London, Kogan Page).
- Fuller, A. & Unwin, L. (2003a) Learning as apprentices in the contemporary UK workplace: creating and managing expansive and restrictive participation, *Journal of Education and Work*, 16(4), 407–426.
- Fuller, A. & Unwin, L. (2003b) Creating a modern apprenticeship: a critique of the UK's multi-sector, social inclusion approach, *Journal of Education and Work*, 16(1), 1–25.
- Fuller, A. & Unwin, L. (2004) Expansive learning environments: integrating personal and organizational development, in: H. Rainbird, A. Fuller & A. Munro (Eds) *Workplace learning in context* (London, Routledge).

- Gee, J. P., Hull, G. & Lankshear, C. (1996) *The new work order: behind the language of the new capitalism* (St. Leonards, Allen & Unwin).
- Goody, E. (1989) Learning and the division of labor, in: M. Coy (Ed) *Anthropological perspectives on apprenticeship* (New York, SUNY Press).
- Guile, D. & Young, M. (1999) Apprenticeship as a conceptual basis for a social theory of learning, *Journal of Vocational Education and Training*, 50(2), 173–192.
- Helsby, G. (1999) *Changing teachers' work* (Buckingham, Open University Press).
- Hodkinson, H. & Hodkinson, P. (2002) Learning in a workplace community: secondary schoolteachers in their subject departments, *British Educational Research Association Annual Conference*, University of Exeter, 12–14 September.
- Hodkinson, P. & Hodkinson, H. (2003) Individuals, communities of practice and the policy context: schoolteachers' learning in their workplace, *Studies in Continuing Education*, 25(1), 3–21.
- Hodkinson, P. & Hodkinson, H. (2004) The significance of individuals' dispositions in workplace learning: a case study of two teachers, *Journal of Education and Work*, 17(2), 167–182.
- Hutchins, E. (1999) *Cognition in the wild* (London, MIT Press).
- Jordan, B. (1989) Cosmopolitan obstetrics: some insights from the training of traditional midwives, *Social Science and Medicine*, 28(9), 925–944.
- Lave, J. (1988) *Cognition in practice: mind, mathematics and culture in everyday life* (Cambridge, Cambridge University Press).
- Lave, J. (1993) The practice of learning, in: S. Chaiklin & J. Lave (Eds) *Understanding practice: perspectives on activity and context* (Cambridge, Cambridge University Press).
- Lave, J. (1996) Teaching, as learning, in practice, *Mind, Culture and Society*, 3(3), 149–164.
- Lave, J. & Wenger, E. (1991) *Situated learning* (Cambridge, Cambridge University Press).
- Scribner, S. & Cole, M. (1973) Cognitive consequences of formal and informal education, *Science*, 182, 553–559.
- Tomlinson, S. (2001) *Education in a post-welfare society* (Buckingham, Open University Press).
- Wenger, E. (1998) *Communities of practice: learning, meaning, and identity* (Cambridge, Cambridge University Press).